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So we're hoping to kick the whole forum off with a lot of energy and excitement for the rest of the week. So this session is called Making Urban Flood Protection More Accessible, Decoding Risks and Democratizing Assessment.

We have a lot of great ground to cover, a lot of great presentations. So I suggest without further ado, we just dive right in. Why don't we start with some stylized facts about why we're here today? Around the world, we see a growing concentration in cities of population and economic activity.

However, coupled with inadequate planning for this growth, we see an increased exposure of population, assets and economic activities to this change. This coupled with more extreme weather and especially increased water runoff has significant impacts on health, livelihoods, poverty and other factors too.

Exacerbated further by climate change and socioeconomic development challenges. A World Bank study found that in just 136 global cities, the losses due to socioeconomic impacts of flooding alone are anticipated to result in $52 billion in losses by 2050 up from $6 billion in 2005.

Altogether, this is owed to the facts that urban flood risk is generally not easy to understand. It's therefore not easy to address. And even when we can find good solutions to address it, urban flood risk actions are not always easy to scale up and learn from one place to the next.

So we have a great agenda for this session today. I'll start off by talking about urban floods and increasing challenge for urban sustainability. We will then hear from a panel on innovations and urban flood risk showing case studies from the private sector.

Then we have the honor of hearing reflections from His Excellency, Sayyima Kinde, the governor of Oyo State in Nigeria before opening it up for a short Q &A and then a scenario role play with you, the audience and a bit of readout for how to address some of these key challenges.

Let me introduce our panel quickly. I'm Ross Eisenberg. I'm a disaster risk management specialist with the City Resilience Program located within the global facility for disaster reduction and recovery at the World Bank.

On our panel, we have Philip Ward, who's a full professor of global water risk dynamics at the Institute for Environmental Studies of Rhea University, Amsterdam and senior climate adaptation and disaster risk management specialist at Del Tarris.

At IVM, he is the head of the water and climate risk department. He's the coordinator of the Horizon 2020 Project, Myriad EU and was awarded the European Geosciences Union Plinus Medal for his outstanding contribution to natural hazards research.

Blair Spendelo is next from Jeremy Ben Associates, where he is technical director for coastal and marine risk management. His dual master's degrees in earth science and finance drives his approach to flood risk management at the intersection of physical risk, climate and economic appraisal.

With 20 years of experience, Blair's focus on hydraulic modeling, economic appraisal and nature based solutions underscores his strategic planning and integrated flood risk management. And then we have Carol Heinert, a senior consultant and project manager with over 30 years of experience in flood risk management, design of water management systems and integrated water resources management and flood and drought forecasting and early warning.

In 2019, he joined Royal Hasconing DHV as water management consultant and project manager specialist. He's then worked extensively on planning projects, mainly in Vietnam, the Philippines and elsewhere in Southeast Asia, that focus on flood risk and water resources management and development.

And then I'm honored to welcome his excellency, Sayi Makhinde, who graduated as electrical engineer from the University of Lagos, Akoka Yaba. He was further trained in industrial control services in Houston, Texas and attended the Lagos Business School Giscoute Auto Control Training Center in Kent, England and the Massachusetts Institute of Technology.

He founded and became group managing director of Mekong Group Nigeria Limited. As a philanthropist, he touched the lives of thousands in Oyo State through scholarships and other community development projects.

He was elected governor of Oyo State in 2019 and re -elected in 2023. His Oyo State roadmap for accelerated development and Oyo State roadmap for sustainable development rests on four pillars, education, healthcare, security and the use of agribusiness, tourism, solid minerals development and infrastructure to drive the economy.

He is determined to run an inclusive government and maintain an effective feedback system to bring about development that will outlast his tenure and be a benchmark for good governance in Oyo State and Nigeria.

Excellent, thank you very much for being here. We very much look forward to your feedback and commentary. So without further ado, I'll share the opening presentation on urban floods and increasing challenge for urban sustainability.

