**TRANSCRIPT – EPISODE 3: From Recovery to Resilience: Planning for urban change**

SPEAKER:
Welcome to Thinking on Development, the podcast by the Institute for Global Development UNSW. Each episode we are joined by new guests to explore some of development's biggest questions.

DAVID SANDERSON:
Hello, my name is David Sanderson. Today's podcast is titled from Recovery to Resilience Planning for Urban Change. As if COVID wasn't enough, the biggest threat facing us is climate change, which among other things, worsened so-called natural disasters such as floods, windstorms, droughts and bushfires. In recent years, Australia has experienced some of its worst disasters, including severe droughts, rising temperatures, worsening floods, infestations of mice, and in 2019, 20 most devastating bushfires in living memory. Many see such disasters as affecting rural areas only, but that's not the case. Towns and cities are also at risk. Australia, like many other countries, is urbanizing fast. Some 86% of Australians live in urban areas.

DAVID SANDERSON:
Over the next 15 years, Greater Sydney is expected to swell from 5.3 million to 6.6 million people. For Sydney, however, some parts of the city may be too hot to live in within decades, quote, if the forecasts are correct. Planting trees doesn't seem to be enough. More widely, the recent royal commission into bushfire recovery put it starkly, Australia's disaster outlook is alarming. People, infrastructure and economists therefore need protecting. How to do this, how to shift from what is quite literally, in some cases, firefighting, and to get ahead of the curve to protect infrastructure, assets, livelihoods and lives, build resilience, if you will.

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Well, to discuss this, I'm joined by three considerable experts, each with a lot of experience and understanding in this area. Alison Morgan is a director with the newly formed state agency, Resilience New South Wales, where she leads bushfire and flood recovery across the Greater Sydney region. Alison has over 25 years experience in the public sector and has worked in metropolitan, regional and rural communities in service delivery and development. Sam Kernaghan is the director of resilience programs at the Committee for Sydney. Over the past 20 years, Sam has worked with more than 50 cities across Asia and the US to build resilience. Sam has worked with the Rockefeller Foundation's under Resilient Cities program and the Asian Development Bank, as well as others.

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Paul Barnes is a research fellow in urbanization and disaster resilience at the University of New South Wales. Paul has over 30 years experience in emergency and risk management at both state and federal government levels, and has written widely in this area. Paul, among other things, is a member of the World Economic Forum Expert Network on Risk and Resilience. So, I think you'll agree we're in very very good company for what promises to be a very interesting conversation.

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Alison, let me start with you. You are a director in the newly formed Resilience New South Wales, the lead disaster management agencies for the state responsible for all aspects of disaster recovery and building community resilience to future disasters. Alison, how do you engage both with recovery and also with building resilience?

ALISON MORGAN:
Hello, David, and thank you very much for having me here today. Yes, indeed, the (INAUDIBLE) Resilience is a very new organization. And from a state government perspective, we are being asked to take quite a different view than we have in the past. So, my background has been mainly around community recovery, following disasters, but it is clear that the state government is taking a much broader role. And so, Resilience has been asked to start to think a lot more around how we do literally move from recovery to resilience. So, I suppose a lot of my answers today are really grounded in that immediate recovery and how we can use recovery actions, not just to achieve those initial outcomes for individuals and communities around recovering, but how we then use that community connectedness and the skills and capacity you're then building with people in order to have communities and individuals who are more resilient.

ALISON MORGAN:
So I guess in asking us, how do we do that. Our focus initially, of course, is on meeting people's immediate needs in both that relief phase and a longer term recovery. And so, for us, that's usually a focus on government funding. And we're fortunate in Australia that we do have a really well structured system of Commonwealth and State government funding around recovery. For us, a key element is working with local councils. So, we all know that the best community recovery we can do and the best input for us in terms of building longer-term resilience is working directly with communities. And the best layer of government to do that is undoubtedly local government. They know their communities well. They understand then the regional nuances about where they're living, they get their risk profile much better than other levels of government do.

