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Michael Holtz: Welcome to Further Together, the ORAU podcast. As ever, it is me, your host, Michael Holtz, in the communications and marketing department at ORAU. And I am joined by my co-host Amber Davis, co-host and colleague and friend. We work together in the communications and marketing department. We love talking about all things content, and all of the great things that are happening at ORAU. Amber, welcome.

Amber Davis: Thank you so much for having me. Yeah, we like to talk about nerdy stuff, but it's always really interesting when you get down to it.

Michael Holtz: And you and I love to nerd out about new things and new topics, and we kind of have one of those today. A group of folks in our public health and healthcare group have written a white paper on Strengthening Regional Food System Resilience: a Framework for Risk Assessment and Emergency Preparedness. And this paper was written because America's food systems are facing unprecedented challenges, from climate change and supply chain disruption, to biological hazards. The threats are complex, they're region-specific, and they demand tailored solutions. And so we're talking to Kara Stevens, Matthew Schnupp, and Rachel Vascones, really about a groundbreaking framework that they've developed with the USDA to strengthen food system resilience.

So, I want to have our guests tell us a little bit about themselves. And Kara, I'm going to start with you. Kara, tell us a little bit about who you are.

Kara Stevens: Hi. Sure. Thank you for having me here today. So, I am a Senior Project Director at ORAU, and I have a master's degree in public health, and a Master's of Science and Healthcare Administration. And I've been leading and supporting marketing communications, preparedness and response initiatives in support of national health security objectives for the past 14 plus years.

Michael Holtz: Awesome. Welcome. We're so glad to have you. Matthew Schnapp, you've been here before. How are you? Welcome back, and tell us a little bit about who you are.

Matthew Schnapp: Yeah, yeah, it's great to be back, and good to see you all. As you mentioned, my name's Matthew, and I've worked in the preparedness scape as a Project Manager for over eight years. And in my history, I've also worked as a public health nurse at the local county level. So, we've gone to homes where people are facing challenges, so this topic is near and dear, and I'm grateful to be here to talk with you.

Michael Holtz: Awesome. We're so glad to have you. And last but certainly not least, Rachel Vascones. Tell us a little bit about you, and welcome back to you as well.

Rachel Vascones: Thank you, Michael. I appreciate it. I'm happy to be here today. I'm Senior Manager for our Preparedness and Response team at ORAU. I manage our team. I do have a background in nutrition sciences. I actually previously had been a registered dietitian, so I'm combining my knowledge of food security with my knowledge as I currently work in public health preparedness. So I do have a master's degree in public health and an MBA in business administration. And I think this background can help us take a critical look at food security and what we can do with safeguarding this to safeguard this critical resource.

Michael Holtz: It sounds like we have the right people at the table to talk about this really important issue. From a 30,000-foot view, let's start with the big picture. Can we talk about what the problem is with food security?

Kara Stevens: Sure, I'd love to. So, if we're sitting here thinking, let's just imagine for a moment you wake up one morning and the headlines are devastating. We've got another major drought in the Midwest that's wiped out our critical crop yields; we have hurricanes that have ravaged coastal farms, that have destroyed the infrastructure and disrupted the supply chains. And meanwhile, we have these outbreaks of plant and animal diseases that are spreading and threatening entire agricultural sectors. And this isn't just hypothetical, it's currently happening. According to a recent report from the American Farm Bureau of Federation, we have severe weather and disasters that have caused over $21 billion in crop losses in 2023 alone. So that's $21 billion lost in a single year due to droughts, hurricanes, floods, and wildfires. And these numbers don't even account for the ripple effects. So, things like rising food prices, job losses, heightened food insecurity, as Rachel mentioned, across communities.

And the cost isn't just financial, it's social and economic. Families are struggling to put food on the table, farmers face bankruptcy, and communities lose that stability. America's food systems are at a breaking point. We've got increasing vulnerabilities due to supply chain disruptions, biological threats. And the problem is compounded by the fact that these risks are so region-specific. What devastates farms in California might look completely different from what something in someone in Texas or the Northeast might face. And therefore the solutions vary significantly from region to region.