And this presentation is really to launch the Urban Flood Risk Handbook. I have a copy up here. There's several copies over at the table in the back, or maybe they've all gone already. For those of you who were lucky enough to grab one yourselves, consider yourselves among the lucky few.

I can share this one as well after the session. If you didn't get a copy, there is a QR code on the back of a postcard there for which you can access the online version. And you can also just Google the Urban Flood Risk Handbook, or if you're unable to find it, you can simply send me an email, and I'm happy to share it with you.

I'll also mention that it's available online in Vietnamese and in French. So where are we looking at this challenge? Why is it important to understand flood risk? First of all, it's often the most frequent and damaging natural hazard that affects especially developing countries.

And the importance of accurate, reliable, and actionable flood hazard and flood risk data simply cannot be underestimated. It's essential for understanding the scale of flooding and severity of its impacts, and it's fundamental to planning and decision -making and developing risk mitigation strategies.

In the handbook, we develop three levels of flood risk assessment. On the one hand, you have the preliminary assessment, which is focused on hotspot mapping and primarily used for initial discussions and investigations.

On the other hand, much more downstream, there is what we call the level three, or more detailed level of flood risk assessment, which focuses on the project planning, appraisal, and design stage, looking at investment feasibility design.

And then in the middle, in what we might call the sweet spot, there's the level two strategic level of flood risk assessment. And that's what this presentation will focus on, and that's what the handbook emphasizes.

And this really is about the project concept and preparation stage in order to develop a strategic assessment looking at pre -feasibility and high -level cost benefit for a variety of different infrastructure investment options that can counteract urban flood risk.

We have to recognize that flood risk assessments are quite challenging. They combine a variety of technical and non -technical factors, a variety and variability in different flood mechanisms, first of all.

In urban settings, we're dealing with high -density areas and rapid changes of population and assets. There's a lot of uncertainties at play and the inputs that we use for the risk and hazard modeling, as well as future climate change and future growth projections.

We also have to deal with a large number of possible interventions and understanding the differences between them and wrestle with the reality that on the ground, there's oftentimes a lack of data, a lack of planning, a lack of enforcement, a lack of funding, and sometimes a lack of maintenance, as well.

And, of course, there's multiple stakeholders involved in this planning process. The handbook lays out some key different types of flooding that we find in urban areas. There's the river or fluvial flooding, rainfall or fluvial flooding, coastal flooding, and flash floods, as well.

And there's different methods and ways of assessing these and understanding different interventions for them. And, of course, especially in complex urban environments, these oftentimes overlap as well.

So we have to bring in, as well, compound and joint probability analysis to understand the complexity between them. Flood risk studies are also multidisciplinary. At the hazard assessment stage, it's critical to bring in expertise in meteorology, oceanography, hydrology, and hydraulics.

When we get to flood risk assessment, we're dealing with economics and finance, as well, not to mention physical and social geography and GIS processing. And then when it comes to evaluating the intervention options, it's required to bring in expertise in planning and engineering, environmental and social assessment, and institutional and community awareness.

So we developed this guidebook in order to provide really practical advice and information that is easy to adopt for the non -specialists, the non -technical expert in the field that has historically been rather specialized and focused on really quite specific technical expertise.

And really for anyone that is interested in conducting a flood risk assessment in an urban setting. So we hope that in so doing, this will help improve the efficiency and cost effectiveness of conducting an urban flood risk assessment, improve the output quality

and robustness of the results, ensure technical compliance with different industry standards, and help contribute to better decision making and planning processes.

Overall, we want this to result in greater consistency, compatibility, and comparability in outputs from one flood risk assessment to the next so that we can learn from one to the next, as well. And to support more effective and efficient delivery for projects in urban flood risk assessment, management programs, and investments.

We focus on the urban area especially considering, of course as mentioned, the rate of urbanization in developing countries especially, how cities concentrate GDP, people, assets and infrastructure, and the complexity of the analysis and the importance of understanding it to develop solutions.

We built this handbook on top of a wide extent of academic textbook on urban flooding, lessons learned, and experience from a wide variety of past flood risk assessments and an extensive survey and feedback mechanism including interviews with a variety of stakeholders and quality enhancement review from different specialists.