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So, we have a really strong framework around ensuring that we are working at the lowest level that we possibly can in terms of a government perspective and really having flexibility around how we structure recovery activities, how we structure grants, how we put recovery money into the community in a way that can be really informed by community needs and ideally as much as possible, actually directed and managed by members of the community as well. So, I suppose I would have to say that at the moment, our focus is around starting from recovery, 'cause we've been forced to have to do that over the last certainly three years, four years, and using that as the foundation for building the skills around resilience. So, our focus has been more on community networks well, in my world rather than actually thinking so much around the infrastructure.

DAVID SANDERSON:
And where does resilience best sit? It sits in councils, of course, the lowest levels. And that's certainly where the evidence says, does it sit in a recovery department? Because, of course, people are very busy with recovery as we know. How does that shift happen? Is it somewhere else in the council perhaps thinking about resilience or is it with the recovery people?

ALISON MORGAN:
It's certainly not with recovery people. I mean, even recovery doesn't sit in recovery. Every you know, when people are impacted by a disaster, it impacts every aspect of their lives. So, when we go in and work with councils, they will have a local emergency management officer who is the person who, under our legislative requirements, will be responsible for emergency plans and recovery. But that is actually not how recovery works. You know, if a council and if a community doesn't have the communications people, their assets people, their community engagement staff, their DIA and land use planning people, every element of a person's life and a community is impacted by a disaster to some extent. And therefore, every aspect of local government has to be involved in the recovery. And this, indeed, is one of the big changes. I think we learned that the 2020 fires really showed us was that we had to have every single government department from the most senior level down.

ALISON MORGAN:
And the premier made this very clear in a State Emergency Management Committee meeting, very clearly, that she expected every single government department from the director down to be totally focused on bushfire recovery and to do whatever that government department needed to do, whether it was part of business as usual and where they had to do something that was outside of business as usual, they had to work out a way to do it and make it happen. So, I think there's a very different and this the Commonwealth government is going through very similar changes. And indeed, the standing up of the National Recovery and Resilience Agency, which has just been stood up in the Commonwealth government. I think there is a really different paradigm and mindset around the sort of supports that all three levels of government need to give to a community. And an underpinning that is not just the immediate need to support those recovery activities, but that all of that is laying the foundation for having a more resilient community going forward.

DAVID SANDERSON:
Thank you, Alison. Let me turn to Sam. Sam, you with the Committee for Sydney leading their resilience programs. The goal for the committee for Sydney is to make Sydney the best city in the world. What a wonderful goal that is. And I feel very happy living in Sydney with a goal like that. You have a wealth of experience working with the biggest program there was in the world for a long time, the Rockefeller Foundation really, really getting to grips with resilience in urban areas in particular, where there are so many councils, so many people. Sam, what's the secrets. Let me ask you that very simple question. What's the secret to making cities, urban areas, councils more resilient?

SAM KERNAGHAN:
Thanks, David, and great to be here with you and a great panel that you've brought together. The question, what's the special sauce? What's the secret? It's one that we keep coming back to, and it's a really good place to start. So, and something that I've been thinking about, you know, in that role with the 100 resilient cities that also sort of over a longer period with the Rockefeller Foundation and the Asian Development Bank. So, at a high level, I think we need to think about resilience as the performance of systems under pressure. So, yes, the role of the community is really important. The role of government is important. The role of business is important. The role of infrastructure.

SAM KERNAGHAN:
And so, thinking about the city, how we work live and play within that city, and how well does it function when the curve ball is thrown at it, when the disruptions come. Things like pandemics, floods, heatwaves, all those kinds of things, and how they affect, you know, your electricity, your gas, your drinking water, your transport, and not just heatwaves, not just those kind of natural disasters, as we talk about, but also other kinds of disruptions that might be industrial action or contamination of your drinking water or shortages in global supply chains. There's a whole range of things that can disrupt how the city works. And so, when we're thinking about the resilience of cities, we have to think about, we always think with other three questions.

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So, we talked about the resilience to what? So, those kind of things. The resilience of what? So, those kind of assets and systems performances. But more importantly, we think about the resilience of who or whom. So, who are we actually thinking about when we're trying to build resilience? Is it businesses that provide services? Is it communities? Is it the most vulnerable? And how do we actually build a resilient city? A city that works for all of us in the context of those kind of disruptions and recognizing that they're changing. We can't sort of nail down exactly what those disruptions are going to be and write down really detailed plans and say, well, you know, there we go. When that thing happens, we just roll out a plan and everything will be fine. We can't do that. So, there's a lot of uncertainty that we need to prepare for.

