

# ROOT OF CONFLICT

Root of Conflict Podcast

## Episode: How Will Climate Change Impact Conflict Trends?

*featuring*

Amir Jina, Assistant Professor, Harris School of Public Policy

*interviewed by*

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Full Transcript

Taylor Griffin: Hi, my name is Taylor Griffin and you're listening to the University of Chicago Public Policy Podcast.

Root of Conflict Introducers: You're listening to Root of Conflict, a podcast about violent conflict around the world and the people, societies and policy issues it affects. You'll hear from experts and practitioners can conduct research, implement programs and use data analysis to address some of the most pressing challenges facing our world. Root of Conflict is produced by UC3P, in collaboration with the Pearson Institute for the Study and Resolution of Global Conflict, a research Institute housed within the Harris School of Public Policy at the University of Chicago.

Mwangi Thuita: Climate change will affect rich and poor countries, but poorer countries are predicted to pay the greatest human and economic cost. In this episode, we interview Amir Jina, an Assistant Professor at the University of Chicago's Harris School of Public Policy researching how economic and social development is shaped by the environment. He uses economics, climate science and remote sensing to understand the impact of climate in both rich and poor countries. In our conversation with Professor Jina, we discuss how shocks to the water system could impact conflict patterns, and whether it's even possible to identify a causal relationship between conflict and climate change. We also discuss his work at the Climate Impact Lab using state-of-the-art empirical methods to study the effects of climate change.

Aishwarya Raje: Professor Jina, thank you so much for joining us today. So, to start out, can you just set the scene for us? Broadly speaking, why do we talk about environmental issues as a potential root cause of conflict, and looking at water, specifically, which was the topic of your Pearson Global Forum panel, what does water conflict mean and what kind of conflict are we talking about?

Amir Jina: So, I think fundamentally why we make this connection is that lots of conflicts, maybe all conflicts, arise as disagreements over resources and access to resources of various kinds. And while they don't have to be environmental resources, that's one of the main ways in which different societies will derive some kind of value or wellbeing. So, we have a situation where water, in particular, is fundamental to so much of what we do as a species, in terms of making our food, for example, that as that resource would start to get scarce, a conflict might inevitably arise or cooperation might arise for that matter, but there's potential in that, in the presence of that scarcity, for some kind of conflict to arise. I think that's why we make that link. One of the points that we had tried to make during the Pearson Forum was that there's a naive idea that this could be people standing

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around the lake because it's getting smaller and smaller and they're literally firing guns at each other over this dwindling resource, but it's never truly that simple. And one of the things which makes it both a fascinating intellectual problem, but then also a really difficult policy issue, is that the connections are sometimes really obscure. And some of those links are really hard to understand.

Mwangi Thuita: Yeah, I really enjoyed that part of the panel. We know that it's notoriously difficult to disentangle the effects of extreme weather, things like higher temperatures, longer droughts, more intense storms from the other political and economic factors that are making conflict more likely. I think one of the examples given was Syria, which took place against the backdrop of a drought across a large part of the Middle East which caused migration from rural to urban areas. You have an increasing number of unemployment in the context of rising political instability. Do you find terms used to describe the impact of extreme weather caused by climate change, such as catalyst, trigger, threat multiplier, do you find those helpful in understanding how and communicating how climate change affects conflict?

Amir Jina: People who are concerned with security, national security have really attached themselves to this phrase of a threat multiplier. And I think then it becomes from my point of view, a useful communication tool, partly because there is always going to be a debate about how fundamental issues of climate or the environment are in causing conflict. But I think it's a little bit more easy for people to understand that even if it's not the ultimate and direct cause, it almost certainly has the ability to be approximate cause of some kind of issues that we'd see. And so, the threat multiplier language is very useful from that point of view. It's not something that I would talk about. It's not a phrase that I would use so much within talking to colleagues about this, where we would probably try to drill down a bit more and understand specific mechanisms, or refer to something as being – and this is going to be very kind of wonky academic speech – but we'd refer to something as a reduced-form relationship, if we don't understand the mechanism, and we're pretty comfortable talking about those reduced form types of relationships. And then we would drill down into the mechanisms, but in an abstract sense, particularly outside of talking to those people who work on this issue in a research context, it's pretty useful to be able to say, is this something where threats might exist and you know where those threats would be, where you know what a whole other set of risks are?

And what we're talking about is something that might amplify risks. The other useful part of it is that it doesn't immediately dismiss. And in particular, I think it kind of respects the knowledge of people who actually deal with and are concerned with conflict on the ground, because it's saying, you know what these threats are. And this is one extra thing: it's not the academics coming in and saying, I'm going to tell you what's going to cause this conflict, when there's a whole set of political and social context that people working on conflict and in a day-to-day basis will know much better than most academics can ever try to know. So, I think it's super useful from that point of view and I think it shows a little bit of respect and deference to the people who actually are doing more to deal with the consequences of conflict in a real policy sense.

