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Headline: Relentless work, for no money: Southeast Asian climate scientists share their IPCC experience

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The call for action to protect humanity against global warming has never been louder, with scientists warning of untold human suffering, our compromised capacity to adapt to climate impacts, and insufficient finances to help the most vulnerable.

Hundreds of researchers worked remotely on the Intergovernmental Panel on Climate Change's report during the Covid-19 pandemic, to make a comprehensive case for world leaders to take bolder climate action. The last few days of the vetting process ran into overtime, as policymakers pored over each figure and phrase of a summary document.

In this podcast, Eco-Business speaks to three contributing authors from Malaysia, Singapore and the Philippines. Tune in as we discuss:

The most important findings for Southeast Asia,
Challenges and personal sacrifices from working on the report,
Contentious discussions to approve a report summary,
The value of the IPCC report, six editions and 30 years in,
The scientists' hope for the future
Full transcript:
This is the Eco-Business Podcast. I'm Liang Lei. A global report on the impacts of climate change just landed a while back. Today, I'm chatting with three contributing scientists from Southeast Asia, on their experiences, views and hopes for the future.

The report by the Intergovernmental Panel on Climate Change details what could soon be irreversible changes to nature and human systems. For Southeast Asia, that means more flooding, sea-level rise and extreme rainfall, for the 680 million people who call the region home.

The report also emphasises repeatedly, that the window of opportunity to prepare ourselves is closing fast.

Joining me on this podcast are:

Associate Professor of Science, Technology and Society, Winston Chow, from the Singapore Management University,
Dr Zelina Ibrahim, from the Faculty of Forestry and Environment in Universiti Putra Malaysia,
Dr Rodel Lasco, executive director of the Oscar M. Lopez Center, a climate research foundation in the Philippines.
Thank you all for joining. To start, maybe each of you could share what your role was in the IPCC report. Prof. Chow, would you like to start?

Chow: Hi, thanks for inviting me on to this podcast. I was a lead author in chapter 6 for this assessment report. That's on cities, settlements and key infrastructure. I was also the lead for the cross-chapter paper on cities and settlements by the sea. So, urban focus in those two cross-chapter papers, which I think came up rather clearly in the in the overall report.

Liang: How about you, Dr Lasco?

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Lasco: Hi, and I'm glad to be here. I was the coordinating lead author of chapter 5: food, fiber, and ecosystem products. There were three of us. And I was also one of the drafting authors of the summary for policymakers.

Liang: And Dr Ibrahim?

Zelina: I was a coordinating lead author of chapter 16 key risks across sectors and regions. And this was together with two other people, Brian O'Neill from the US and Maarten Van Aalst us from the Netherlands. And similar to Rodel, I was also one of the drafting authors for the summary for policymakers and the technical summary. Thank you for inviting me for this podcast.

Liang: Awesome. If I could just stay with you, Dr Ibrahim, let's move on to the first question. What are the most important findings for Southeast Asia, from your parts of the report? How dire is the picture for the region now?

Zelina: For my chapter, we were looking at the key risks. When we're looking at Southeast Asia, I think some of the things to be concerned about are the fact that we have large populations who may be vulnerable or marginalised. A lot of us are developing nations or coming to the forefront of being a developed nation. Even if you're a developed nation, you're going to face some of these risks, for example, Singapore, with sea level rise and coastal impacts.

And we should also remember that even though some parts of the population are less vulnerable, there will be other groups that will be much more vulnerable. And we need to be concerned about how climate change hazards and impacts will affect them.

The other issue that is of concern comes from the Working Group 1 report, which is related to weather extremes. Especially for Southeast Asia, some of the projected results are a bit uneven, but the one that I've been concerned about is the increase in heavy rainfall, especially towards the end of the century, where some of the projections are indicating that a one-in-a-hundred-year rainfall event which would maybe only occur or not occur in your lifetime, might occur once in 10 years in your lifetime. So maybe you might experience it six times. So that's something very concerning, especially as we start to urbanise, we start to see, I mean Malaysia recently had these very unexpected, very heavy rainfall and floods.

Liang: Yeah, definitely. How about you Dr Lasco?

Lasco: Well, for our chapter, chapter five, on food, one of the important findings is that at three degrees Centigrade warming, as you know the target of the Paris Agreement is not more than two degrees, preferably 1.5 degrees Centigrade warming, but a5 three degrees warming, the food supply will be reduced. And crop prices may increase by 5 per cent because of reduced labour capacity, labour capacity may be reduced by up to half with a warming planet, and that will translate into higher crop prices.