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And I guess the thing that we've kind of focused on, I suppose, in building resilience of cities is this terrible term that we came up with called institutionalization, which is really, I think in development we call it mainstreaming, but it's like everybody's on board with understanding that we're thinking about risk, we're thinking across systems, we're thinking across sectors, we're embedding this in our behaviours and our practices in how we're actually thinking about all of these sectors, all of these things. So, if you've got a good, a cohort, a group of people at community level, at government level, within across business who are thinking about the future of the city, and they're coming together and they're thinking about, you know, what uncertainty looks like, how we might plan, how we might develop scenarios, how we might build capacity to recover, to think about the future. That's where you kind of start to build. I think the resilience of that city to a whole range of different kind of possible futures.

DAVID SANDERSON:
And systems under pressure. That sounds massive. Who owns that and who starts and who does what when it comes to, you know, given the complexity of the city?

SAM KERNAGHAN:
Yeah, really good question. So, with 100 resilient cities, we started with the role of a chief resilience officer. So, that was kind of creating a champion in each city to lead a process, recognizing that one person is not going to create that change. It's trying to create a focal point. And the second part to that was to then develop a process around what's the research, what's the data, what exists, what are the kind of challenges that we're facing and what's already happening that we can build in. And so, start through a process of developing a resilience plan, actually start to bring in who are those decision makers? Who are those actors that are already working in areas that are relevant or who needs to be involved.

SAM KERNAGHAN:
So, to your point, who are the key decision makers in the city? Who are the, at the community level, at the local government level, at state government level, across business, who are the key service providers, who's, you know, nobody's in charge of a system to answer your question directly. There's different actors across them. So, it's really about building those processes that build capacity, that build understanding that actually, you know, lots of different actors across the city need to be connected, coordinated, collaborative and inclusive in how they're actually thinking about the future of the city. And they're part of it. But actually how they're part relates to the other parts, and I think that's the game really is growing that group of people who are thinking beyond their particular role and actually saying, what does my role do in the context of other roles, whether that be infrastructure or community management or disaster recovery or other kind of components.

DAVID SANDERSON:
Thank you. The good news is we have Paul Barnes with us as part of this, who's been working on this area for decades, a number of organizations in academia and think tanks. And luckily for us now UNSW. Paul, who are the actors? Who are the decision makers? Who are the people leading this or maybe behind the scenes making it happen in order for us to be more resilient.

PAUL BARNES:
Thank you, David. And it's good to be with you all the time. David, there's no easy answer to your rather loaded question, because I don't think at times we even know who the right people are that need to be at the table. And in fact, there's more than one table. There's the early anticipation, there's the early vulnerability table, vulnerability analysis. Where is the city vulnerable and to what is it vulnerable to? Where are the vulnerable people in the city? But also communities, cities, region, states and federal. There are different levels of the puzzle. And in many cases, I think historically, Australia and many parts of the world, haven't actually got the right people at the tables before we need to think about emergency response.

PAUL BARNES:
So, in terms of can we do resilience in Australia, certainly we can. And Shane Stone's new Recovery and Resilience Agency is, I think I've written recently about the notion that the new agency and the results of the bushfire royal commission may be a sea change, an intergenerational sea change that we've never seen before. Potentially so. But there needs to be, I think, a detailed understanding that resilience is not emergency response. Resilience is an emergent phenomena that comes from a whole range of processes that some of which we do really well in Australia, response and recovery par excellence. But thinking about where we need to ask the right questions, where are we vulnerable? What can we do to anticipate? How agile does government need to be? How joined up does local, state and federal government need to be?

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And I would suggest that, you know, the Australian Constitution provides us with a chasm of cooperation in terms of federal responsibilities and state and local government responsibilities. They're not all the same, obviously very different. But when we get city governance as well, there's another layer of complexity. So, as Sam said, who needs to be at the table and who needs to be helped in terms of that resilience journey. We need, I think, to understand that in many cases, if we anticipate future disturbances, future vulnerabilities, we need to think about the past, the present and the future in terms of understanding who needs to discuss before we have an issue or disturbance that we have to respond to.