Aishwarya Raje: So, one question around understanding how water and conflict are related. It feels like it often comes back to the lack of comprehensive data around the issue. And I know that's something that came up during your panel during the Forum. And I'm wondering: Is there a push to produce more data as a means to eventually build more effective policies, and whose responsibility would it be to collect and produce this data? Is it local governments? Is it researchers such as yourself? Is it private sector partners? Is it a combination? How should we approach this problem?

Amir Jina: Yeah. So, I think where data becomes useful is in this sense, I guess, taking a step back: What is the actual link that we would see? So, I said, it's very stressed resources, so water supply decreases for some reason. There's a first step, which is just making that connection. So, between weather and conflict, there's an extra

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step there, which is saying, “How much worse was this in the present day because of climate change?” And that's a really hard thing to do. Something that's a little bit easier is to say, “Let's take projections of climate change and see if this relationship stays the same, or how much worse, usually worse, but could also be better, but how much worse or better is that going to be in the future?” And so, making those steps and connections along the way to even establish those relationships, we do need data to start. We need data on the conflicts. We need data on people's wellbeing on their health, on socioeconomic status. We need data on what the drivers here would be, which is water access, weather, et cetera.

The really difficult issue with large-scale interpersonal conflict, is that they now are often happening in places without a lot of data on or a lot of environmental monitoring. So, one of the reasons why this research has exploded in the last few years is because there has been a big push towards measurement, broadly speaking, of the environment, of climate, of weather, and bypassing issues that are particularly tricky, like in across all of Sub-Saharan Africa, for example, very few permanent weather stations. There's a handful of airports, but there's nothing like the density of weather measurements that you would get in the United States. Rivers all across the United States have gauges, which tell us what the levels are, what the volume of water flow is, and you just don't get that in a lot of other parts of the world.

So, there's been innovations there on using satellites, on using models of physics of the climate of trying to work out what the weather is in each location. We've been filling a data gap slowly. It's being incidentally attached to understanding conflict, because the reason that those models are being made is because of people doing climate research or environmental research, and they develop some global data sets. And then the people who had this problem of saying, “Well, I wanted to understand the environment-conflict link in this location, where I had no measurements before,” suddenly they have some access to data. So, we're kind of riding on the coattails of a lot of other well-funded science to do this. And so, often those exact measurements aren't exactly what we would need to understand the issue. So, coming back to your point then, we're kind of getting lucky at the moment in terms of there being access to data on the environment side.

And then a few groups are also measuring conflict in a better and more consistent way. Now we can go online and scrape news reports for different conflicts and try and build up our databases in a more consistent way. But for this resource to a conflict link, I think that the level of data that's required to understand the mechanisms part, but also to think about using this information we know about this relationship for early warnings, that's not really there yet. And so, what do we need, coming back to your question? What do we actually need, and whose responsibility is it? In an abstract sense, hopefully it would be the responsibility of anybody who's negatively impacted by that conflict because there's some incentive there, that you should say, “Yes, we should learn about this.” Monitoring efforts are pretty expensive to set up, particularly in the old-style way that you would have in somewhere like the United States or parts of Europe.

And so, we're relying on more innovation to try and make cheaper sensors, cheaper river measurements, cheaper pollution measurements, so that we actually can fill in the map in terms of what's measured and what's not. And so ideally, this would be something that governments would be able to support, but then we enter the issue that comes up when you're thinking about conflict or economic development, which is “What's your priority in that location?” If you are a place which is prone to conflict in the first place. where it's hard to do data monitoring, where your population might be poor, is putting in a set of weather stations or river level gauges actually your highest priority? And the answer is probably no, there's more pressing things. And so, even if it is the government's responsibility, it might be very low on their list of priorities. And so, that's where private agencies, researchers, the international community, does need to step in. If we believe that this is a major issue, then somebody needs to step in and do it because the resources just don't necessarily exist to do it at the national level in a lot of places where we'd really want to monitor this.

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Thanks for that. So, you're part of the Climate Impact Lab, which brings together social scientists and climate scientists to try and figure out how much climate change is costing society and who's paying what. What are you able to achieve working collaboratively between social scientists and climate scientists together that you might not be able to do alone?