Of course, this will undermine food availability, access, livelihoods, in short, food security could be at risk at this temperature. So that's one of the important findings from our chapter that relates to Southeast Asia.

Liang: Definitely a concern, especially since Southeast Asia is still considered one of the world's food baskets. Prof Winston Chow?

Chow: I think there were two or three key findings that I can summarise from the urban aspects of the report. One is to follow-up on what Zelina said – cities are key hotspots for risks, especially in Southeast Asia.

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Currently, we are at about 280 million people living in a lot of urban areas in Southeast Asia, it should effectively double to about 550 million by the middle of this century. So you're going to get a concentration of people, infrastructure and other resources that will be at risk to all the extreme rainfall, sea-level rise, severe storms, especially if you're based in Manila or Vietnam, to more frequent and intense tropical cyclones.

We've also found that adaptation to these sorts of risks…there is a gap in terms of what can be achieved to minimise these risks. There's a lot of focus in terms of physical infrastructure in place, but we want to point out in our assessments that both nature-based solutions as well as good policy and social planning within cities can help to reduce that gap substantially. So you take care of both the direct risks from climate-driven hazards, as well as those compounded and cascading risks relating to food insecurities that Rodel was talking about, which are also very important in Southeast Asia.

The other thing we want to point out is that potential adaptations and resilience solutions to the risks that we are focusing on can also take place successfully in Southeast Asia, we've got a good case study in chapter six looking into Semarang in Indonesia, where enabling policies, inclusive policy development with not just transnational actors, but also local government, with indigenous populations, marginalised populations, can help to increase the adaptation effectiveness to sea level rise or to flood risk that can happen in that city. So while cities are a problem, they are also places where solutions that enable climate resilient development can take place.

Liang: I guess I want to kind of turn the lens back to you – the scientists who worked on the report. So my next question is, what would you say was the toughest part of your work in the report? What sacrifices did you have to make?

Lasco: Well, as we all know, IPCC work is voluntary — there is no compensation for it. So you really sacrifice a lot of your time to do this. And because of the pandemic, the sacrifice was probably more severe. I've been part of Assessment Report (AR) four, five, and now six. Because of the pandemic, we cannot meet face-to-face, there was a lot of time differences, you have to wake up at all sorts of times just to attend meetings, and everything is via Zoom. Without face-to-face meetings, I think the work was a bit harder compared to before.

You couple that with family and office concerns, you know, you're thinking about your kids, your spouse, and if you're a head in a university or in a centre like ours, we think also of the welfare of our staff. And so all of these things were happening at the same time. For me, that was really the toughest thing — trying to work in the context of the pandemic.

Liang: Dr Lasco, you just mentioned that you worked on AR4, AR5 and AR6. Just wondering for any scientist who may be listening to this podcast, who might want to get involved in future reports, do you have any advice for them?

Lasco: Well, they should be ready to give two or three years of their lives to do this work. It's relentless, it's practically non-stop. And over the years, because there's so much literature to review, and so much focus by the world's media, by policymakers, it's becoming more intense.

Therefore, the young scientists listening to us should really be ready to commit. There's really very little room for errors, for slacking, or dropping out. They have to be really engaged from day one, and hit the ground running.

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Zelina: Yeah, I think similar to Rodel, it's voluntary. And I know, when you mentioned about family, I had feelings of guilt when I was involved in meetings. I was helping out with my aunt who's not very well. And when I'm in the meetings, and I forget, that I need to sit down and talk with her. So yeah, after some of the meetings, I was thinking, oh my gosh, I'm not spending the time with family. For me, there was some feelings of guilt when I was spending so much time online talking with people.

And of course, it's night calls. Because there were so many authors. For my chapter, they're across 13 hours of time zones. You have to balance out and set a time which may not be so convenient for you in order to make it more convenient for others.

Liang: How do you decide on which time zone you set your meetings at?

Zelina: Well, I know in some of the sessions they had tried to have overlapping time zones, I know I could make the Eastern time zone as well as the Europe time zone. But there were people in America waking up maybe at four o'clock, and some people were talking until two o'clock in the morning.