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And that one of the challenges of resilience, New South Wales, is that it's not just bushfires, obviously, that's where a lot of it has started and the premier has given clear directions and Shane being at the head of the new agency, very capable, a lot of good things happening. But what is the next challenge and the challenge after that? So, the notion of futures, futures thinking and foresight has to be built into all of what Australia does in terms of its resilience challenges.

DAVID SANDERSON:
Thank you. And mentioning Shane Fitzsimmons, Head of Resilience New South Wales. Alison, did you want to?

ALISON MORGAN:
I think, look, I agree with everything that Paul had said. One of the, for me, it's interesting, you know, working in the Sydney space, 'cause I have also worked across a lot of regional and far remote areas in the New South Wales as well. But certainly, you know, we have some significant high risks in Sydney around even just thinking of our natural disasters. And at the moment, of course, we're doing a lot of work in the Hawkesbury-Nepean area following the recent flood and flooding in the Hawkesbury-Nepean is probably one of our highest natural disaster risks in Australia, just given the geography. And I think it astounds me that when, and I've been quite involved in the state government's work around a flood strategy, which has been led by infrastructure in South Wales. But just how contested this is.

ALISON MORGAN:
So, in theory, I think everyone in the community would agree that we should be doing as much as we can, as quickly as we can to make sure that all of our communities are as safe as possible and that we make sound decisions about infrastructure and planning and, you know, response and everything that will lead to keeping people safe. But this is highly, highly contested. And even anyone in Sydney over the last few months will know that the discussions going on around whether we raise Warragamba Dam wall or not. And it's a very, very difficult conversations.

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There is no simple solution to things like that. Everybody can see that if you build more houses and put more people on the Hawkesbury-Nepean floodplain, you are going to raise the risk profile of the city significantly. But the options to not doing that, then have other really significant flow on impacts around where are people going to live if we don't build new houses on those areas. We have limited land in Sydney. It's a great place to live and people wanna be there. So, these are really contested and difficult decisions to make with multiple pressures on governments and on communities about, you know, how we do build resilience in the long term.

DAVID SANDERSON:
Sam, isn't this scenario you've been looking at, I think?

SAM KERNAGHAN:
Yeah, David, I mean, my first second week in the job with the Committee for Sydney coincided with the floods in March. And I think as Alison says, you know, from an urban planning or a disaster is planning kind of perspective, you look at flood plains and you look at the density of population living on those flood plains, and you wonder how we got to here and what we can do to kinda reduce that density of risk. But it's not that, it's certainly, you know, working across Asia, you know, where most of the cities are built in deltas, you know, the coastal cities, particularly built in deltas. The idea of not living on a floodplain is kind of ridiculous because the whole city is built on the flood plain.

SAM KERNAGHAN:
In Sydney, we don't quite have that same issue. Yes, the floodplain is quite extensive, but we do and Alison says we do have a constraint. We do have a constrained sort of land mass. But we do also have the opportunity to shift, well, to not put further density into the floodplain and to think about, you know, life safety and kind of future productivity, I suppose. I mean, we've been talking about a couple of different kind of options, I suppose one sort of building on the work that has been happening across the US and particularly in Norfolk, Virginia, which is kind of looking at a long term plan to reduce density on flood risk areas. So, using things like transferable development rights, a kind of mechanism where you are, you know, providing an incentive to shift development off the floodplain or alternatively, using buybacks as they've done in Brisbane.

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Again, these are, I don't want to say nice ideas. They're nice policy ideas, which are very difficult to implement that the New South Wales government is trying to implement them in, you know, in the Tweed, for instance, and trying to reduce the kind of density on the floodplain there. But we do have a really serious risk in the Hawkesbury-Nepean floodplain. And our concern, I suppose, to Alison's point about life safety is that even with the dam, the dam is just if it's built, would just provide an increase in the amount of time we have to evacuate. So, it's not actually going to reduce the impact on property loss from floods. So. you're gonna continue to have that issue of property being affected, of insurance going up, of more and more households not being able to either afford or access insurance. So, we're looking at, you know, insurance rates every year of 30 to $40,0000, which is kinda crazy.