So, what works for one area won't necessarily work for another. So, these one-size-fits-all approaches, they're simply not effective. And that is really why localized data-driven solutions are so essential to address these nuanced challenges. And I think this is really where USDA and OREU could have a significant impact together, working together, we can implement a proposed framework, and to help really assessorists from a regional local perspective, and help better prepare for emergencies.

Michael Holtz: Got it. So it's a big, big important issue, and there are a lot of factors at play here.

Kara Stevens: Absolutely.

Michael Holtz: Amber, do you want to take the next question?

Amber Davis: Yeah. I'm just thinking through all those things that you were naming, and I'm thinking, I'm a mom, so I'm sitting here going, "I would love to have security when we're talking about real food." I don't want to go for all the junk and all the box stuff. I want real food in my home. And I'm thinking what concerns me is, I'm thinking generationally we've had farmers, and there are fewer and who continue in that family business. And so is that something you guys are looking at as far as just farmers who are saying, "You know what? It's too hard," and it might be some of those factors you talked about, whether, support, different things. Are you guys looking at just keeping farmers in business? Is that something that this addresses?

Kara Stevens: So I think from this framework specifically, we're thinking at it from a preparedness and response lens. So food security is a huge topic, and Rachel can probably elaborate on this. But for this specific white paper and framework, we're really looking at from a risk assessment approach, what are the regional specific risks and vulnerabilities that we can help address from evidence-based approach?

Amber Davis: I did look at the white paper and I figured that was probably one of the things.

Kara Stevens: Yeah. It's so broad, and what we're hoping is this is just one of many white papers and topics that we can address. And this specifically, we wanted to come with a solution. And unfortunately, highly processed foods is a hot topic right now in the media, but what are the solutions and what can ORU provide, I don't know if we're really in that space other than communications campaigns, but...

Amber Davis: Yeah. And I may not have asked it well. I'm looking just for supporting farm. Because again, I want farmers in business. And so that's just what I was thinking as far as keeping them there. So maybe I didn't ask it well, but that's where my mind goes.

Matthew Schnapp: Yeah, and I'll jump in just saying that this kind of work that the USDA does where they have entire teams that look at farmer risk for crop failure, and how do we support them through insurance, and there's a whole process that they go through for it. And even though this is looking at an emergency preparedness scope, the lines cross a lot, right? Because what's a consistent problem now will become even worse in an emergency. So, through going through this process, by bringing more resources to the table, I think it helps support all the things that need to be done to help improve food security outcomes. So, it will be one step, as Kara mentioned, but I do look forward to seeing how it evolves to help continue to support initiatives that could be both emergency and also help with day-to-day operations too just by planning better.

Rachel Vascones: And I'll just add that we all know economics and the economic impact is big in any industry. So, that has to be taken into effect as we move forward, because it's not going to be something you can ignore, like the lack of maybe funding, or the lack of ability to sell crops, that's all an issue that affects the preparedness of those farms. So, that's something that is always going to be there in the background.

Michael Holtz: Sure. For the purposes of this white paper, you all have developed a five phased approach to addressing food security and resilience in, I guess, keeping the food supply secure. Would you want talk about what that approach looks like?

Matthew Schnapp: Yeah, sure. So, what our framework does really well is it brings experts and communities together. It translates what they know into priorities and a strategic path forward, and it builds in ways to evaluate all of that, to make sure that what's being done creates an impact, both now and in the future. And when we're developing the framework, we tried to map that workout across five different phases. And so keeping in with what I just said, first you bring the right people to the table. So, that's phase one.

And as part of that, we create a strategic plan and a partnership between ORAU and USDA, and invite some of the key stakeholders from local communities and government and academia to form working groups that can help us understand the problem better, and to make sure that we're targeting the right things. And we do that through establishing things like a national food security consortium, to make sure that we have a method of working together.