The handbook is structured according to how you might actually go about conducting an urban flood risk assessment. So really homing in here on the practical nature and the practical tools that you need in order to get to some useful answers and useful tools to mitigate the flood risk in your city.

So these phases are the inception phase, the hazard modeling phase, the risk modeling phase, the development of intervention options, and finally the project closeout and project management. So going through these quickly one by one, at the inception phase it's really critical to develop a good definition of the aim of the project and the scope.

So this includes considerations such as the specific aims that you want to accomplish in carrying out the assessment. What are the relevant types of flood hazards and consequences that the city faces?

Who are the key stakeholders and the institutional setting at play? And what are some of the existing data and models available to you that you can build on with your flood risk assessment? And in turn what are the actual gaps that you need to fill in order to carry out a strong assessment?

As well as what is the spatial scale of the analysis and what are the different methodologies that you want to cover? So taking your time at the inception stage and answering these questions is going to set you up for success for the actual modeling phases and the intervention options development.

So next is the flood hazard assessment in which we map the flood characteristics in the city and this includes considerations of the topographical data including the digital terrain model. What are the relevant man -made and natural waterways and infrastructure at play?

Choosing a good modeling and statistical approach for conducting your hazard assessment, defining your boundary conditions, and calibrating and validating your models and conducting good flood simulation and scenario with mapping and visualizations.

Using the outputs of the flood hazard assessment, we can develop a flood risk assessment as well. So this is where we start to actually quantify the potential consequences of flooding in the city. In order to do so, we need to answer some really key questions and these include what are the data sources that are suitable to assess the exposed population and the exposed assets?

What information is available on the vulnerability data? What is the appropriate risk modeling approach given whatever data is available for hazard exposure and vulnerability? And how do we calibrate and validate our different risk models?

So all these questions are included in more detail in the handbook and there's also guidance there, quite specific and detailed guidance on actually going about answering these questions in order to gather some good information for your risk assessment phase.

Using the results of the risk assessment, this allows us to get to different intervention options and help evaluate them and understand how and which ones will be more appropriate to your specific city.

So in order to do so, some key questions to answer are what types of interventions are possible and how to select relevant ones for the assessment? How do we choose different interventions as part of different future scenarios related to climate change and urban expansion?

What is the different performance of the interventions under a range of different possible future scenarios? And what are the co -benefits of each intervention might bring to the city and what are the cost of the interventions as well in order to evaluate from a cost - benefit standpoint?

And finally, how to assess the environmental and social impacts of the different intervention options as well? So again, the handbook provides some really strong and detailed guidance for assessing each of these points.

The last phase is on the, well, it's throughout the project management, including the closeout. And this provides really practical tools and guidance in terms of conducting a procurement process to prepare for an assessment, actually executing the Urban Flood Risk Assessment Project, how to handle the meetings and reviews, and then finally closing the project out in order to ensure success for future assessments that might be able to build on the results and learnings derived from it.

In practice, I want to close with a few key takeaways. One is that despite all the guidance out there, flood hazard modeling and flood risk modeling is far from an exact science. This is owed to all the complexity that we discussed at the beginning of this presentation.

Also critical to recognize that the quality and usefulness of the results is really dependent on the weakest link in the chain. And this is why it's critical to spend enough time at the start of the assessment on the inception phase so that you really can understand the

aims and overall approach and objectives and what data and information and existing models are available to build upon.

And finally, remember the 80 -20 rule. Cost and time can escalate exponentially by attempting to achieve levels that go beyond the accuracy of a level two assessment. So you might be able to achieve 80% of the results rather efficiently and then end up spending 80% of your budget on the final 20%.

And important to question is that really a good use of the resources available to you. The handbook also includes case studies from a few different countries, including cities in Liberia, Suriname, the Democratic Republic of Congo, Tanzania, Indonesia, and Bangladesh.

And I encourage you to check it out. Thanks very much. I'll now turn it over to the first of our presenters from our private sector innovations panel, Philip Ward from Dottaris.

