

Kelly Brownell:

Hello, and welcome to Policy360. I'm Kelly Brownell, the Dean of the Sanford school of public policy at Duke University. My guest today is the director of the food and environment program at the Union of Concerned Scientists, Dr. Ricardo Salvador. Ricardo's work revolves around changing our current food system into one that grows healthy foods while keeping in mind sustainability. Ricardo has the most interesting background. He was a program officer for food, health, and wellbeing at the WK Kellogg foundation.

And prior to that was an associate professor of agronomy at Iowa State University, where he taught the first course ever in sustainable agriculture at a land-grant university. Ricardo has received a number of awards, including the prestigious James Beard foundation leadership award, and recently was an author of an influential op-ed piece in the Washington post calling for a national food policy. Ricardo, welcome and delighted to have you here.

Dr. Ricardo Salvador:

Thank you very much, Kelly, it's a pleasure.

Kelly Brownell:

First I'd like to touch base on your background because it's unique and helped you have a unique perspective on food policy. As I understand it, you grew up in Southern Mexico. Your father is from a native American community there, and your mother is from a dairy agriculture family in coastal California. So, you've seen American food policy play out in different ways on both sides of your family. Was that influential in creating your interest in these issues?

Dr. Ricardo Salvador:

Yes, it was actually determinative because the simplest way to understand the contrast that this taught me as I was growing up is that the members on both sides of my family were in agriculture, but yet the well-being of the American side of the family contrasted enormously with the wellbeing of my father's side of the family. They were on the migrant trail. And so it was literally the case that I had people on one side of the family who would hire people like I had on the other side of the family to do the menial work for them. But yet I knew that on both sides, they were equally intelligent, equally ambitious, worked just as hard. They were just different outcomes depending on where they were from. So, yes, it was one of the formative influences on me.

Kelly Brownell:

So, you've talked a lot about having a healthy food system that involves human health, planetary health, animal health, and the like. What is meant by bringing all those things together?

Dr. Ricardo Salvador:

It's a great question because you're actually accepting that there is a link that isn't normally made, that there is a system that actually unites all of those things. I think not recognizing that is one of the key dysfunctions that there is not only in our food and agriculture system, but in the policies that therefore don't allow us to treat all of these as one unit. So, just to give you one example, the choices that we make in terms of our food are actually mirages. There is actually a constructed environment that provides us with those choices are. The research that you've done is some of the best research that I know that demonstrates that. And so the choices that we have are a direct outcome of the kinds of

agricultural systems that we invest in. And our motivations for those investments often have to do with things such as the greatest productivity, the greatest profit, not with the greatest social return or the greatest public health outcomes. So, those are things that actually need to be connected better than we're doing right now.

Kelly Brownell:

What sort of investments are you referring to?

Dr. Ricardo Salvador:

There are public investments in vehicles, such as the farm bill, for instance, which currently reward farmers for productivity and specifically in models of farming that really encourage large scale monoculture practices. Now, the moment I say that, we all have to recognize that there's a great deal of benefit in terms of the science that has given us insights into what makes both crops and livestock productive. But what we've done with some of that knowledge is actually to create systems that create such environmental havoc. And that result in us having access to abundant supplies of calories at a relatively affordable price point that we're not doing the best that we know how to do either for the environment or for public health. And that's a result of having policies in place that are really out of date. They were put into place originally to try to increase the livelihood and the wellbeing of farmers in the Midwest, primarily. And it's as if we hadn't noticed that we've actually licked the problems that those policies were put into place to support. And now these outdated policies give us very undesirable political outcomes.

Kelly Brownell:

Have the policies actually helped the livelihood of the farmers in the Midwest?

Dr. Ricardo Salvador:

It's a great question, because if you pay attention to that, the answer is it has helped the livelihood of some of the farmers, a very small numerically speaking proportion of the farmers. So, to quote the secretary of agriculture, we currently have 2.3 million farmers in the nation. Point three of them produce about 75% of the food supply. 2 million farmers therefore are struggling. So, we sort of keep them alive by throwing them tethers, but they're not really thriving. So, that's evidenced by the fact that they need to find secondary employment, both to make ends meet as well as to have access to insurance and so on. So, it doesn't seem to be the smartest way to invest our resources, to turn public investment into a benefit for a very small number of farmers.

Kelly Brownell:

Let's dive into one of these issues in particular. And you mentioned monoculture, which would mean growing one crop or one or two crops in a vast area. I've heard you talk about this and you've mentioned that 52% of the crop land in the US is used to grow just two crops. I'll leave it to you to mention what they are, while less than 2% is used to grow fruits and vegetables. How does that affect the nations diet?

