

Stuart Yasgur: I'm Stuart Yasgur and this is Economic Architecture, the podcast.

Stuart Yasgur: We've talked about resilience on the podcast mainly as it relates to fortifying homes and communities against wildfire.

Stuart Yasgur: But other climate-related threats from hurricanes and other extreme weather can create harmful water-related damage to communities.

Stuart Yasgur: In today's conversation, we're taking a very different approach.

Stuart Yasgur: We are talking with Paul Robinson, the Founder and Executive Director of RISE, a Norfolk based nonprofit that is bringing a thoughtful and intentional approach to foster new solutions.

Paul Robinson: These are real world problems, and we're looking for solutions. We're not funding R and D projects. We want to fund a pilot. We want the company to come in and say, we're gonna build something, we're gonna demonstrate it works.

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Stuart Yasgur: They've created a living laboratory that advances innovative solutions to the biggest challenges facing coastal communities. It's an open innovation ecosystem that promotes climate resilience and economic growth in Southern Virginia.

Stuart Yasgur: Today's episode is about how one structural innovation could help coordinate government policies with private sector funding to address the multitude of damage that can come from the impacts of flooding.

Stuart Yasgur: Paul, it is great to see you. Thank you so much for making this work.

Stuart Yasgur: Thank you for having me. Happy to be here.

Stuart Yasgur: Paul, I'd love to dive right in. I grew up on a coast, you were living on a coast. Now I'm envious that you're there and I'm not. Living on a coast is incredible, but it also comes with risks. For those of us who may not be as familiar, can you help us understand what are some of the risks? Where are you located, and what are some of the risks you face?

Paul Robinson: Yeah, so we are located in the Hampton Roads region, Southeast Virginia. We're actually located in Norfolk. We're a region of seven cities and several counties, about 1.7 million people.

Paul Robinson: We're very representative of a coastal community in that we're flat. We're on the coast, but we also are home to some major installations, major, naval base port, hospitals, universities, as well as the infrastructure that's needed to keep those things going, getting goods in and out, and people in and out.

Paul Robinson: Some parts of the region are towns that were built 400 years ago, when they weren't really thinking about what we're threatened with today. We're very flat aging infrastructure, and we're really threatened by two types of flooding.

Paul Robinson: One is the nuisance type of flooding, which you get when there's a high tide, when the wind's coming from the north or northeast pushes the water in the Chesapeake Bay down, increases the river levels, pushes the water up through the stormwater system, and you get what's

often called sunny day flooding where you get roadways, maybe a mile or two inland that are flooding.

Paul Robinson: Because the water at high tide is coming up through a stormwater system. And in summer when there are these heavy thunderstorms, highly localized rainfall shafts, then that changes the flooding map considerably. So you can get regions if you get an inch or an inch and a half an hour, which is not uncommon in a heavy thunderstorm, you can get some very heavy, severe localized flooding.

Paul Robinson: And that makes getting around from point A to point B difficult and unknown. And it can lead to loss of cars, and it's a major inconvenience. The other threat that we have is from hurricanes and sea level rise. And as these hurricanes come up the East Coast or across the Atlantic, they can be catastrophic.

Paul Robinson: And luckily, we have not been struck by anything very severe in the past 15 years or so. When I say very severe, it's been bad. We've had several Category Ones, Category Twos, but they cause significant disruption, damage, and loss of life. So, we've got two threats—more of a nuisance type threat and more of a threat to life on them too.

Stuart Yasgur: And that means that you're flooding at the nuisance level and also this kind of catastrophic level, it's a every year phenomenon, this is a way of life, is that you have to deal with this in a large geographic area that has infrastructure that's been there for a really long time.

Paul Robinson: That's right, and we see the tidal flooding can occur anytime of year. Particularly when you start to get northeaster's severe low-pressure systems coming up the East Coast. But, as we saw this year, just in the past year or so Hurricane Helene affected inland.

Paul Robinson: Very bad, very badly, very strong flooding. Lot of damage kicked through Asheville, Southwest Virginia, into the mountains. And also,

we got a storm in February, Winter Storm Jett, which contains significant flooding as well as cold and wind, which can be a whole different threat.

Paul Robinson: It seems that the threats are becoming more numerous and severe just anecdotally.