In the beginning, I tried to attend every meeting, so I ended up sleeping at maybe three o'clock in the morning, but then the end, I was like, I can't keep doing this. It was very, very tiring. I think you have to have a lot of energy.

So young scientists, if this is the type of work and you're full of enthusiasm, this is really a great opportunity to work with so many people who give a lot of their time voluntarily. I would definitely encourage young scientists to come in, look at what the IPCC process is. If there's a call coming in at your national level to volunteer, you can look at the report and see who's in the report, see who's coming in from your country, and approach them to know how to participate.

You can begin to participate not just by writing, but even by commenting, because the reports are made available for people to comment. And as young scientists, you might have a lot of new ideas to contribute, from new research that you're doing.

Liang: Prof. Chow, was it the same experience for you?

Chow: Oh, my goodness. I recall the time zone issues affected all of us. We are in a part of the world that's neither here nor there. Our technical support unit was based in Germany, so a lot of our meetings were in the evening and overnight. I had memorable calls at three o'clock in the morning, I remember chairing a session, which I think is common for all of us. Some sacrifices in terms of sleep were made.

Yeah, time away from family, time away from doing work that you really should be doing in your day job. Plus the fact that what Rodel and Zelina had pointed out, we are doing this for free, it's pro bono work effectively. The joke is, for our chapter I'm supposed to take charge of designing a T-shirt that says, remember, we are doing this for free. We were supposed to pass it to each other during the approval plenary, but because of Covid we can't meet face-to-face, and that's one of the biggest regrets of this particular assessment cycle.

It was difficult, I won't lie. I was very lucky that my current job, my university was extremely supportive that, look, we've got an IPCC author here. Do take time, we understand the gravity and importance of this report. So they were supportive when I needed time away from teaching or research to try and get stuff done.

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One of the problems I think several of my colleagues have faced is that their own home institutions aren't as supportive as mine. And that is an issue because if you want to commit to this, you have to make sure that your institution or your daily job doesn't view the IPCC as a burden, instead of something that is quite important, as I think our report is.

Also to follow up on Zelina's point, encouraging young scientists is good. This was my first round, I was previously, expert reviewer of AR5, for some of the drafts. This time round it really was an eye-opener, the amount of effort, the amount of time involved in this, but what made it easy was the dedication of people like Rodel, like Zelina, like all of our colleagues who realise that, yes, we are doing this for free, but we realise how bloody important this report is.

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Associate Professor Winston Chow, Singapore Management University

So that shared commitment resulted in a lot of camaraderie and the burden was shared very well. We were lucky to have colleagues who realise that this is important stuff. So it made the process somewhat less painful as I think other processes will be if we committed the same amount of time.

Liang: Let's move on to the next question and acceptance of the summary for policymakers. That process went into extra time, I think it took an extra one or two days for it to come out. What are some of the more contentious discussions that took place, that involved your work, that resulted in this long, drawn-out process.

Zelina: I think that the word "approval" session is the one that explains what it is about and why it takes such a long time. The approval session means that delegates from all the IPCC members would look at the text word by word. And especially I think some of the concerns are also how words translate into different languages when they want to translate it into their languages.

The other thing is the concern by different countries in different regions that their concerns are adequately mentioned and highlighted within the report. We might have mentioned it, but they feel that it's not strong enough, or the wording doesn't actually portray their concern. So we have to look at the phrasing and reword. They will make suggestions and the author teams will have to see whether this wording is consistent with the information, the scientific assessment, the evidence.

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I also worked on delivering a figure in the summary for policymakers. So even how the figures are portrayed to clarify any misunderstanding. For us, as scientists, we may be very clear about what it means, but the policymaker may read it and say, I don't really understand this word. So we have to rephrase it. Or they have some concerns to say, this doesn't highlight why something is not there, can you explain? So we need to include that in the figure.

So it goes through a few different iterations, and especially since we are spread out over 24 hours of time zones, that takes time. So I think that's why the approval process took a little bit longer.

Lasco: Zelina's right. Because of the pandemic and the Zoom calls, it took more than 10 days, almost two weeks of discussions. And part of the reason is this is supposed to be a co-production or co-creation, scientists co-creating and co-producing the document with policymakers. This is one of the strengths of the IPCC process, this co-creation and co-production.

But at the same time it brings its own challenges. I remember a lot of debate over a figure, one of the figures without divulging the details, there was really a lot of debate and eventually that figure was dropped totally after hours of discussion.