Dr. Ricardo Salvador:

Yeah, well, it's very interesting. The two crops are, first of all, my favorite crop, corn, which is my technical specialty. That has to do with the fact that where I grew up in Southern Mexico, it was the

major staple and a big cultural influence. Historically it was the reason why high civilization arose in Southern Mexico. So, that was really my primary interest in the crop, but I developed technical experience in the crop. So, corn and soy dominate the landscape of the Midwest. Between them, they're very versatile crops. So, they provide a lot of starch that is used primarily these days for biofuels, for fattening livestock. And both of them produce a lot of industrial products. Oils for instance, and then materials that can be refined into filler and into vitamins and other items that go into processed food. So, they're very flexible in terms of their output.

Now, the question that you're asking points to a feature of our food system that I think most Americans would be surprised with. And that is that very little of that corn and soy is edible directly. It's mostly useful is the ingredients for the junk food diet. In other words, for the food that we have an overabundance of, and that is making the majority of us sick. The fruits and vegetables that you mentioned are real food. We're not eating enough of them according to dietary guidelines. And not according to me, not according to foodies, but according to what the experts in nutrition and public health tell us. People such as you. Here's the interesting thing. The thing that most Americans don't know, our agriculture is very productive, but we're producing too much of the wrong stuff. When it comes to actual food, things like fruits and vegetables, we're actually a dependent nation.

We have to import the majority of our fruits and vegetables because we don't produce enough of it domestically. Now, that doesn't necessarily have to be. There are some fruits and vegetables, which we can't produce domestically. So, these are mainly tropical fruits or products. So, obviously tea, coffee, chocolate, papaya, pineapples, banana, those sorts of things we have to import, but there are a lot of fruits and vegetables that we could produce domestically, which we do not, because of the overemphasis on utilizing this vast natural asset in the Midwest to overproduce stuff that we don't need. Very small proportions of the acreage in the Midwest could generate many of the domestically producible fruits and vegetables within the nation. And so that's something that we could do something about and policy definitely determines whether farmers in the Midwest have both the flexibility to do that, as well as the technical knowledge to do that.

Kelly Brownell:

You mentioned that the system of subsidies and agriculture policy in general had been effective in increasing yields and that the monoculture model worked, but it was just producing the wrong kinds of foods. Does it make sense to apply those same policies, but just directed at healthier foods? So, if Iowa is all corn and soybeans now, but became all apples and whatever, would that be a good use of policy?

Dr. Ricardo Salvador:

Yeah. I love the way that you framed it, because if we converted from all of X to all of Y, the problem is all of, not necessarily X and Y. So, having vast monocultures in very large scale makes the entire system very brittle. And we actually need a system that is resilient, that actually is able to produce on many different indicators. But let me just go a little bit more deeply into your question. So, one of the reasons why we have the system in place throughout the Midwest right now is that for those farmers to have financial security over the long-term, they need to be eligible for the government programs that give them insurance that covers their risk. So, that risk is a very real risk. So, the market could fail, their entire investment in seeds and inputs could be wiped out by three seconds of a hailstorm or 30 seconds of a tornado.

So, they do need to purchase crop insurance. And our subsidy to them as a public generally, is to make that crop insurance more affordable. But in order for farmers not to game that system, they need to show that they really are trying to produce, and that they have a history of producing those crops. So,

that creates this negative feedback system, where you have to keep producing corn and soy, and you need to show that you're trying to produce as much corn and soy as possible in order to qualify for the insurance. So, it's not like we don't know how to set up alternatives to that. And in fact, we actually have, in the last farm bill, included a bit more flexibility in terms of what we could do.

But I think the ultimate answer here is not to rely on subsidies for everything and in perpetuity to begin with. I mean, one of the conceits of our economic system is that it's a market system, but if you look in economic textbooks for the paragon of a completely distorted economic system, you go to the American food system, the American agricultural system to demonstrate that. The purpose of subsidies is to incentivize a new practice or a risky practice until the market can take over. And then you let the market operate. We forget part B, we haven't done that part well in the United States.

Kelly Brownell:

So, what are some of your concerns about the sustainability of current agriculture practices?

Dr. Ricardo Salvador:

On almost every indicator that you could care about, the system is not sustainable. So, a very simple definition of sustainability is that the activity you're talking about is not bound in time. So, we can't keep on doing the thing that we're doing right now with agriculture for a number of different reasons. One is that large scale monocrop system actually degrades the very resource base that it needs. It needs soil, it needs water, it needs nutrients. So, we're eroding the soil away. There is a net loss of soil in the Midwest, and this is some of the best, most fertile soil that there is in the world. It's like Saudi Arabia, fruiting away their oil, even they have just announced in the last few days that they're aiming to create an economy that doesn't depend on fossil fuel within three decades by 2050. So, we need to do something like that for the soil of the Midwest as well.