Good morning, everybody. Good morning, Governor Machide, excellency. Good morning, colleagues and friends. It's my honor to stand here today and represent Deltares, and I'm representing my colleagues, Derek Island, Hessell and Insamius, and Hans Gierholtz.

I just want to talk for five minutes about some of our thoughts, ideas, about how we can strengthen really this whole process and modeling framework to achieve some of the goals that were stated in this opening talk.

So this was already sketched, but just to once again reiterate why this is so important. We know that almost 50% of the world's population already lives in urban areas, and this is only going to grow in the coming years.

Hence, the exposure, vulnerability, very high, very complex in these regions. So if we're going to increase resilience, we really have to have this really core key understanding of those risks. And this ties in really to what's discussed now, this need for these local flood

risk management project cycle, and what I'm going to talk about in this presentation, really fits into the identify and evaluate stages of those.

So oftentimes when a risk modeling project is set up, there will be some kind of project proposal plan set up, and here is kind of a traditional risk modeling approach. First, collect some local data.

Second, collect some more local data. Third, collect even more local data. Then analyze some data, build a model, throw away about 80% of the data you've collected, and then at the end maybe do some transfer of knowledge to stakeholders, right, as set out in terms of reference, and maybe this takes about a year or so.

And obviously, we're talking about the weakest link in the last presentation, I think really the weakest link, oftentimes is really not having this understanding of what actually is the problem that we're trying to assess.

So we're proposing a new approach, where basically we start by having a model chain ready, a model build, which allows us very quickly to set up an initial model at any location on Earth that can look at Blueville River and coastal flooding, and also the combination of those.

Set up with global data, but where it can actually, very easily ingest local data and knowledge. At the same time, starting off our projects by training local stakeholders to have capacity to actually use and implement this model.

At this stage, also discussing where actually the improvements do we need, and what kind of data do we still need to improve this initial model build, and therefore allowing local partners to actually collect, find, analyze the data and implement, and of course, after the project finishes, use and maintain the model.

So really moving from this kind of linear approach of data to a model to a decision support, with the experts kind of separate from the community and decision makers, to

try to make this more community -based approach, where this is all like on the right in this ecosystem environment.

To facilitate that we have set up a model framework with workflows to do that, I don't want to go through all the details in the few minutes that I have, but basically we now have a model set up, or actually, I should say, a modular set up of various models linked by our hydro -MT software, which basically means that we have all of the different modules for setting up the model, getting boundary conditions for the Blueville, the river, the coastal flooding, which can then be used to define different events, different rainfall events, different coastal events, and so forth, combinations of those, putting those through an automated flood model and flood hazard model.

So all of this automated, everything modular, so that it can be run with the data that's available at the start, but can be updated by the local users as we go through. Here's briefly a case study for an implementation in Rio.

Again, don't want to go through the details, but basically we see here some of the input data on the left, some of the output on the right, and this rainfall heater graph, basically a graph showing the rainfall intensity over time throughout the given rainfall flood, this was taken from the initial model build, and very quickly it was identified that actually, the rainfall totals here were about 10 times too little compared to reality, right?

So this was very quickly identified that this was indeed one of those key areas that we needed to put in more attention to actually get that local data. So, some take home messages. We have set up this automated workflow set using global data, but it's not a panacea, not at all.

It's just to be a starting point to really to build this local capacity, developing local data -driven assessments by local people and in that way trying to contribute really to this theme of recession, of democratizing the assessments and moving the knowledge away from being very separate between the modelers and users to really having this as a more complete, rounded, moving the knowledge basically to the local people.

I'll stop there. Thank you all.

Good morning everybody. I'll start by saying Philip here is the luckiest flood risk specialist I've known because someone fits a lot of data into his budgets, completely unheard of. So you're very, very, very lucky to have such a friendly team leader from the bank to provide you with such resources.