Not only that, the definition of terms like agroecology, this took time. And we have to sometimes even include footnotes, just to be clear what the terms mean. So all of these things come into play. In the end, it's approved. And therefore, we succeeded in co-producing and co-creating a document. This is one of the reasons why the IPCC is probably the best example of how scientists can work with policymakers on a global scale.

Liang: And it seems like we'll never know what the figure is…

Chow: We can't reveal the figure details, I'm afraid what happens in plenary stays in plenary.

But yeah, I mean, for the approval process, I took off my author hat and put on my government delegate hat. I attended the sessions throughout and saw the difficulties that the SPM (summary for policymakers) approval process faces.

Rodel is right. What you might view as contentious actually has a point to it, because the text is something that 195, 197 nations agree upon, it is formulated through very concerted efforts to reach consensus and I think that's the point there, that consensus is critical – balancing what we as scientists will consider as appropriate language versus what policymakers and governments think is much more appropriate for them. We find ways to compromise in that sense. And in that spirit of compromise, that's how you develop this document.

And this document is important, because it's going to be referred to in a lot of UNFCCC discussions, it will be referred to a lot at COP27, and others down the road. There is some language that in this SPM, which I think we are very happy to see, for example, language pertaining to inclusivity and other important aspects that have been mentioned in the literature for the past five years that has only now gotten into the SPM documents.

It was a lot of pain. I could see the frustrations from the authors especially, and also from some policymakers. But the extra time that it took, despite the complications of meeting on Zoom, which I still think is a very clunky way to agree to these sort of discussions, is worth it in the end.

Liang: This might seem a bit naughty, but I'm just wondering… I know you can't name names, or even go to the specifics of what's discussed. But were there any themes or examples you can give on what had more discussion than you had anticipated?

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Chow: Liang Lei, do you know what's the Glomar response is? "I can neither confirm or deny anything that you say". I think I'll speak on behalf of Zelina and Rodel and say I can neither confirm or deny anything that's said, please correct me if I'm wrong, both of you think that that's if there is a more appropriate answer.

Zelina: I think a lot of the issues have already been brought up before in other discussions related to climate change and impact, mitigation and adaptation. I don't think there were things which were unexpected. And as scientists, sometimes we think the way we express ourselves may not be so clear to policymakers. So I think that's the other thing, we also have to learn to how to present it in a way which is easy to understand, and which could lead to action. I think it's also a learning process for us scientists, how do you phrase it so that policymakers can take it up, and bring something back for their implementation or action or whatever's the next step for them.

I think it's also a learning process for us scientists, how do you phrase it so that policymakers can take it up, and bring something back for their implementation or action or whatever's the next step for them.

Dr Zelina Ibrahim, Faculty of Forestry and Environment, Universiti Putra Malaysia

Liang: Let me move on to the next question. It takes a bird's eye view of what IPCC is trying to do. What would you say is the value of the latest risks and adaptation report, given that it's already into the sixth edition? And largely, from what I've read, that there largely hasn't been any big change in direction of the narrative of what we need to do to fight climate change?

Lasco: Having observed the arc of the reporting from the early 90s up to now, you're right, it's a long time, it's the sixth assessment.

What I see is that hopefully this will add one more nail in the coffin of scepticism out there, we cannot deny that in some parts of the world, we won't mention the region, but in some parts of the world, let's just say not in Asia, but in other continents, there are still pockets of scepticism. And hopefully this very strong message, the strong evidence presented in this report really adds more and more argument, and hopefully, the final nail in the coffin for most of the scepticism out there. There are still people who doubt.

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Dr Rodel Lasco, executive director, Oscar M. Lopez Center

And in this report, I like especially the emphasis on climate resilient development. Before, the emphasis was really just on climate change per se, or mitigation and adaptation. But now, it's more well contextualised. They're looking at the whole development agenda. I think this is one very good contribution.

The other thing is the warning of the report that there is a window for action. But that window is fast closing. Within the next decade, it will close. So even though the basic theme of the message is the same, now there are stronger arguments, and the call for action is much stronger here as well. And as I mentioned, I think by Winston in Zelina, this emphasis on adaptation, that there are solutions out there, so it's not all doom and gloom. There's also some light in the horizon if we act within the next 10 years. So to me, it's still worth it again, doing the assessment.