So, we, first of all fruited away the soil. The water in the Midwest is actually degraded in terms of its quality. It is not an exaggeration to say that that is actually a cesspool as a result of both sedimentation, eutrophication. That is the enrichment with all of the wasted nutrient resources and the runoff from large-scale confinement agriculture. So, we degrade the environment as a result of that. So, that's not sustainable. One of the simplest definitions of why it's not sustainable is you withdraw public support for that system, it implodes. The market is not supporting it. So, it's not good agronomically, it's not good environmentally. It doesn't stand up on its own economically. And then look at what we're producing. We're producing the ingredients for the junk food diet, which is making all of us sick. So, it isn't like we have to do it because it's good for us in terms of the health outcomes. It's not. So, I can't name you a way that it's good for the majority of us. It's good for about 300,000 farmers whom we support in that particular bankrupt model.

Kelly Brownell:

You mentioned biofuels a few moments ago. Are the policies that encourage the growth of things like corn to be turned into biofuels. Do those policies make sense? Has that been a successful experiment?

Dr. Ricardo Salvador:

There's not a simple answer to that, but let me just name a few facts. And so, first of all, it is a good thing to try to find ways to wean ourselves from the fossil fuel economy. Now, biofuels that are based on converting starch sugars from a plant such as corn actually are good when you just look at the engineering or the chemistry of them, because they give us cleaner fuels. They're not good in the sense

that they depend on the system that I've just described, which is actually degradative. It would be far better if we could have biofuels that we derive from diverse perennial species that actually help us to build up or at least retain the natural resource base. So, there's a lot of active research going on. And in fact, the policies that you're referring to this is the reason why it's not a simple answer.

We have policymakers that are attempting to evolve our policy incentives so that we do focus more on what are referred to as second-generation biofuels. The issue is that politically that's a difficult thing because for corn farmers who are over producing all over the world, not just American farmers, but all over the world, the solution that they see to low market prices because of their overproduction is to find alternative markets for their overproduction, for their surplus. So, they, of course, they're trying to retain the policies that support corn ethanol for biofuel, but it makes very little sense otherwise.

It's good as a transition. So, for instance, there's been a lot of investment in setting up plants that can generate biofuel and they can be adapted so that they can handle second-generation biofuels when that technology becomes as good as the first-generation biofuels. But unfortunately folks that have an interest in the current overproduction of corn have a little bit of an obstacle for us to make that transition smoothly. So, yes, there are policies that if they evolve and they reflect the reality of the scientific knowledge and the economic viability of the business models to get ourselves to an alternative biofuel economy, they would be good. But to the extent that we have this idea that we establish a policy and that policy needs to be in place forever, because it's good for someone, that's not good policymaking.

Kelly Brownell:

So, you've pointed out as clearly as can be that fundamental changes in food and agriculture practices have to be made because we're on a completely unsustainable path. I'm expecting that large groups of different types of individuals and organizations will have to change the way they do things in order for this to occur. So, you've got the public making decisions. You've got the policy makers, you've got lots of corporate interest. You've got the farmers. A lot of players in this picture. Is there a reason to be optimistic that change is possible and is moving in the right direction?

Dr. Ricardo Salvador:

Yeah, you're right. So, it's the system and the system is insulated against change as long as it works well for all, or the majority of those players, the system will be forced to change when it doesn't benefit the majority of those players. And I think we're at the leading edge of that right now. So, we're seeing some resistance from folks that broadly, I would say, are trying to make the world fit their business model. But the success ultimately will be to people that come up with, the entrepreneurs, the creators, the innovators that come up with business models that fit the reality of the world.

The reality is we need agricultural systems that first of all, preserve the natural resource base or build it up to provide actual market livelihood to farmers, not farmers that are on the public dole. They themselves don't feel good about that because many of them are very conservative. They believe in market principles. And ultimately the purpose of the food system is to provide health and wellbeing. So, because those things are not true right now and because they need to be true, then I do believe that ultimately there will be a transition. It's not going to be easy. It's not going to be painless. But ultimately I do believe that the innovators all across the board in terms of the science, in terms of the market, in terms of the business, and in terms of the policymaking will be able to shift the system.

Kelly Brownell:

Well, it's easy to see how important public policy will be with this. Do you see signs that policy makers are paying attention to these issues when political campaigns are happening? Are these issues being addressed? Are they the topic of legitimate debate when people are running for office? Is it important as part of one's platform, if you're going to get elected or reelected? Did you see any signs of those things happening?