And that's sort of what I am going to hopefully illustrate. But I think it was for impact, right? Your statement. Yes. So what I hope to illustrate today is by using a couple of the different components from a risk assessment that being hazard and exposure to demonstrate the relative influence on both of these things with respect to present day conditions and also future projections of hazard and exposure.

And I'll start with the type of image that I'm sure you've all seen before to show the distribution of future precipitation over the globe. And we understand this in quite some detail. Arguably, one model is maybe less accurate or has lower confidence in another model, but we have a range of models.

We have a range of data sources with which to project future precipitation. And from that, even though there is some uncertainty in that data, there is a spatial distribution of the rainfall that is expected to get drier in some areas, wetter in some areas.

And at JBA, we have, firstly, we've mapped global flood hazard to 30 meter resolution. And we've also calculated what we call change factors to those hazard data, which is isolated to river flooding and surface water flooding.

And by way of the same scale as the previous plot here, we can see that extreme river discharges in some places will get less extreme or lower magnitude. And in other places, we can expect them to get larger.

And then for surface water similarly, and with respect to urban flood risk management, surface water is particularly important. Direct rainfall will impact the city, typically, generally, more commonly.

Not all cities are on a river. But those changes in urban footprint, intensification of economic development, it all occurs in the cities. So surface water is obviously quite important as we focus on urban flood risk assessment.

OK, so we've talked about the hazard. And we have the data. We have the models. It's some quite granularity and some solid science behind those models that we can use to justify why we might choose to project future hazard in some certain way.

We recently carried out a national flood risk assessment for Haiti, which asked us to also consider future flood risk, obviously through the components of hazard, but also in terms of exposure. Now, we know that the population of the world is growing, but how it grows and where it grows has quite some uncertainty to it.

There is data. There is global -scale data. Not to the same granularity, though, in terms of spatial understanding of where that exposure will be in the future. So for Haiti, with the work we did there, we had a central estimate of national population growth.

We were able to find from the literature some cases where we have some storylines from the SSPs, which sort of explains how that intensification might change relative to populations near the coast or away from the coast.

But they are really quite divergent futures in terms of exposure. One more sustainable growth storyline might have us meeting a similar population to present day baseline or the year 2000 baseline, whereas unsustainable growth may have quite vast differences in terms of the growth of the population.

Nonetheless, we can take these data and we can carry out a risk assessment to try to understand the spatial distribution, spatial change, relative change of populations that are exposed to flood hazard.

So here we have a national map of Haiti. We have a population exposed to flooding in an average annual year. darker colors show that more people are exposed to flooding. And so what you can see here is essentially concentrated in urban areas and some of

the more rural areas, there's either no flood hazard or no people or no people where the flood hazard is.

And so we see this spatial distribution throughout the country here. Now, let's think about future 2050. What happens to the hazard and how does the population increase? The relative change at the year 2050.

In the blue colors we can see actually a decrease in exposure of populations to flood hazard. And the red districts show a relative increase from the baseline of people exposed to flooding. So what we can see here, if we flick through to the year 2100, we see an even further intensification of people impacted by flooding at the coast as we add the sea level rise increment to the flood hazard data.

And so these patterns can be explained quite well. Now, this is where things get interesting. And Ross mentioned in his opening about having a strategic flood risk assessment. Well, we also have to be very strategic when we define our methodology.

We have to know what is important and we have to know that what we could possibly realistically do with all the data we don't have, all the data that we eventually need to throw away. And this is what I'll illustrate here in terms of Port -au -Prince.

So this is a time lapse of the changing urban footprint of Port -au -Prince from 1984 to 2022. So let's say present day. Now, if I live in Port -au -Prince in 1984, now is the future. Today is the future.

But it's very difficult for anyone in Port -au -Prince to have seen, to have anticipated, to have projected, to have modeled how that urban footprint may have changed in the future. I've drawn a little polygon around a footprint of the present day city, which simply didn't exist in 1984.

And just take note, the airport is down here. We'll come back to that. Now, what we'll do is overlay the present day hazard. We will have the present day hazard in green. Underlaying that will be the future 2100 flood hazard in pink.