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So, while there's lots of challenges in the floodplain today, I think we need to also take a longer term view and say, well, what is it gonna look like in the future when, you know, most of the floodplains potentially uninsurable and somebody's gotta either, you know, we're either leaving residents vulnerable to those continued flood events or the state government is committing, you know, financially in a disaster recovery way to continue to clean up with local government, which sounds like both very expensive, as the New South Wales Treasury has kinda been pointing out recently with the intergenerational reports, but also not very sort of productive as a way to sort of manage land. But we have to make those decisions collectively. We can't sit here and go, well, there's a black and white decision. There's, you know, really challenging, kind of contested space to sort of resolve.

DAVID SANDERSON:
And the demand for land and land prices in Sydney and Greater Sydney is something of a disaster in its own, right? It's phenomenally expensive. And so many people are priced out of the market. And I suppose we have a liberal democracy and, you know, we let things happen. To be able to be more authoritarian, I suppose the scale of the challenges the next few decades, you know, made some people say the COVID pandemic is nothing compared to the challenges we're facing now in climate in the next few decades. To me is being more authoritarian. Do we think there more you can't build that. You must stop doing that. You can't do that now. Do we need to trade out some of our freedoms to actually get better at being more resilient? Anyone at all? Paul, what do you think to that?

PAUL BARNES:
I don't think necessarily the word freedoms is the issue to focus on. I think we need to be adamant about the fact that land use planning and risk based approaches to what you can and cannot do, can be quite easily put into statute law or legislation, etc. It's not gonna impinge on human rights in that broader sense. But at the end of the day, the government is the government and the modern state is a model of activity where it has been deemed to be the most successful, allegedly, or the most effective way of looking after people's safety, etc., which is why we probably have notions of government and regulatory activities and governance. So, what are our laws and legislative frames for? Predominantly, when they work perfectly, they guide behavior, they guide activity in the commercial world and broader society. One of the things that we probably really need in Australia is a national risk management strategy, which is an all hazards, all threats approach to the well, not business risk. This is leading on from disaster risk reduction in the broader Sendai definition.

PAUL BARNES:
So, what does Australia need to do collectively from local, state and federal spheres? What do we need to be able to do? We need to be able to anticipate where we will be impacted in the future, which may guide the way in which we enforce or at least create legislative frames that guide activity. You know, you can have, you know, overtly oppressive government engagement with society, or you can have a very light hand on the steering wheel. The critical thing is we need to have strategy. We need to have legislative support of that strategy, and we need to have clarity about how governance and the private sector can operate.

DAVID SANDERSON:
And I just wanna pick up on that, about Sendai, the Sendai Framework for Disaster Risk Reduction, the sort of globally agreed thing right now that there's renewed more or less every 10 years or so, that the light hand on the steering wheel, yet you remind me of something that you said Alison, a moments ago when I asked you where recovery sits. And you said very interestingly, it doesn't even sit with the recovery people. It's an owned thing, it's across the board. And let me think about the institutions. I mean, many are sort of heavy and top-down and difficult and many would say to have that light hand on the steering wheel, we need more agile structures, more agile bodies in Australia, of course, has formed the National Risk and Recovery Agency recently, and, of course, Resilience New South Wales from the Office of Emergency Management. Alison, maybe I could ask you, given these challenges, the lightness of the steering wheel holding, as it were, how do you see institutions becoming agile and nimble and reactive and also being ahead of the curve in a meaningful way?

ALISON MORGAN:
I think the one of the key elements to that is around understanding the community in which you're working. And so, and that even goes, you know, Sydney isn't one community, you know. There are absolutely multiple and multiple communities with their own nuances and differences. So, I think as a kind of practitioner working in that space, both in the short term around recovery and in the long term around trying to prepare communities for disruption, whether it be natural disasters or others, the more you can understand what that community looks like and how it works and what the pressures are on it, what its vulnerabilities are, that then allows you to be able to have a much more flexible and agile approach. And that's both to how you would engage with the community, but also just to the kind of activity and the kind of work that you need to do with them.

ALISON MORGAN:
And one thing we know about natural disasters and recovery is that if there are any fractures or, you know, conflict in communities, they're absolutely magnified the moment that that community is put under pressure, particularly after a natural disaster. And we find this all the time. Often it's not for 6, 12, 18 months or even longer that these fractures really start to come through as a community is trying to really pull together and recover in the long term. So, I think there's no simple answer but the way we tackle it at the moment is to try to have people, have our teams that are embedded who know those communities, and therefore we can design and structure quite flexible approaches.