And working together, we develop a pilot plan. And that helps us identify priorities for the region that we're looking at in terms of a pilot, and also mapping out maybe what some of the implementation steps for the actions we want to take could be. And that feeds into the other phases.

So for phase two, we start with the right people in place, and then we make sure that we get the right information into their hands. And so in phase two, we focus on getting historical and real-time data, and combining that with local and expert perspectives to make sure that it's being tailored into a map of risks. And when you have that map of risks, you can start to evaluate climate trends, supply chain weaknesses, and things that might be factors that are dealt with in day-to-day operations, but also get worse during an emergency. And so how are we going to strengthen those things going forward.

And then when you have a plan of what the risks are, you want to also analyze that a little bit further to make sure that you can prioritize the right ones, because resources are always lacking, and you need to do more with less. So, for having the right people in place, giving them the right data, then we enter phase three, which is creating this innovative space that we've used before for experts in local communities to work together, and to think through the risk planning process. We do that through techniques like facilitation, we use collaborative software that allows for really great feedback to get collected. And then we're increasingly turning where appropriate to AI guidance to help create scenarios, prompt questions, make sure people are understanding things, and thinking through pieces that might be avoided or ignored, and taking that all together, and bringing the work through group through a series of risk prioritization and vulnerability analysis activities.

And we do that to help refine a plan to help them reduce their risk. And also, how they can take meaningful steps to help increase their preparedness, the response and the recovery readiness. So, as if that wasn't enough, we're only on phase three. Phase four kind of jumps into the idea of, you have a plan, you're going to act the plan, but you also need to evaluate the plan, and you need to take what you learn and distribute it. So, once the pilot's implemented, the fourth phase is where we take evaluation steps and we compile our findings into reports that are tailored for the region that we're looking at to make it very meaningful. These reports usually include things like data visualizations, heat maps, and dashboards that make these insights accessible. And they include education plans mostly do make sure that the people who are going to take those actions know what to do, are working in tandem with existing processes, and we can build on momentum to use evidence-based practices to help increase regional food security.

And then lastly, you want to take good things and share them with others. So, phase five is taking what works and sharing it with the rest of the nation. So, we take this phase and use it to develop resources and tools and processes. We adapt them based on the feedback that we collect, and we make sure that it helps scale up these best practices into things that other states can take and run with, so that they can also increase their resilience capacity and security.

So, throughout all this, taken together, it creates a strategic process, and allows regions to work together with the USDA to help understand their food security risks, to create a meaningful plan of action, and then implement that plan for longer term impact.

Michael Holtz: That's a lot, I know, in those five phases. But I also know this is stuff that you all do on the regular. So, as a listener, it sounds like a lot to me, but I know from a preparedness and a resilience perspective, this is the kind of stuff you all think about all the time, and what you help communities think about, certainly from a preparedness perspective, but not always through the food security lens. So, a lot of this sounds like applying what you do on the regular in the preparedness space, but applying it to food security.

From a real world perspective, what's the impact? What's the benefit of this framework ultimately?

Rachel Vascones: Thanks for asking that. I'm happy to talk about the benefits here. In preparedness, we know that critical to planning for any responses, data, information, and your partnerships. And this framework provides that data that the local officials, state level officials, federal officials, need to be able to plan for this kind of incident.

So, the first thing that I can talk about is, it does enhance emergency preparedness at the state and local and federal level. These localized risk assessments equipped those responders with the tools they need to respond quickly and effectively during a crisis. So having this information upfront will create a situation where you know that the threats, and you can respond to those as they occur.

It also increases food system resilience. So, by tailoring these strategies to each region, you strengthen those food systems against disruptions that can be caused from natural disasters and supply chain failures. As Kara talked about in the beginning, what's likely to occur in California wouldn't necessarily be what's likely to occur in a state like Georgia who has a lot of agriculture in the southern part of the state. So, you can take a critical look at those critical food system, maybe things that might be impacted, and be able to know those ahead of time, so that the local communities can work to help resolve those issues before anything, like a hurricane or natural disaster can occur, and mitigate the effect on the communities.