Stuart Yasgur: Yeah, anecdotally, and I think, I do think that's backed up by the research, by the numbers show that they're getting more and more frequent and they're getting more severe each year and one of the problems is that nobody, storms don't discriminate along property lines and who owns the property, who's responsible for it, et cetera.

Stuart Yasgur: So it really, there is not a single party that is responsible for the entire thing. How do you start to deal with thinking about creating solutions here?

Paul Robinson: It's hard. What we do at RISE is we try and characterize the problem and then find people who are thinking about these things and have ideas. And you've gotta keep in mind the coastal flooding is a little bit different. Like when you saw when you see coastal flooding, like in Jamaica, but also in Katrina, it's a large area underwater.

Paul Robinson: Which is very damaging, and as we've all seen, but if you go into the mountains in the west, you start to get these flash floods, and that's a little bit different. It's very dangerous. There's nothing you can do once it starts. So you know, when you have to just get out the way or you're stuck there.

Paul Robinson: So it's a different kind of a threat—both have gotta be taken very seriously. And there are different solutions for the different events.

Stuart Yasgur: So can you talk a little, can we just talk a little bit about the history of RISE because it's, I think it's fascinating. The way, as we learned

about it, the way that it's set up, the role that it's playing, how it came about is a really fascinating history.

Paul Robinson: So, we were part of, to go back to Hurricane Sandy was a very damaging storm. Came up the East Coast, and I think that was about 2012, and in response to that, the United States Department of Housing and Urban Development puts money on the table there for states to create resilience protections, resilience infrastructure for their cities, for their towns, and their coasts.

Paul Robinson: And that was done on the basis of a competition, and the Commonwealth of Virginia won \$120 million to do some work in a part, in Hampton Roads, on a neighborhood to protect it with burns and walls, and pumps, and that sort of thing.

Paul Robinson: But part of that award was for a laboratory and accelerator to come up with new ideas, new adaptations, new resilience solutions that might, A, solve a problem or address a problem in ways that have not been done before. And B, provide people some jobs and grow small business and provide a catalyst, or at least a starting platform for companies to test and demonstrate their products, and then go on to bigger and bigger markets as they grow.

Paul Robinson: So, what we do is we pose the problems and we put them out there, through our team of professionals, our communication professionals, we put the problem out there.

Paul Robinson: These are real world problems, and we're looking for solutions. We're not funding R and D projects. We want to fund a pilot. We want the company to come in and say, we're gonna build something, we're gonna demonstrate it works. And we fund them typically at about \$250 or \$300,000 to do about 12 to 18 months pilot demonstration using this region as a living lab.

Paul Robinson: So, they can put sensors in the stormwater pipes. They can build their expandable walls. They can build their living shorelines—demonstrate them, and that gets them the next leg up to paying customers and investments and that sort of thing.

Paul Robinson: And then we've run 13 of these challenges. We've funded 45 companies, and collectively they raised over \$50 million in follow-on funding, which is really the intent of the whole thing.

Paul Robinson: We started in 2017, and we've received funding from a number of different places, including the federal government and state government, and a number of different entities. And we're always focused and concerned on our sustainability. And we'd welcome any calls if anyone has any offers or ideas there. But we're always looking to, to the future and how we can keep going and who we can partner with. We can't do this alone. And so that's always on our radar, and we talk to other coastal communities.

Paul Robinson: There's like telecons to go on and everyone's got the same sort of flavor of the same problem. And so, it's interesting. There's definitely no lessening in the need.

Stuart Yasgur: The need is growing, and the innovations that you're helping to catalyze are gonna benefit other communities who have similar kinds of issues, right?

Paul Robinson: They must—we are not solving just our own problem. They must be scalable.

Stuart Yasgur: So, we all have a vested interest and seeing these kinds of catalytic platforms succeed.

Paul Robinson: Yeah, ideally, the concept we have is, although we're a big region here, we're still several small towns, which makes it easy to develop and wring out solutions.

Paul Robinson: And we can work with the city governments, and we know these people, so if something's not working quite right, we can get in there and we can fix it, and so we're the start of the conveyor belt. It's a great place to tweak and soften the rough edges.