So we should be able to see how the footprint might change over time. Now, you might be asking, where's the pink? It's there. I don't know if you can see it on the big screen. But it is in there. It is sneakily poking its head out from underneath the present day hazard.

But where is it really? Let's take a look. So now we're down at the airport. Now at this scale, you can see future hazard. It's a representative concentration pathway. And you might be able to just make out that, yes, there is some pink coming out from under the green.

But this is the scale of the increase in hazard as a result of climate change. And hopefully you can get an appreciation for the scales that we're working at in terms of that increase in hazard, which is one of the critical components of risk assessment, obviously.

But against the development of the urban footprint, that scale is basically dwarfed. So just to summarize, we have all these models and data, and we can potentially, with some high degree of confidence, understand where the change in hazard may be in the future.

But there are other components for which I would argue is a flood risk specialist that are much more difficult to project. There are ways of doing it, but they must come with the assumptions and an understanding of the limitations of any of the flood risk assessment work that we do.

I would just like to acknowledge Nariah Carrasco from the World Bank, who allowed me to share the material with you today, and also the climate support facility for funding the work in Haiti. Thank you.

Good morning. Apology, I'm not going to show you beautiful maps, but I hope I can bring you an idea and something we've learned in a number of activities. So we're all in the business of climate adaptation, trying to minimize the impact of natural hazards on our societies.

And there are lots of tools available that help us to do it, to help to identify measures, to see their effectiveness, their cost effectiveness, and then make choices. And of course, it's important to know, are those numbers correct, or what is behind those numbers?

And I would like to zoom in on a case study, on a case of road networks, and how to look at the climate adaptation and the mitigation measures of road networks. Road networks that have physical features, but also they have a function in society, they bring personnel, people, and goods from A to B.

And many of the flood risk assessments, you see that we focus in on the physical aspects, but the function of roads in urban areas, but also rural areas, is pretty important. So, if we look at, let's say, the less tangible aspects of, for example, flooding of a road, or heat stress, cracking of roads, then you can assess the direct damage quite directly.

But indirect damage is often interpreted as a percentage of the direct damage, which means that if you think about measures, for example, and you use those tools to assess what is effective or not, you're also sort of zooming in on the physical aspects, and less on the function of the road.

So, maybe a different pavement, or protecting of the road in another way, but elevation might not come up, because you're not looking at outages, or, for example, warehouses at a different location that you don't have to transport, but you still have time to go.

So, I think it's important to look behind those numbers. And I will show you some examples, and they might be quite surprising. One slide, a bit more technical. So, we look at the road system. I need to explain a little bit about how we did analysis for more countries, but three countries I'll show you on the next slide, Kenya, Gabon, and Senegal.

So, we look at road systems, and then we try to identify with the flood models, and also flood models to see how much time the road is flooded, what kind of damage does it do, so there's an outage. Might be caused by the event itself, or by the repair later on.

The same for heat stress, the same for landslides and direct damage. And then a road is, of course, a system. If part of the road is out of order, the transportation link is broken, unless there is an alternative.

And that has an impact on passengers' flow and also on cargo flow, so you can translate that in a cost. And if you do that for three case studies, three countries we've worked in, you see these numbers popping up.

So in this slide, you see three countries, Caban, Kenya and Senegal. Each bar, each colored bar represents a hazard. So fluvial flood, river flood, direct precipitation on a country which you have a lot in cities, of course.

Extreme heat, so heat stress which cracks roads and has damages on landslides. And so these hazards, they have different impacts on roads. So three of them except heat stress is a kind of disruption.

So there might be a landslide blocking the road, then you have to clean it up. Heat stress is a chronic thing. Gradually the road deteriorates and you have to repair it over long distances. The other ones generally short distances.

And if you then look at Kenya, what you see here, you see percentages. So the bars indicate the total damage is 100%. And let's say the losses that you have because of delays are indicated here. So for Kenya, you see that 90% of the losses is in the actual loss of function of the road.

Not in the physical infrastructure, but in the function of the road. In Senegal, it's different. There you have parallel routes, there you see just a small percentage, 5%. So there are alternatives, also good stone tutorial.

