Video Transcript for "Climate Change and Conflict"

On-screen text:
Climate Change and Conflict
a discussion with Marshall Burke and David Lobell

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Marshall Burke
Center Fellow, Center on Food Security and the Environment

Professor Burke: My main research is on the relationship between changes in environmental conditions (things like climate, which David talked about) and how those changes affect both social and economic outcomes we care about (things like food security, but also human conflict as well as aggregate economic productivity—the total amount of stuff that economies make). That's what I study.

The way it fits into FSE's (the Center on Food Security and the Environment's) agenda? It's central to that agenda. FSE is looking at relationships between food security (which is a social and economic phenomenon) and the environment more broadly. My research is right at the intersection of those two things.

On-screen text:
David Lobell
Deputy Director, Center on Food Security and the Environment

Professor Lobell: At Stanford and in the Center on Food Security [and the Environment], we're trying to think more broadly about food and food security than just a traditional view, which [focuses] on agriculture, production, and farmers. There are a lot of aspects to that, but one of the key [aspects] is looking at poverty: looking at all of the things that make poor people, on the one hand unable to afford food, on the other hand unwilling to make investments, take on risks that would otherwise make them better off. Things like conflict are a major issue there.

There have been estimates that about half of the food-insecure people in the world are living in areas of some sort of violent conflict, and that's underlying a lot of their food insecurity. A lot of the work Marshall does is really bringing in a lot of different dimensions of food security that we don't traditionally think of as food security issues.

Professor Burke: We look at all types of conflict. We throw a lot of things into the "conflict" bucket—everything from the civil wars that you read about in Sub-Saharan Africa (a sort of group-level conflict) down to individual-level conflicts, e.g., aggravated assault and murder in the U.S. We also look at more mundane types of conflict—things you wouldn't normally think of. We look at violence in baseball, for instance.

What we've done in our research is go back and assemble all the data sets we can that look at the relationship between some sort of climate variable (typically, changes in temperature or precipitation) and some sort of conflict outcome (e.g., anything from civil wars in Africa to aggravated assault on the streets of American cities). What we find when we look at these data—looking all around the world and back through large portions of time—we see this very strong relationship between changes in the climate system and these different types of conflict. In particular, the strongest relationship is between changes in temperature and changes in these types of conflict. What we see is [that] relatively small increases in temperature can have large

effects and can cause large increases in the likelihood of civil wars or the likelihood of murders in American cities.

Professor Lobell: One of the things that Marshall's work has helped to show—and this has been across a spectrum of studies, not just Marshall's—there's really a surprising amount that changes even for a degree warming of temperature. [That's] something we didn't appreciate. We've started thinking about it more because of global warming. But even without global warming, there's a tremendous amount of small effects that add up when you talk about even something like a degree of warming, which most people would barely notice on a day-to-day basis.

Professor Burke: What we see in the data and the way we study this is we take a given place on the globe and we get data for that place going back through time. The way we study the relationship between changes in temperature and conflict in that place is we compare the place on a normal day to the place on a really hot day, and see how conflict differs on those two different days. It really is comparing the same place over time.

When you study a question like climate and conflict, we know many, many things affect the likelihood of conflict. Climate might only be one of these things. But in this research project we're focusing on the actual contribution of climate to conflict. When we do that, we're not saying that these other things don't matter. All we're trying to do is identify the role that climate might or might not play in these different settings. What's frustrating—and the misperception that we run into sometimes—is the fact that you've just looked at those things [i.e., climate factors] somehow seems to imply that you're saying it's the most important cause. That's never what we're saying. The goal of these studies is just to measure: How important of a cause is it? Is it something we should care about or is it not?

Our research approach? You don't want to compare Norway and Nigeria. We know Norway is cool, and we know Norway is also pretty peaceful. We know Nigeria is hot and [that] Nigeria's also seen a lot of conflict lately. We know there are very many ways in which Norway and Nigeria differ, and they also have different rates of conflict. They differ in temperature, and they differ in all these other ways. We don't want to attribute all the differences in conflict just to differences in temperature. We know there are a lot of other things going on.

One of the audiences for this research is policymakers who are interested in the question of "How much should we care about climate change, and how much should we be investing in reducing future climate change?"

A second audience—and an audience where we've gotten a lot of interest and traction—is the military audience. The U.S. military has been very interested in these results. They're in charge of peacekeeping operations and various military operations around the world, so any driver [of conflict] that might change in the future and increase these conflicts…is going to be important to them. They've been way out in front on this issue.

I think governments are starting to look at this relationship between climate and conflict as a potential threat and something they should pay attention to. We were actually very surprised about how strong and consistent the relationship was when you look across all these different data sets—across all of these different countries and back through time. I don't think anyone had really realized how strong the relationship was. Our hope is that this sort of research will bring this to the attention of people who care about it and can actually do something about it, e.g., folks in the U.S. military and policymakers interested in climate.

Professor Lobell: The traditional national security type of community that FSI and Stanford has interacted a lot with are definitely interested not only in the chance for conflict and more conflict around the world, but also for humanitarian issues, because they are often on the front lines of dealing with humanitarian issues that [stretch] their resources. So they are hugely interested in things like food security, not just because it might spill into local unrest and instability, but just because it then is that much more of a burden on the global community. They are taking a very serious look at the results that come out, and also the ideas about how to be proactive.

One of the things that we often ask ourselves is [why] we work on such depressing topics. Hunger is not enough; we have to work on violence and all the suffering that goes on in the world. But the motivation is to try to understand better what the risks actually are, so we can respect the problem if it's a serious problem, and people can understand that. If climate change is going to credibly lead to these big risks, then we have to rethink how we commit to these changes in climate. But even more than that, I think it's to try to understand the nature of these impacts. In the case of crops, for example, what are the crops doing? Or in the case of conflict, what are the mechanisms by which a change in climate would affect conflict? And then you can think about (with people who work on these issues) how do you actually adapt, and how do you remove those impacts. That's the more optimistic way of looking at it. Of course, anytime we write a study and it gets published, it's always about "bad things are going to happen." It's really not the reason that we do it—to try to predict that bad things will happen. But if that is what the data are saying, we are not to pretend otherwise.