Paul Robinson: Then you go on to the bigger cities, maybe Washington or Baltimore, up to New York, Philadelphia. It's very hard to start in these places. It's done—they run pilots too. But it's been seen to be a benign place to start and get your product moving.

Stuart Yasgur: That is great. What are some of the kinds of challenges that you run? What are some of the topics?

Paul Robinson: Living shorelines have always been of interest to people in the resilience sector. And part of that required transporting or building oyster reefs, 'cause oysters are very efficient at breaking the energy of waves and protecting the the shoreline.

Paul Robinson: And they've got the benefit over grace or the concrete protections because the older they get, the better they get, 'cause they attract more oysters and they become more of a barrier. The only problem that was seen here is that the places that manufactured the pieces of the oyster reef were nowhere near the coast.

Paul Robinson: One was in fact 150 miles from here. So you had to build these concrete blocks and stick 'em on a truck and get them down here, which is not very efficient and or cheap, or carbon efficient, if you will. So, we funded a company that had developed a way of, they built a 3D printer, so as they could build, they could put it down on the shoreline, and actually build the oyster reef on site and put it in the ground.

Paul Robinson: And that made it quicker, cheaper, more economically and environmentally efficient. And they're going gangbusters all around the country. And so that was one, an early on one that we're really happy with.

We're happy with all of them, but that was one that stood out. We've funded this company, they're called Matrix, and they're out to Raleigh, Durham.

Paul Robinson: They've done a fair amount of work in our area. They're also working in Louisiana and Texas, I believe. And they do great work. And every time that we've funded them for different projects they've really come through with some very interesting ideas.

Stuart Yasgur: Yeah. And as you say, they do this remarkable, they actually it's like printing the shoreline right there.

Stuart Yasgur: And I think that one of the things that I was fascinated by when learning about it is the old-fashioned model, if we're building with this gray infrastructure, we're putting concrete and stones and putting it in place, the day we put it in place, we have to start budgeting for its replacement.

Stuart Yasgur: Because it all, because the, the waves take their toll and the whole thing starts to come apart a little bit. And so you know, it becomes a depreciating asset on day one that you have to plan to replace. Whereas these nature-based solutions, like Matrix's Solutions, they actually improve.

Stuart Yasgur: So it's an appreciating asset that like the performance actually improves over time. And so if you have a large capital kind of location, whether you're an airport or kind of community, whatever, where you need a sea wall, like it really changes the economics of planning for these kinds of things over the long term.

Stuart Yasgur: Yeah, I think it's an underappreciated. Yeah, a benefit of what they're doing.

Paul Robinson: And one other example I'd give you, and I mean we have a lot of examples and we've only got a limited time here, but these ones are easy to understand quickly. The flooding that I told you about, where we

have the high tides and the heavy rainstorms, getting around is like a crapshoot. It's very tough.

Paul Robinson: We ran a challenge where we wanted to find ways to bring real-time flooding into Waze, which would then guide drivers around the flood, the flooding as it's happening, as it's being updated on your phone. And we found a company outta Brisbane, Australia —FloodMapp, and they came in and stood that up in Norfolk, and Norfolk's the first city in the world to use Waze in that way.

Stuart Yasgur: Wow. So if you're opening your phone and you go and you've opened the Waze, you can actually see, okay, what streets are flooded right now, so you can get around.

Paul Robinson: Yeah, and if you it'll route you around the flooded areas.

Stuart Yasgur: That's fantastic. Is Waze, is that integrated? Is that a third-party add-on, or is that integrated through Waze?

Stuart Yasgur: And is Waze thinking about doing that in other locations?

Paul Robinson: I think all of the above. It takes advantage of the Waze Connected Cities program, Infrastructure, which is great. And usually it's used to just close a road when you're having a street party, but we grabbed it and used it for something else.

Stuart Yasgur: That's great.

Paul Robinson: And it works.

Stuart Yasgur: Yeah. That's fantastic. Just one of the other, one of these interesting aspects, and you did mention, but one of these interesting aspects also about RISE is that you now have, you think about it, large government needing to respond to Sandy. You have state playing this large role of putting, conceiving of an entirely new program.