But in Kenya, you talk about quite a long road. There's no alternative, there's deterioration of goods and so it can get very high. And if you've been in this business and like me, I've used percentages of 10%, 20%, 50% indirect damage.

But it could be much higher. So it's really important to understand what happens if there is an outage of critical infrastructure like roads. Because it might bring you to other ideas on what to actually do.

And not just repair it, but maybe change the transport system. Maybe work on an alternative solution. So I think really important how to use all the tools that are available in order to assess what actually is needed.

And that is not only infrastructure. So that's my plea actually. Let's look very well at the numbers, what's behind them. And to get behind them, you also need active fact finding with stakeholders. Because you need to try to get the numbers from the stakeholders.

And actually it's always kind of joint fact finding, joint solution finding. Because when you talk about how much does it cost, what does it do when the road breaks down. You also actually discuss the solutions implicitly.

That's what I wanted to say. Let's think a little bit further than damage models. But really how to use them and how to get to the right measures. Thank you.

Thank you very much, Philip Blair and Carol. It is now my pleasure and honor to welcome to the panel as excellency Sayyid Makinde, Governor of Ohio State, Nigeria, for your reflections. We look forward to it.

Thank you so much, Ross. And let me use this opportunity to thank you and the team for inviting me for this presentation and session. Well, let me also thank the presenters, Philip Blair and Kara. Some of the things presented, I can relate with them because I happen to be a victim of the first major flood disaster in Ibadon, Ohio State.

This was in 1980. I was just 12 years old then, 12, 12 and a half. And it was the first major flood disaster. All the pictures from my childhood to age of 12, they were wiped off. My father's certificate is pictures from his teacher training college.

So we lost all of that. And so when I, of course, there's a major project sponsored by the World Bank immediately after that. It was called the Ogumpach Analysation. And I just did. and Ibadah in particular, is not somewhere near the coast.

It's around 20 kilometers away from Lagos, that is the coastal city, but we have local issues. We eat a lot of pulp and mime, so we generate a lot of solid waste. And while growing up, I, when it's rainy, we see it as a time to bring out the trash and just throw it in the drainage.

You just think magically, this thing will disappear, but it came back. So when I became the governor in 2019, we had already started the Ibadah Obam Flood management projects. I wasn't sure, just like Kara mentioned, there are decisions to be taken.

You look at the cost effectiveness, what exactly are you supposed to do? So I was going to stop that project. Yes, we're going to do quite a bit of channelization, dredging and all of that. But then there's a dam that in 2011, there was a repeat of what happened in 1980.

The dam ought to be desuited and all of that. But I wasn't, when I came in, I wasn't that happy about the robustness of what the project was going to achieve. But five years on, some of the targets set for ourselves were able to achieve it.

And while I was looking, listening to the presentation of Philip about the local input. Yes, you get data, you get locals involved. That's exactly what we did five years on. If you look at the World Bank report, the project itself was very slow up until 2019 when we came in.

Then after 2019, he picked up effectively. And specifically we said, oh, okay, we're gonna desuade this dam. It was desuaded. We said we're going to build hydraulic structures about bridges, about I think 43 of them.

We were able to achieve a 40 out of that. We also decided to make some master plans, the flood master plan. And all the three that we set out to do, we were able to achieve that. And the early warning system, now we know.

Because you think this is just very simple. But for some of my colleagues, when it's ready, then they cannot sleep. Because they're thinking the feedback is going to come really quickly. But for me, when it's ready, even about four days ago, there's a heavy rain in a, even though I was still able to sleep because of the robustness.

And we have the early warning system to let us know what is going on. And so I'm glad to be here to share in specific terms to address any of the questions. They did the theory, but I faced this. And it could have cost me a reelection a year ago if we hadn't gotten the problem sorted out.

So I'll be glad to give a specific and practical example of a running through that project. The project is winding down, I think in about a week from now, at the end of this month. And I believe we achieved close to almost 90% of those targets that we started to achieve.