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And so, how we work, for instance, in our Aboriginal communities around response and decision making is very different to how we work in, say, lower income areas. You know, we've done a lot of work just recently in the Hawkesbury-Nepean flood with some really, really vulnerable people. And so, our recovery responses and how we prepare those communities for the next flood, and it's only a question of when, not if, looks quite different than the way we work, say, with communities at Collaroy who are facing coastal erosion and they're on a $5 million block of land. You know, so flexibility, I guess, and really understanding the nuancing of the group, the community you're working with, I think is the best starting point.

DAVID SANDERSON:
And Sam for you. Agility, nimbleness and weaving and what Alison was saying about underlying vulnerability is almost always the case those who are poorest and more vulnerable, those on the edge of society. You must have thought through and acted a lot of this and your Rockefeller work and AGB work.

SAM KERNAGHAN:
Yeah, absolutely. And I think what Alison says is absolutely right, you need to be acting at that community level and to be understanding what the you know, we talk about taking your strengths based approach in those communities. What can we build on? What can we you know, how can we work with the community in place to prepare for future known risks and unknown risks? But I think there's also, I guess, a higher maybe it's a regional kind of trade off approach where you're actually looking at who's going to fund the continued infrastructure upgrades, the continued replacement of assets that are affected, who's gonna pay for those and who's gonna benefit from those. And I think in when we've, in a situation of unlimited funding, which we don't have, we could say we can continue to upgrade, you know, replace the bridges, to build the levees, to do, you know, continue to do to rebuild communities in place, you know, as you say, whether that's coastal or flood plain.

SAM KERNAGHAN:
But we also need to think about where, you know, if we continue to spend that money, who's not receiving the benefit of that investment across the rest of the city, for instance. So, we do have a governance challenge in places like Sydney, where, you know, local councils are trying to manage the best they can within their boundaries. And then we have sort of sub-regional and then we have kind of metropolitan, lots of levels of governance like the hazard risk that we're talking about, flooding and sort of, you know, coastal risk, have a spatial element. Things like heat, they do have a spatial element, but the spatial element is really across, you know, a huge part of society, a huge part of the city, and are affecting those areas with the poorest kind of access to infrastructure. If you like so, worst thermal performance in their houses, either no access to air conditioning or no access to being able to afford to put out air conditioning on, no access to heat refuges in the context of heat wave.

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So, it's not so much a spatial, if you like people who are living within those zones. It's actually thinking if we're investing in one area to continue to rebuild assets, who's missing out? Where are we? Where could we also be investing in other areas of vulnerability? And so, I think that thinking about the kind of the range of hazards, the range of risks that are being faced across the city and actually saying who needs that investment the most? Where can we actually best invest? And thinking about that vulnerability is really critical across the whole city. So, who's least able to cope? And shaping and directing investment into those areas in the way that build that kind of that adaptive capacity, I suppose.

DAVID SANDERSON:
Thank you. I'd like to ask you one final question, each of you this question. And is about future casting, which of course, is notoriously inaccurate and who was talking pandemic two years ago, some people, but no one was really listening, of course. And look what happened. So, unfair is this, as I'm going to ask each of you, what do you think is the greatest threat in the next 30 years? But also importantly, what is the greatest opportunity of actually being resilient, more resilient, I suppose, by 2050? Paul, can I kick you off and ask you that question, please?

PAUL BARNES:
You could. Do I have an answer? I don't know. There's probably more than one answer, and there's probably more than one question. For me, the biggest challenge for society is not being able to anticipate where small disturbances or small types of vulnerabilities quickly unravel into large consequence type events. And then they're not emergency events. They're many of them are gonna be slow burn effects that manifest across the system. So, the inability to detect significant change in certain circumstances, emergent types of threats. So, being inattentive to things that we need to be attentive to. And the great opportunity is that there's currently a groundswell. You know, there's been the royal commission. There's been the 100 resilient cities with Rockefeller Foundation and the ongoing work with those cities and other places. And there's an awareness across levels of government that we need to be agile. We need to be attentive. So, there's an opportunity to really strike while the iron is hot in the next two to three years. But the big challenge, I think, is not noticing significant things when we should be able to notice them.