And then it can reduce economic and social impacts on the whole. The goal is to have a response that can have targeted interventions that minimize job losses, can minimize food price spikes, such as being able to have more food in the system, so that you don't have increased prices if there's scarcity, and then can help food during disruptions.

And finally, it can strengthen these partnerships in communities in the local level and state level and federal partners. It can also create a collaborative approach that fosters stronger ties between the universities and the communities. Those communities and policymakers to ensure those solutions are both scientifically sound and regionally relevant. So those are a few benefits that this risk assessment framework can provide.

Michael Holtz: Awesome. Thank you for that, Rachel. Just circling back to our capabilities, I mean, ORAU has been involved in response preparedness and disaster preparedness. I mean, it's sort of endemic to our DNA as an organization. But food security as a topic feels like sort of a new area of focus. And I'm assuming that's sort of where the idea for this framework came from, is it seems like we're talking more about food security and the resilience of food and accessibility more now than maybe we have with past issues around preparedness. Is that an accurate-ish statement?

Matthew Schnapp: Yeah, it's an area that OREU is increasingly trying to get more involved in, because it is so critical to our nation. Where are we getting our food? How do we stay healthy? And ORUA's history of population monitoring just for radiation related concerns. But what increasingly inspires me is how much ORAU does in different areas and the kinds of expertise we bring.

And so to your point, we have two really good examples of things that we've done that we take lessons learned from that allow us to forward think into the food security space, because there's good techniques that we can bring to help make meaningful change. So, what comes to my mind, there's two main examples that I know are recent history examples for us. And what they do is kind of highlight our ability to bring communities and stakeholders together to improve their preparedness plans.

So, the first example is right here in Tennessee. It's about family farms. Because we know that family farms, smaller farms at least, are at increased risk for disruptions due to their size due to financial restrictions. So, if something happens, they have an increased risk of having additional harm done to them. So ORAU partnered with the University of Tennessee Knoxville to evaluate 15 of those family farms. And to try to understand how they prepare for and respond to one sliver of that pie, which is extreme weather events.

The collaboration itself went really well, and it resulted in a detailed risk factor report, and created actionable guidance to improve resilience and recovery efforts that they would undergo. And then they even established an interdisciplinary advisory team to analyze the feedback and develop long-term strategies to address similar challenges that they might face. So, the approach worked to help cascade into other areas.

And I bring this up because it exemplifies some of the processes that we include in the framework, namely looking at a local level, making sure we're relevant to their issues, and how do we work together with universities to help bring expertise in a very attentive way.

And that project provided invaluable insights into how small scale farms can better withstand disruptions created by climate events. So, extending that it does address food security in that way. So, we do have a little bit of work related into that.

And it leads me into the second example, which is, if we take lessons learned, we have a second example of our work with FEMA's National Earthquake Hazards Reduction Program. And I bring that up because it highlights how we work with our university partners and local experts to address preparedness needs. And in this case, framed with earthquakes.

And for this project, we recruited experts from university consortium members that we have as part of our national network. And we formed an earthquake risk mitigation and emergency preparedness team. And then through those monthly meetings that we'd schedule with them, we increased the collaboration that they had, we aligned their activities with program goals that, programs that are dealing with earthquake preparedness are tackling.

And we helped develop innovative approaches to the education and training that could be provided. And in this working group, we included lessons learned that we used in our framework. So how do we create regionalized networks of expertise that we can bring and help foster a discussion that leverages everything that we know about a topic and makes it locally relevant?

And in the case of the example for the FEMA work, it resulted in enhanced connections between institutions, it targeted opportunities to address gaps in preparedness, and it even created a mini grant program that helps support innovative solutions.

So, we have a history of doing great work with communities to make sure that they're better prepared, and can use our resources wisely. And through doing that, we've demonstrated across many projects how we can bring together those interdisciplinary expertise and SMEs, local stakeholders and government agencies to tackle complex challenges. And so now we're bringing those skills and lessons learned to the area of food system resilience.

Michael Holtz: Awesome.