Stuart Yasgur: Then you have RISE, which is kinda a separate organization that's now enabling for-profit companies. And so this is an example of kind of government, a kind of citizen sector and private sector kinda working together to stimulate innovations to address accelerating risks that we're all facing, but also doing it in a way that creates economic viability and all of those kinds of things.

Paul Robinson: Yeah. And if we can understand the not every solution fits the model of a challenge. There's a few things that have to fall into place, but when you get it right and you meet the needs. We did another one with the public works department locally. They wanted to know what was going on in their stormwater pipes and on sunny days, as well as when the storm, and a company came in, StormSensor, they put sensors in the storm water system, and they were able to give the public works department real-time information about how much room there is in the stormwater pipes, and which way is the water's going.

Paul Robinson: And it's not always a pretty story.

Stuart Yasgur: I'm sure. I wonder, so how do you determine what your challenges are gonna be about? Is it, is this in conversation with others in the region?

Paul Robinson: We talk to the, what we find are the people who deal with this stuff really know the effect well; they know what happens when there's flooding. They know what's affected and how much and what's going to happen. They don't necessarily know what the new solution would be. They don't know how to put it into Waze or that it's, but there's other people out there who are thinking about these things, and we spend a lot of time talking to the people in operations, the people who face this stuff day in and day out. There's a, it's really interesting. It's a great process and we learn a lot about it. And then we build the challenge around it, and we ask the companies to tell us what their solution is, to tell us why do you think it's gonna work?

Paul Robinson: We don't want to early stage. We want something that's, that can be put in the ground—full scale and demonstrated, but also, we want them to give us what their business model is, their business plan. We want them to be able to grow this into a business.

Paul Robinson: As I said, it's not; these are not R and D projects. These are the beginnings of business. And so, we're catalytic funding for them to get them to private investment or paying customers or both.

Stuart Yasgur: And so you've created an open innovation ecosystem for promoting climate resilience in Southern Virginia. Are others starting to do something similar or is there replication? Are there people considering doing something similar?

Paul Robinson: I think there's different flavors out there. I'm reluctant to say that we're way ahead or not way ahead, but I think we do things in a slightly different way. Plus, what we've seen more and more, certainly in the past two years, that solutions have to be regional. They can't be just one point an intersection in a city, or one point in a city. It's the region, and we see that we've done a lot of work out west, and the Appalachian and the mountains as well on flooding.

Paul Robinson: These have to be regional solutions. And so that's really what we're focused on now. We want to work with more and more communities and more and more states. And so, we're taking a broader approach and trying to address regions problems.

Stuart Yasgur: We obviously look at innovations all the time, and kind of structural innovation, and kind of a little bit of a different orientation.

Stuart Yasgur: But we're talking to innovators all the time who have new ideas that may be science-backed and where there really could be a market for it, but it can be so difficult to get approval to move forward with a test, especially if it's something that deals with climate, deals with extreme

weather—that might deal with public spaces or transportation spaces or the coastline. How is it that you're able to advance these in your context?

Paul Robinson: A lot of it, it really comes down to working with the local communities and the local government entities. Maybe this is city councils and maybe it's the planning district commissions, and you have to talk to them and understand the problems.

Paul Robinson: If they see that something might work, and they have an idea of where it could be tested or where it might fit, things are a lot easier. Trying to force a solution into a community is a very hard thing to do. But if it's, if it fits the need and people understand, it really helps.

Paul Robinson: One example we've seen is when we started working in the western parts of the state, and we started talking about our challenges and that we would come in and try something out for nothing. And it was met with some skepticism, but as we got in there and made sure that the companies that we were funding were focused on the real needs, it changes. It changes.

Paul Robinson: And if you're not quite meeting the need, you either adapt or it's just not going to work. But if you've got the folks on the leadership interested, and if they have confidence that what you're doing can help, then that's really what makes things work.

Stuart Yasgur: And so you've built, through that track record, you started to build that trust and buy-in from local communities. I guess that, as you're saying, describing now, I think one of the things that I'm beginning to appreciate is that's really another sense in which you're looking at this as a living laboratory.

Stuart Yasgur: So it's like that, that funding is critical. You also have to create an environment with enough buy-in so that people can actually put these innovations to test and demonstrate that they create value for people.