Amir Jina: So, yeah, my background was actually that I started off as a physicist, then a climate scientist, and then fell into economics almost accidentally. Someone told me about a paper by Esther Duflo, who was the second woman to win an Economics Nobel prize. And this was 10, 12 years ago. And prior to that, I had a very narrow and biased view of what economics was. I thought it was investment banking. So, seeing this paper about the welfare effects of a government pension refund in South Africa on granddaughters of women who got this transfer, that to me was kind of mind blowing. So I moved from climate science more into economics. And I've tried to keep those two things together, as much as I can.

The drawback of that or that the difficulty with that is it's pretty hard to try and be an expert in one thing, let alone an expert in multiple things. And so, early on, I had to give up the idea that I'm going to be an expert in these two things, but that there's very few people sitting at this intersection. And what that allowed me to do was have a language to be able to communicate with both of those fields and to try and bring together a larger group. The benefit of that is that we're in a situation where, for questions like this environment and conflict question, where insights from more than one discipline are actually important, for the issue of conflict and for a lot of issues dealing with fundamental questions of human wellbeing and how we interact with each other, the question becomes more important than the discipline that you are situated in when you ask that.

We should be focused on solving or understanding a certain problem. And that means trying to get ourselves out of the silo that we're in intellectually and seeing what are the tools that are needed to solve this problem. And so, I think the benefit that comes from working with the Climate Impact Lab, the reason why it's somewhat organically evolved into the thing that it is, with as you said, computer scientists and economists and climate scientists and others, is that it allows us to stay focused on a problem and bring together the resources we need. And sometimes it's true. We do need, if we want to understand, for example, uncertainty and what the future is going to be like, we need real climate science there to tell us, but we also need the economists to say, well, here's what we understand about the link to the economy. Here's what we understand about this aspect of the economic system. And currently, the climate science is not seeing this part and the economics is not seeing what the climate science can do.

So, we actually need to find some bridge in between these, and it's allowed us, in doing that to solve questions in a way which we think is more focused on the actual policy actions you could take. So, to do this in a way which is really hyper-local, we can get this all over information all over the world, right down to the equivalent of the county level in different countries. We can do a full quantification of uncertainty, which I think is useful for investments, or if you're thinking generally of your climate risks, broadly, it helps to know what your average change might be in the future, but it also helps to know what your 1 in 20 or 1 to 10, your risk of change might be, so, what the full distribution is. I think that's what this collaboration has allowed us to do.

Aishwarya Raje: So, as a follow-up to that, I feel like often times in the world of academia, which of course you have much more experience we do, it's easy to get caught up in looking at really highly consequential and urgent issues like climate change, public health, poverty, as intellectual exercises, or as things that are intellectually interesting rather than as issues that affect people's wellbeing and livelihood. So, given your role in the Climate Impact Lab, or just in general, how do we make sure that we're not just researching for researching and actually taking into account the human factor with these issues?

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Amir Jina: This is absolutely something that I wrestle with if not on a daily basis, than an almost daily basis. And I think I spent a lot of time early on in my research career doing long stints of field work. Sometimes particularly in development economics, that can be...the interactions there with the place that you're studying can actually be quite short, but I would try and go for as long as possible and spend a few months in a place and try to learn as much as possible about the people who were being affected by the thing I was trying to research. And partly, that did two things. One was to make sure that I understood well. And I think a lot of the really good development economists that I look up to, do have, even if they don't write about it in their papers, sometimes they have this really in-depth knowledge of the places that they're working in.

And they have people who they work with there, who are living there full-time from those locations that are able to provide context when needed. The other thing that it helps to do is when I sit down and see some data points or some data set on a different outcome, it helps me try and connect that. It's something that I have to consciously do, but helps me try and connect it back to some of the stories that I remember from sitting in a focus group in a small village in Bangladesh or somewhere, and try to remember there's enormous consequences to getting these answers right in this information. So, that's the one aspect of this. I think the other part is recognizing that there's kind of an ecosystem right in this. So, I'm a researcher because I derive some kind of enjoyment from finding out new things.

And I think that's true of most academics. There's some reward to just thinking deeply and understanding something. And that might be what motivates us to some extent. I think most of the people, particularly at a policy school, are also motivated by solving a real problem. One of the things which we've tried to do with Climate Impact Lab, and I think some of us tried to do generally is to make sure that we recognize there's a broader ecosystem around that knowledge system. There are people who will be able to use it. There are people who might rely on that information. There are people whose lives will be improved by finding out answers to different questions, and to make sure that we don't just sit in our offices on our computers, writing the papers, but actually get nudged towards what the important question is.

Mwangi Thuita: Speaking of visiting developing countries, I saw that you you've been to Kenya. I saw some photos on your website.

Amir Jina: Yes, I have. My father was from Tanzania actually.

Mwangi Thuita: Okay, I'm from Kenya!