Amber Davis: I was looking at that white paper, and as you were talking just now, it did remind me of that map. You've got a figure in there that's showing the kind of universities we want to partner with in this kind of study, and this research that you're doing, and the areas that called out nutrition and wellness, supply chain, land use, sustainability, agro-ecology. I mean, these are just really interesting things. So I'm just wondering, how have you guys been able to work with those universities so far, and what kind of response are you getting?

Matthew Schnapp: Who wants to take that question? We knew that. So I mean, I can tell you that ORAU has developed, since basically its inception, a partnership with universities. And so working with their resources to help with radiation monitoring, and then carrying that forward into a number of medical applications and so on. So, we have a history of having a relationship with universities. And then as you mentioned, when you start looking at the network that's been built up over time, it's really amazing to see the amount of expertise that our nation holds, and how we can try to work together to bring that to very specific targets.

And so here at ORAU, we actually have a whole group within our company, as you know, but for those who might not, that is dedicated to fostering those relationships, to working with them, to making sure that we have shared goals that we can help to promote. So, more and more we're trying to make sure that we're honoring that expertise, and that we can work together to bring them into opportunities like this.

So, the process is usually a conversation with universities to see what they're interested in. We work with them to identify what their priorities are in ours. But in situations like these, I think everyone typically agrees that it's best to give that expertise out to highlight what we know, and to help solve problems with that in an applied way. And as a nurse and as someone who's worried about are you breathing, do you have circulation, the things that really matter in life, I love it anytime that you can take academia or a university that can sometimes get as branded as out of touch, and use it in an applied way, and highlight how they are using their expertise to benefit their communities.

And also, because they're part of the community, it creates this sustainable relationship, because they know the people there, and they can continue to work together, even after the project's done. So, it's a win-win-win. It's a win for us, it's a win for them, and it's a win for the communities. And it's really great to see how this has been used over the past decade to really make some change.

Rachel Vascones: I think that's a critical element of this project. We have a university consortium, and they are throughout the country. So, we'll probably find a program in every part of the country. And having that local connection is so powerful, and it can continue on after we do an assessment and then give the community their more information. And that work will go a long way to ensuring food safety resilience.

Michael Holtz: And I know Cathy Foer loves to matchmake. So, any opportunity that she and her team have to...

Rachel Vascones: Very true.

Michael Holtz: ... find those university partners, She's going to take you up on that for sure.

So, you have this white paper, you created this incredible framework. What happens next?

Kara Stevens: Yeah. So, we're actually hoping for an opportunity for USDA and ORAU to pilot this framework in select regions. And we're hoping the use of the findings from that pilot will help us scale it nationally to a broader level, as Matthew and Rachel were mentioning earlier.

So, by embedding the framework into USDA programs, we really hope to create a lasting impact, one that goes beyond the regional, but on national level, that ensures America's food systems are resilient, that they're adaptable, and that we can be prepared for future challenges.

So, this opportunity and the impact, possibly the potential for this is just huge. And it is one that I know this group here, Rachel, Matthew and myself, are really excited about. And we're hoping that these localized risk assessments and that the services that we will provide from the tailored mitigation strategies and that stronger partnership and collaboration at the regional level will really help better protect the food system and public health and economic stability. And as we mentioned earlier, this isn't just about responding to crises, it's really about building that resilience for the longer-term impact. And it's really something that we would all benefit from.

Michael Holtz: Well, that's incredible. I've loved reading this white paper. Of course I love, y'all know I have a very soft spot in my heart for your team, for the public health and healthcare work that we do. And because I come from that background, I understand this world fairly well. So, I love talking about the work that you're doing, and I wish you the best of luck in hopefully getting some partnerships off the ground with this framework, and with helping us as a nation have a more stable, more resilient food supply. So, thank you. I want to thank you all for being here, and for the opportunity to talk about this great work. Thank you so much for your time today.

Rachel Vascones: Thank you, Michael, Amber.

Matthew Schnapp: Thank you.

Kara Stevens: Thank you very much.

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