Paul Robinson: And so let me tell you another little anecdote here with this is, this was one of those aha moments. I'll give you one on the coast, and that one, as I mentioned before, when the company StormSensor put the sensors in the storm water pipes and the public works department suddenly got a good, clear understanding of why they flood very quickly and often and when the sun's shining, 'cause there's not the pipes are half full, like for, usually at just on normal days.

Paul Robinson: But out west, another one of these examples was a company that came in and was developing an early warning system for flooding out there for the flash flooding, and they did some analysis. This company's called Mērak, M-E-R-A-K, and they did some analysis and they were able to show the people out there, the emergency managers out there, what happens if a certain part of a stream has debris in it from the year before and isn't cleaned out?

Paul Robinson: And so the emergency manager was able to see this analysis, see the maps, and understand, I gotta clean out in March. I gotta go and clean out these different areas here. Otherwise, everything upstream when the storms come are going to get more severely damaged.

Paul Robinson: So they now know the early warning isn't just half an hour or an hour before the storm, it's three or four months ahead, to know where to clean the debris outta the streams, because that's what happens after a flood is that bits of houses and bridges and whatever else gets stuck in the stream, and then the next storm comes along and backs up even more. So, it's one of these cases where the work spawns other solutions, and that's pretty rewarding.

Stuart Yasgur: Yeah. That is fascinating. Yeah, of course, 'cause it, so anybody who's familiar with this kind of mountainous, so it's like you described on the coast is flat, but you go west, it starts to get mountainous.

Stuart Yasgur: Yeah. And then in those mountains, and if you're familiar with how water goes down in those mountainous areas, you get these streams. And it's really interesting to think about, so if you still have some of the debris from the year before, you're creating little mini dams, and you're getting flooding in those local communities, that if you don't clear out, and it really exacerbates the problems that you're experiencing,

Paul Robinson: It's very hard to clear streams from debris, very expensive, very time consuming. But those can be jobs, those can be local jobs. And so that's one of the things that we're looking at too.

Stuart Yasgur: That's fascinating. Yeah, and if you, that it's an ounce of prevention versus a pound of the cure if yes, it's expensive to do, but it's much less expensive than experiencing the damage that would come if you don't do it. Yeah. Remarkable. It's remarkable.

Stuart Yasgur: You've made advances in all of these areas and as a result of that, the communities experience less risk in many of these ways. But what are some of these areas that you're imagining are gonna rise to the top for you?

Paul Robinson: A couple of major areas that we're looking at that we're just finalizing, so I may be a little circumspect here, is that we have seen that cities are threatened not just by climate, the flooding and those type of events, but they're also very hungry on the use of their local resources—in particular water.

Paul Robinson: And there's a few cities around the world that are really faced with that problem. There are ways to replenish the aquifers that are being studied and analyzed today. And in fact, there's a major one in our local area and we want to understand and look for the economic case for doing that, which will then support the credit market to provide a business around and incentivize those sort of applications.

Paul Robinson: What we're also looking at, and we're very interested in, over the years, we've worked with some companies that have home-building attributes for entire regions.

Paul Robinson: One of the things, first floor elevation. That's a real important factor in defining whether a house has a significant insurance claim for a given flood level. And we've funded a company, True Flood Risk that can, that has, can map remotely buildings, first floor elevation across an entire city, and they've done it here.

Paul Robinson: We funded them to develop their products. So, for any building, any residential building, single-family or multifamily resident, we know what that first-floor elevation is, and we also have worked with a company that has flood underwriting for every single property in the US. You put those two things together, there is a way for property owners as well as residents of each one of these properties to know what their resilience threat is and how much it would cost to protect themselves, and what opportunities, what options are available to them that they could afford for any given level of economic status.

Stuart Yasgur: That's phenomenal.

Stuart Yasgur: And there might be a bunch of different stakeholders who would be really interested in that because it's, it's for any homeowner, you understand what your exposure is, what your expenditure might need to be. For a community you understand it, for companies who wanna supply those kinds of goods and services you can imagine it, for folks who wanna do the work that's related to it. For folks who own, share the risk, the financial markets. That's remarkable.

Paul Robinson: And again, it's a regional solution. And even though many coastal communities are developing their coastal storm risk management projects, which are big civil engineering projects to protect the cities, there's always someone outside the wall.