Thank you.

Thank you very much, Excellency, for these comments. We're very glad to hear about the success of the project, and we hope it continues, and for us to be able to continue supporting you in OU state. Thank you very much.

We have running a bit over time, so I just want to skip ahead to our audience interactive scenario role play, and then we can incorporate some Q &A into that portion as well. So using some of what you've heard today, we're going to put you a bit to work.

So I'm just going to read off this scenario here. In the city of Riscopolis, there is a poor, low -lying neighborhood surrounded on three sides by the river, which floods every year. Despite the effects the flooding has on residents' health, assets, and livelihoods, the population is growing due to rural urban migration.

Meanwhile, each year the flooding is getting more intense and lasting longer. So the government would like to create a river embankment and develop the neighborhood drainage system, but its budget is fixed and cannot currently fund the required investment.

Community leaders have been asking the local council for help for years, but are resisting the infrastructure plans the government commissioned. With high risk, uncertain budgets, and unclear revenue potential, private banks and insurance companies are reluctant to get involved.

So what we're asking you to do is now to turn to your neighbors on either side of you and get into groups of three, and choose one of the following roles for the three of you, either the local government, the local community, or private actors.

If you're the local government, here are the questions to consider. What can you do to help the community become more comfortable with the upgrades you're proposing? What kinds of help do you need to entice private sector actors to fund or finance your goals?

If you're the local community, you want to discuss with your counterparts how do you want the government to help? What is your role in engaging the private sector, and what information do you need from other stakeholders?

And then if you're taking on the role of the private actors, what assurances or information do you need to become more comfortable working here? What are your entry points, and how can you partner with the local community and council?

So let's take five minutes. You can just partner up with those sitting on either side of you, introduce yourselves if you don't know one another, choose one of the three roles, discuss, and then we'll hear from you for the last five minutes of this session.

Please.

Thank you. Thank you. the broth. Thank you. That's all folks.

Okay.

Thank you. if a know if a

So we're going to wrap it up in just one more minute. Let's continue for one more minute, and then we'll wrap it up and hear from you.

Thank you.

Okay, we're gonna come back to the plenary. It's great to see all this lively discussion, but we're gonna have to ask some of you to wrap up your discussions, and you get a chance to share your findings with everyone in the group.

So if we can come back.

Thank you.

Okay.

Thank you.

If we can come back to the room, if you can wrap up your discussions. Thanks very much. OK, so we'll just ask two groups if you can come in and share some of your key insights from this little exercise.

Who would like to come in? Do we have a microphone for the audience? Yes, please, to this gentleman over here.

Thank you sir.

As a result of our discussion, we have reached the conclusion that local government should approach community leaders who are volunteers and who can engage the community to provide manpower free of cost because it is in their benefit to provide the drainage system, to have a drainage system.

So people will contribute themselves. They will work free of charge and they will work for themselves, for each other. And as regards budgets, with regard to provision of machinery, when the banks will see and the private actors will see that community is engaged and local government is providing an enabling environment, definitely they would come in and provide the finance which can be returned to them later on.

This is what we have discussed.

Thank you very much. OK, are there any other viewpoints from any of the other groups? Perhaps on this question of the free labor? Are there any other groups who want to come in to share some of your reflections?

We had a lot of lively discussions, so I'm sure there's some more feedback.

Yeah. Thanks very much. In our group, the discussion was a bit about this local community and what actually are there, what is causing their resistance against the plants from the local government. Could it be that they are afraid of losing access to the river or any kind of other functionality that they're currently using, but they're worried that if infrastructure is being in place, that they're losing it?

And that of course then determines, let's say, what kind of action local government should take to maybe better inform them, but also help them to understand, let's say, and that's, I think, what often is not done very well by local governments is to explain to them, okay, but if we don't do anything, what is then, let's say, the business as usual scenario, let's say, what is then, let's say, your future in this neighborhood?

So that were a bit of a reflection from our end. So local government could, I think, better inform them and help them or generate more information about this topic, yeah, thanks.