Dr. Ricardo Salvador:

Yeah, there was an interesting headline. I believe it came from the Huffington Post in the early days of the primaries that went something like we know how much the campaigns are spending on pizza, but we don't know their position on food, which I think really captured the question that you just asked. So, the objective answer to your question is no, they're not currently paying a whole lot of attention. Every presidential candidate that wants to be viable generally has to go to Iowa where the whole process starts and basically kowtow to big agricultural interests. So, that's one of the reasons why it's difficult for this topic to really be dealt with. The other is the apparent success of the existing system. Most everybody believes that the system is successful, that it's highly scientific, that it's very shiny. We all believe that we're beneficiaries of the system, because we don't have to worry where our food comes from.

We just decide what we want. And for relatively small amounts of money, we can get the convenience of the food system and whatever food we can imagine on our plate. So, because of the fact that it appears to be working well, then it's not risen to a high level of priority for the majority of us. Now, the fact is that even those of us who believe that we're beneficiaries are actually suffering from one of the largest human induced public health crises, which is chronic disease, non-infectious disease that is directly due to the way in which we eat. I go to your research to basically document those facts. So, I actually do believe on the basis of research. So, at the Union of Concerned Scientists we are scientists. And so we have researched the question and our polling, our focus groups, our actual research into this demonstrates that the public, as a whole, knows that there is a problem with our food system.

And they see that the system is that it's lack of general access to affordable healthy food. That is the problem. And they do know that there is some connection to public policy and they would reward a candidate that would address these issues. And this is polling that we did in primary states with moms. And so they responded the way that I've just described. The polling numbers to an answer such as this, would you support a candidate that would increase affordable access to healthy food, are over 80%. And in the political realm, you never see things that poll that high. So, this is a politically winning issue. So, we are engaged with all of the presidential campaigns by law as a nonprofit organization, tax exempt. We're required to be non-partisan. And so we've engaged all of the campaigns and we're engaged with all of the surviving campaigns, but this is what we've learned.

Right now their focus is on each other and the level of political debate in the campaigns right now is such that really, there are very few serious policy issues that they are engaging with. So, they, first of all, have to survive to become the official candidate of their party. After they have that certainty, then they will create transition teams. And then they will be looking for winning policy priorities that will bring them votes in the general election. And also they will give them a distinguishing mark for legacy purposes once they get into the White House. So, the name in DC is to be among the NGOs, the advocacy groups, the think tanks is to be part of the scrum that is going to ensue after the political conventions in summer. So, we are in play with them. And one of the arguments that we're making beyond the one that I've just given you, which is our polling research shows, this is a politically winning

issue, is that imagine all of the policy priorities, absent the food conversation that any president is going to have to deal with.

They will have to deal with things such as the national security of this nation, the energy policy of this nation, the economic inequality that exists and is growing. Our nation's immigration policy. They will have to deal with this public health crisis because it's related to affordable care to insurance. All of those are intimately connected to the food system, not to mention the elephant in the room. Actually, there's been a prominent journalist who just recently put up a book very appropriately called *The Elephant in the Cornfield*, which is climate change, which again, strongly influenced with the way in which we produce our food. So, we're making the case that by realizing that all of these things are connected in a food system and coming up with coherent national food policy, you can have a historic set of policies that a new president could put into place. So, this is our appeal.

Kelly Brownell:

So, let's imagine that in the room where we're recording this, we have the world's political leaders. Now, we're in a pretty small room. So, there will only be about four people here, but let's assume we had a big room at the leading politicians and elected leaders around the world were here. And you had one minute to tell them what is on your mind? What would you say?

Dr. Ricardo Salvador:

Stand with families to provide them affordable access to healthy food. If you have healthy people, if you remove the burden of disease and the costs of health care for chronic avoidable disease, the creativity and the energy that you will release into the nation's economy will pay many times over. So, that is one of the best investments that you can make. And we have examples in the city of Los Angeles and the province ability, something in Brazil and so on. These are not idle arguments. There is proof of that. Secondly, stand with farmers, make their business models profitable by supporting a diverse agricultural system and invest in the science that will allow them to practice sustainable agriculture rather than the dead end system that has to be supported by subsidies externally right now.

Kelly Brownell:

Well, thank you very much. It was so nice to have you join us.

Dr. Ricardo Salvador:

Thank you very much. I appreciate the question and the opportunity.

Kelly Brownell:

So, I've been talking with Dr. Ricardo Salvador. Ricardo is director of the food and environment program at the Union of Concerned Scientists. I hope you will have a chance to listen to the other conversations in our mini series called *The Future of Food Policy*. You can find them on iTunes or SoundCloud. Until next time, I'm Kelly Brownell.