Paul Robinson: There's always some properties that can't be protected and maybe the protections are non-structural, which are adaptations to the building. There's always a need.

Stuart Yasgur: Yeah, absolutely. Absolutely. And on the aquifer piece, I think it's phenomenal. We've long been since I think it, it might be 15 years ago, 12, 15 years ago.

Stuart Yasgur: And Andy Lipkis, who was the Founder of Tree People, a remarkable social entrepreneur, had this very powerful case that he demonstrated that LA for example, spent roughly a billion dollars a year. These are the numbers at the time. Billion dollars a year, bringing water to the city of LA.

Stuart Yasgur: And it was a huge part of their environmental footprint; all the kind of greenhouse gases is what part of the largest part of their electric bill and energy usage. They spent about a half billion dollars a year removing water from LA to remove flooding and all of those kinds of pieces.

Stuart Yasgur: And about \$125 billion a year removing the natural filtration system that could lead that water back into the aquifer. And smarter usage of the aquifers that were there can be not only environmentally beneficial, but also there's such a possible kind of business case for communities.

Stuart Yasgur: It's, yeah, I think if this is an area in which you move ahead, it would be very exciting. We'd love to follow along with you and learn with you.

Paul Robinson: Yeah. We're always looking for partners. If we can't do this alone, really, we want to partner with other communities all around the country and around the world, too.

Stuart Yasgur: Right?

Stuart Yasgur: Yeah, absolutely. It's wonderful. And so, if somebody is hearing this and they're either a company with an idea who's looking for a living laboratory or they are a policymaker or a citizen in a community that is experiencing kind of the growing threat of extreme weather, how do they act? How do they start to learn more about the work that you're doing?

Paul Robinson: They should go to our website, rise.resilience.org. There's an info tab on there. Send us a message. We answer all that we can and watch out for our challenges. And by all means, enter. There's money there and there's an opportunity to get your idea going.

Paul Robinson: Reach out. We're always willing to to hear from people and talk about whether your idea is good and relevant. Maybe it could be better, and maybe it's right on.

Paul Robinson: We'll tell you that too. So that's Rise Resilience. O, one word. Dot org.

Stuart Yasgur: And is that's probably also the best place to hear about the organizations you've already funded and worked with, and who have already demonstrated the efficacious of their work in your area. Yeah. That's great.

Paul Robinson: As well as past examples of our challenges and our challenge documents and that sort of thing.

Stuart Yasgur: Great. Paul, this is fascinating. The work that you're doing it is remarkable and such. I think it's an underappreciated example also to the way that kind of government and citizen sector and private sector can work together to spur innovations that really can meaningfully address some of the larger challenges that we're experiencing in our communities.

Stuart Yasgur: You are concretely advancing real solutions, but also serving as an example of what we could do elsewhere as well.

Paul Robinson: Oh, thank you, Stuart. I appreciate that.

Stuart Yasgur: It's great speaking with you.

Paul Robinson: Thank you. Thank you for your time.

Stuart Yasgur: You know, one of the things we try to do is we start with Hippocratic Oath. First of all, let's do no harm, then let's try and do our best.

Stuart Yasgur: For example, when you look at the work that RISE is doing,

Stuart Yasgur: Sandy occurred. The government saw the impact that Sandy wrought on the northeast and the whole kinda east eastern seaboard.

Stuart Yasgur: They did something really constructive, as they said, we don't yet have the answers, but we need the ability to find answers in a way that we don't currently have. So they put together big chunks of money to actually enable those who are willing to stand up to solve those problems.

Stuart Yasgur: That's at the federal level. That was complimented then by activity at the state level, where they said, okay, we recognize that we don't really have a department at the state level that is like the innovation department at the state level.

Stuart Yasgur: What we need to do is make sure that we create this capacity and we're gonna do it by creating making sure that this, this nonprofit gets set up. So now we have federal government, we have state government, we have a nonprofit, and that this nonprofit is gonna be able to help us, kind of help us invite in the innovations that we need to address this problem.

Stuart Yasgur: When we look at what was really working, we're really interested in a handful of things, including first, what problem do you think

is really important? What problems do you think is actually really worth solving?