Amir Jina: The thing which I didn't realize for years was my father grew up in Tanzania and they had actually moved to Kenya originally from India in the 1800s. But my name, my last name, means name in Swahili. And so, when I landed in Kenya for the first time, on my immigration form, I wrote down and said, Jina, and then I wrote Jina after it. And the immigration officials found this so funny, and one guy cracked up and he called over the guy next to him and said, "This guy doesn't know what he's doing." I was like, no, that's really my name. They looked at my passport, everything. But yeah, so I have a connection to there. The work in Kenya was actually part of working with the United Nations, with UNICEF and the United Nations environment program. There was a small network of people at African universities trying to think about climate adaptation, particularly this youth initiative that was starting.

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So, part of it was, “I’m trying to support this,” and then, a few people went there and, and kind of helped with the knowledge sharing that was related to that. So, I think it’s another one of those things, actually that even though I don’t have research from there at that time, the connections that I made and some of the things I got to experience in different community conservation projects, for example, have actually stuck with me a lot. And those are some of the things which provide the motivation or at least some context for why I continue to try and sit behind my computer and sometimes boring work of doing the papers.

Mwangi Thuita: So, you earlier said that although we know that there’s an effect of shocks to a water supply and conflict behavior, that we don’t know much about the mechanisms. Specifically, I think during the panel, you said that shocks to water systems are increasing the risk of conflict by about 5% to 10%. First of all, can you just explain it in simple terms? What do those numbers mean? What does that mean?

Amir Jina: That was coming from a paper of a coauthor of mine who had done this broad meta-analysis of about 6 different research projects at all different scales, and looking at what the climate conflict link was. Standardizing those making sure they controlled for all the unobservable differences that might lead to problems in that interpretation, so that you could interpret those causally, and then looked at the average effect of those. And what they found was this one standard deviation change in precipitation. So not really in the lake access or something like that, but just a precipitation shock led to this, this 5% difference. So, that was a very specific thing. It’s hard. So, I’m fairly confident that we can interpret those things causally because of the way we set up the observational data.

But we set up the experiment with our panel data and our fixed effects and all the things that become important for turning this interpretation into a causal one, rather than just correlational. I think what we would need to understand exactly what those mechanisms are, is in some cases, just a lot more data, a lot more research, but also in particular, a lot more understanding of the effect of certain policies, either directly related to conflict or not. So, there’s this fascinating paper about the monsoon in India and looking at crime rates due to changes in the amount of rainfall that happened during the monsoon in India, and it found that there was a relationship between less rain and more crime, and then it looked at the rollout of this Rural Employment Guarantee Act, which was an act in the mid-2000s, which gave guaranteed labor for people or days of work for people who were unemployed.

So, for example, if there was an agricultural shock, their crop failed, they could go and get access to work for pay. And so, it was this work guarantee act. The way that that was rolled out across the country wasn’t exactly random, but it was turned on in some states at certain times differently. And this research paper, by a guy named Thiemo Fetzer, found that the relationship between rainfall and conflict almost completely disappeared. And that tells us a lot about what might be happening behind this mechanism. This is something saying, well, if we know that this is related to employment. What’s the main source of employment that’s being targeted by this policy? It’s agricultural employment, to make sure that people don’t end up unemployed or losing money that comes from either being a landless labor who’s employed on a farm or having your own crops fail if you own your land.

That allows us to say, well, we’ve identified a little bit more what the source of that link could be. It’s down to the food supply, but more than just the food supply, it’s down to people’s ability to make money. The amount that people were getting for this for this extra day of work wasn’t actually that much money. So, it shows potentially how desperate people had gotten that they would engage in this really risky crime conflict behavior in order to make up for that loss. And it tells us quite a lot about the actual household budgeting decision that goes into what might make somebody engage in a pretty desperate activity. And so, I think it’s situations like that where we can understand the role that certain policies play, where we know the policy targets a certain

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specific mechanism where we start to learn a lot more, but that's a slow process of building up information. The ideal would be that we could then see this, learn something from it and say, "Okay, maybe the environmental conflict nexus, instead of focusing on ending the conflict once it happens, why don't we think of something like a social safety net as being that conflict reduction policy?"

Mwangi Thuita: Well, thank you. Thank you so much for your time and also for the important work you're doing. It's very interesting and of course important.

Amir Jina: Thank you both so much.

Root of Conflict Introducer: Thank you for listening to this episode of Root of Conflict featuring Amir Jina, this episode was produced and edited by Aishwarya Raje and Mwangi Thuita. Thank you to UC3P and the Pearson Institute for their continued support for this series. For more information on the Pearson Institute's events and research, visit [thepearsoninstitute.org](http://thepearsoninstitute.org) and follow them on Twitter.