ALISON MORGAN:
Thank you, David. Interesting questions. Look, what immediately comes to me, as the most the biggest threat that I think we're all facing is that so much of our lives, the systems that we're dependent on, all have some kind of reliance on Internet IT connectivity. So, in my mind, I think and I'm an old woman now, so I think that the reliance on that and how easily our lives can be interrupted as soon as this cyber terrorism or even just errors in those sort of systems. That's probably the thing that keeps me awake at night more than anything else. So, that in terms of threats. In terms of the opportunities that I see and again, this is my more than 30 years in the public service coming through. I'm a bureaucrat to the core, but I'm feeling greatly buoyed by the very new paradigm, a new way of thinking that I'm seeing over the last two years between the federal, state and local governments around a really joined up approach and really joined up opportunity to us in the preparedness response recovery resilience area.

ALISON MORGAN:
And it's not often that you have the three levels of government in regardless of political cycles, but in their thinking and priorities, aligning where they all are quite keen to do work together in that space at the same time. And, you know, and while in our federal system has its strengths and its weaknesses, when you've got three levels of government who are committed to actually making something happen, we can really do fantastic things together. So, I'd have to say I see that as an opportunity for us over the next five to 10 years to actually change things like the funding models. So, they're not so reactive so that we can be far more proactive, much more thinking about investment up front to reduce risk, betterment and real commitment to make sure that we're working with our communities in a way that resonates with those particular communities around having people better prepared. So, I'm actually feeling really quite confident and excited about some opportunities over the next five to 10 years.

SAM KERNAGHAN:
Sort of building on Alison said, I think that the cyber security kind of issue is certainly something that we need to be really concerned about. And having Alison taken that one, I think the other one I think is the real risk is around social cohesion. I think that that kind of inequality and social cohesion as a risk to society is something that we need to really focus on and really focus on building at a community scale, at a metropolitan scale. I mean, the work of resilience, Sydney in the process sort of really drew out how actually how similar particularly in Sydney, how similar different parts of Sydney are and their interests. They might express them differently. They might come from a different place. But there's a lot of kind of similar kind of concerns and opportunities that are kind of raised across the city. So, but it's a huge city and it's very disconnected.

SAM KERNAGHAN:
And I think we've got a real, there's a real kind of, if you took a kind of negative perspective, you could say there's actually a real risk of increasing fracture due to increasing wealth disparity, increasing inequality of place and distance, and, you know, as kind of as the city grows. So this and, you know, as we talk about with hazards like heat and flood, actually those things having disproportionate impacts. So, I think there's a risk there. I think the opportunity builds on that. And it's been called sort of the new localism before COVID, I think during COVID it's sort of a recognition of local high streets and local communities as being the place where people are starting to work and sort of frequent more, but also trends like the decentralization of energy.

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So, micro grids and community batteries and things like that are actually bringing the control of the community into the community's hands, if you like. So, you can control potentially your access to energy in your, you know, using your solar panels to drive your community batteries, which then give you a level of control of your electricity. You're not so reliant on the sort of centralized grid. And I think, you know, those kinds of trends have the potential to kind of drive a new localism, a kind of growth of community, which, you know, I see is really exciting and really optimistic, not just the energy part, but just, you know, the opportunity to reinforce that localism and that community, which is, you know, critical to the resilience of all of us as a city. But also, you know, the city is built on lots of communities of many communities, and they're different. And each one kind of having the opportunity to kind of draw their own path. So, that's where I see exciting opportunity.

DAVID SANDERSON:
Thank you for letting us end on that note of the final word, there being optimism. The pandemic the last 18 months has proven that when the world is sufficiently mobilized, it can actually profoundly change things very quickly. So, I would certainly agree with that sense of optimism about the future. I'm so grateful for all three guests for really unpacking the issues of resilience and recovery, the reality of urban growth and climate change and what we're doing about it from three really fascinating perspectives. So, thank you again to Alison Morgan from Resilience, New South Wales. Sam Kernaghan from the Committee for Sydney. Paul Barnes from the University of New South Wales. And thank you for listening.