Stuart Yasgur: We don't go into kind of presuming that we know what that is at the outset. We need to listen and learn from that.

Stuart Yasgur: Then we say, okay, like how do you think, what do you think is the most promising approach to actually solving that problem?

Stuart Yasgur: And then what are the barriers that are standing in your way of doing that, and what changes can we help bring about that help overcome those barriers?

Stuart Yasgur: That is a far more productive method to actually finding how we can create massive change.

Stuart Yasgur: That nonprofit made a smart decision as well. What they recognized is like, look, these problems are so large, they're, we're not gonna only be able to use nonprofit approaches to addressing these problems. So actually, what we need is businesses, like really viable businesses to be started to advance the type of solutions that could be really effective here.

Stuart Yasgur: So now we have the federal government, we have state governments, we have a nonprofit. That nonprofit has come up with a whole methodology for taking very efficient, small amounts of money to kinda lift up the biggest problems that are faced in the region. Invite those who might have solutions to those problems to come and address them.

Stuart Yasgur: And address them in ways that are market-based and scalable so that they can go ahead and potentially, if they're successful, grow to the magnitude of the problem. They're also, as a byproduct, creating economic growth in the region.

Stuart Yasgur: So, one of the things that we see at RISE, also started working with the local communities and their public officials to create an environment that is open to and bought into the prospect of working with companies to see if they in fact, could be successful.

Stuart Yasgur: If you trace that story, you got the federal government, you got state governments, you've got a nonprofit, you got for-profit businesses, you got local communities—all of these are being put together in a way that's concretely advancing real solutions. And they've done now 13 different challenges, 45 companies have been funded throughout this thing

Stuart Yasgur: Those companies have gone ahead and raised \$50 million of follow-on funding and they're now able to go from things that are affecting absolutely the coastal communities, but also the other places in Virginia that are directly affected by this kinda extreme weather, including the mountain regions, that are not right on the coast, but have water issues like through rivers.

Stuart Yasgur: It was a remarkable counter example to those who are kind of pessimistically, just pointing out the problems of how this whole different range of actors can come together with intentionality to accelerate the pace of innovation that directly makes our communities more resilient to climate.

Stuart Yasgur: I think, unfortunately, it's a little bit easy for people to offer critiques of efforts that didn't work as well as they could have or didn't, may not have succeeded at all.

Stuart Yasgur: While it might be a kind of comfortable pastime, identifying what didn't work is not a reliable path to finding out what will work. Problems can be infinitely described.

Stuart Yasgur: There is no end to that pathway. There's never a point where you've reached a sufficient description of a problem that you now

have the recipe to understand how you need to address that problem. It's a different question you're asking.

Stuart Yasgur: So, one of the things that we see at RISE very much kind of fits with our deep kind of epistemic beliefs at Economic Architecture, that there is a reliable way to actually start to understand how you can address problems at large scale and the roots of those problems. First, it starts with, we need to understand which problems are really important to solve.

Stuart Yasgur: On that question, people who are in communities that are approximate to the problem really are authoritative in a way that needs to be listened to. So, if you talk to somebody in a community and you're hearing from people over and over again in the community that this is the most important problem I'm seeing in my community, and this is how it manifests itself, that needs to be taken really seriously.

Stuart Yasgur: And we need to go further. We need to understand what the nature of that problem is.

Stuart Yasgur: They're telling us the problem is important. They're telling us also that they believe the problem can be solved. And they're telling us where they think that the solution to that problem may lie.

Stuart Yasgur: You go one step further as to understand what is the biggest barriers in their view to addressing that problem. When that starts to come into focus, you can now start to ask, okay, is there a structural way? Is there a way to address this problem at the structural level that could really address this problem?

Stuart Yasgur: We see aspects of that in RISE's work because in RISE's work, it was very clear, instead of looking at like, hey, here are the thousand projects that didn't work. Let's identify what is really working right.

Stuart Yasgur: And when you have each of those elements, if you give yourself permission, you can start to move forward with a whole range of solutions that otherwise wouldn't have been conceivable.

Stuart Yasgur: I'm Stuart Yasgur, and this is Economic Architecture, the podcast. Stay tuned for future episodes of the Economic Architecture Podcast.