Liang: Prof Chow, I see you laughing a lot.

Chow: I'm laughing because I think I'll disagree with you that there's no big change in the narrative direction. In AR6, I think there is. In my chapters and also in the tech summary and the summary for policymakers. There's also attention towards financing adaptation, enabling adaptation. And that finance element is a clarion call for the private sector to join in with what government's plan to do.

That focus on bringing adaptation up to a level where we can then push forward this narrative of climate resilient development, which also includes emissions reductions through mitigation that the Working Group 3 report will focus on once it is released in April. That has garnered a lot of eyeballs from the private sector. I know a lot of people who are involved in green investments see this focus as a very important part of enabling action.

It's part of the part of the broader theme that I think has happened since Paris and since the SR15 (IPCC's special report on global warming of 1.5 degrees Celsius), which I think stimulated a lot of interest globally, not just from governments, but from civil society, and also from the private sector worldwide. And especially so in Southeast Asia, where a lot of assets are going to be exposed. A lot of companies, conglomerates, they are thinking, okay this is the mess that we're in, what are the sort of things we can do that can go together with the public

sector, people and communities, in order to get out of this mess via the idea of climate resilient development?

I see the report's aim of broadening out and interesting a larger audience beyond governments as a very good thing. In the years to come, especially as Rodel points out, we've only got a very short window of opportunity to get things done.

Zelina: I think there's now greater realisation with greater evidence of what might be and that we need to take action really very quickly. What we're seeing is that at the moment, the level of adaptation globally is still at a very low level. There may be pockets where adaptation is becoming more innovative, but it's generally at the global level still low.

That means there is a great opportunity to escalate the efforts that we're making. But as Winston pointed out, the financing, the adaptation gap is still very great and especially for developing countries, the report very clearly points out how very little of the financing money is going to developing countries and also highlights the type of adaptation actions that are being taken.

In our final two chapters, looking at how to make decisions for adaptation actions, they're clearly looking at the feasibility assessments, what components would make adaptation feasible, what type of adaptation actions could be taken, and that they have to be adapted to the local context. But then also the link is how this can also have co-benefits for the SDGs (UN's 2030 Sustainable Development Goals), as well as co-benefits across society in development contexts, reducing vulnerability and exposure. So, the tools are there inside the report for governments to use, I think businesses really have to come on board because it will affect how they can survive.

Liang: And I really hope that the stakeholders will listen to you on this point, Dr Ibrahim, which links nicely to my next question. Now that the report is out, how are you feeling now? And what's your hope for the future?

Zelina: I think some of the things are looking at the research gaps which have been identified, and where research needs to take place. This research would really need to be done within the next five years in order to provide evidence and input into the next cycle.

I hope there's a greater awareness of the need for action. I know insurance companies are really concerned because they have to deal with claims related to weather events. And I hope that this report helps governments in making decisions, because there's better information available. And I hope for in the next cycle, we provide better evidence on effectiveness of adaptation action, because that's one of the gaps that has been identified. We're seeing a lot of action. But because of the timescale, we need a longer period of time to see how these adaptations are becoming effective.

Some of these adaptation actions are resulting in, we say, mal-adaptation, mal-adjustments. We take an action which we think will solve a problem, but it has some other effects, which are unanticipated or unintended, which makes things worse. We now realise that because of the complex and cascading nature of some of these recent impacts, we have to look at the whole system. It's not just at government level, businesses are now becoming important but the individual in society and their participation in adaptation, that becomes very important.

Chow: What do I feel after the report has been published? Relief for one. Yes, Zelina's right. The beauty of working in the IPCC process is that you have the chance to set the research agenda. And there's some things that I think, myself, I've been working on in Singapore and beyond, to try and address for the next assessment report cycle, AR7.

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We'll see how that goes. But right now, it's back to my usual research stuff, we're looking into urban climate and urban heat here in Singapore and beyond. But yeah, that's the thing that I plan to do now with an eye for looking towards the future, in other future assessments.

Liang: Dr Lasco, do you want to kind of have the last word on this?

Lasco: Well, just echoing what my co-author said, I feel relieved, but satisfied that finally it's over. And I hope policymakers all over the world will really take notice and will really act based on the findings of the report. And again, just like my co-authors, I really hope that there will be more science and scientists from Southeast Asia that will be part of the next cycle of the IPCC report.