



Executive Panel Session Addressing the Climate Change, Biodiversity Loss, and Food Security Crises

Panelists:

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Stefan Ingves

Former Governor, Central Bank of Sweden; Chair, Toronto Centre

The Honourable John Rwangombwa

Governor, National Bank of Rwanda

Moderator:

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Opening Remarks:

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Babak Abbaszadeh:

Hello everyone. We have also a global audience, so thanks for tuning in. I am Babak Abbaszadeh, CEO of Toronto Centre; a warm welcome to you to our executive panel on climate change, biodiversity loss, and food security crises. Since our establishment 25 years ago, Toronto Centre has trained more than 20,000 supervisors and regulators from 190 countries and jurisdictions to become change agents for building more stable and inclusive financial systems. I would like to thank our key sponsors: Global Affairs Canada, the Swedish SIDA, and the IMF. In 2016, we began incorporating climate risk in our training programs because of the substantial implications to global financial stability and risk of crisis from climate change. We're also very happy that since then, standard setters and new organizations like n NGFS are on board with this issue and we are very pleased to be partnering with the NGFS.



Climate change, biodiversity laws, food insecurity, geopolitical uncertainty, supply chain bottlenecks, and high inflation (I'm losing my breath) should not be seen in isolation. At Toronto Centre, we see these as intertwined with financial inclusion. For example, an estimated 80% of small farmers lack access to formal AgrilInsurance. Financial supervisors are part of the multi-stakeholder ecosystem of crisis management and must continue to adapt to evolving risks and strengthen the financial resilience of various actors. Today, our distinguished guests will discuss badly needed insight on these challenges. Sometimes you never know who you get for a speaker, but I can assure you these are excellent speakers; they've all been tested at Toronto Centre events before and we are very honored to have former Governor Stefan Ingves of the Central Bank of Sweden, who's also our chair and a longtime board member of Toronto Centre, the Honorable John Rwangombwa, governor of the National Bank of Rwanda and Nezha Hayat, who's the chair and CEO of the Moroccan Capital Markets Authority who was gracious enough to host us for a keystone program back in 2019 in Rabat, and our moderator and friend Jean Pesme, Global Director, Finance, Competitiveness & Innovation of the World Bank Group. You have received their bios, so let's begin. Over to you Jean. Thank you.

Jean Pesme:

Thank you very much. Good morning, everybody. Thank you very much, Babak. It's always a pleasure to do something with the Toronto Centre. Happy birthday to the Toronto Centre, 25 years is quite something, so that's a very good opportunity and thank you very much for inviting me and the bank to this panel on a really, really important and timely topic. So, I don't think I need to overemphasize it, but really this issue of climate change, biodiversity loss, and security is one of the key crisis of the moment. So, as Babak mentioned, we need to think about it in terms of response to crisis, but also how do we mobilize funding, in particular private capital, to be able to address those challenges. So, I think this is really very much at the center of the global discussion at the moment. So, thank you very much for organizing this panel and thank you very much to the panelists for joining us with very different perspectives, so I think that's also where we will really benefit from this discussion.

So, Stefan, I'm going to start with you. You've been part of this global discussion for quite some time. We've seen since the Paris agreement that the climate crisis and climate change is really at the center of the agenda of many governments, international organizations, financial institutions, and we've seen a growing number of institutions realizing that it's also not just about climate change, but biodiversity is really getting higher on the agenda, and obviously we see it on the ground, the food security crisis. So, on biodiversity, last year the NGFS published a report on central banking and supervision in the biosphere, which recognizes that biodiversity loss is a potential economic and financial risk. So, part of it is why are central bankers and supervisors coming to that topic, it's a bit unusual? So, it'll be good if you can give us a little bit of the big picture, set the scene for the discussion on your views on the nexus between climate change, biodiversity, and food security. How much is one driver of the other, what are the interconnections but also how does that relate to financial stability? What's the next with financial stability? So, Stefan.

Stefan Ingves:

Thank you. First let me say that if you read the recent reports on climate change, those recent reports are not happy reading. So, from that perspective it doesn't look good. But on the other hand, what has changed is that if you go, let's say five years back and you talk about these things in the central banking community, there's basically nothing there. Yeah, so if you read up on this topic and think about recently published reports, they actually have reference lists. And five years ago, there were no such reference lists and that's just saying that this is actually on the agenda of many, many more than in the past. But on the other hand, at the same time it's clear that if you look at what central banks do and what supervisors do, climate change, biodiversity; these topics are not sort of included in what is listed in the legal frameworks of these institutions.



So, when you deal with these issues it comes kind of indirectly, but nonetheless this is still important because what is going on now is likely to affect how the economy functions, and it is also highly likely going to affect both the macro-picture in many countries and at the same time financial stability in one form or the other. So, indirectly, if you are in the business that we are in, you actually need to understand what is going on. And at the same time, from one perspective we are talking about macro, macro-developments, but another perspective is sort of more micro in the sense that you actually need to understand if you're in the banking business, what kind of a credit portfolio you are sitting on. And if you don't then you are actually likely to not understand the risk that you are taking, and that's why this is highly, highly relevant.

Let me give you just two examples. By now, it seems to be well known that the spruce bark beetle is actually destroying the trees in Sweden, and we produce quite a lot of pulp and paper. And then of course, you need to understand what that does to the pulp and paper industry. Moving over to this country you have, right now, flooding in California, and that of course is affecting the agricultural industry in this part of the world and substantially. At the same time, there is a conversation going on about what is happening with bees, because you need bees in this country and all over the world for pollination and if there aren't any bees, well then you won't have a lot of produce. And in that sense, referring to your question, all these issues are interdependent, like it or not, they truly, truly are, but we are not good at, as of yet, fully understanding those interdependencies. So, we do have some homework to do.

Jean Pesme:

Very good. So, Governor, let's turn to you including the perspective from an emerging market. So, I'm going to start with the link with food security. So recently, the food and agriculture organization of the UN, the FAO, noticed that the global loss of diversity is threatening food security, food supplies, the livelihood of millions of people including the one in your countries. So, from that perspective, how do you see climate change and biodiversity as a threat to Rwanda's financial system and economic stability and generally, Africa is also very exposed to this risk and what can central bank and supervisors do in that respect and how do you link that to your mandate in the context of Rwanda?

The Honourable John Rwangombwa:

Yeah, thank you and thanks to the Toronto Centre for organizing this session and for inviting us to be part of this discussion; we appreciate what we are doing with the Centre today. We talked of Capacity building; we are benefiting a lot from the Centre in terms of building capacity of our staff in supervision and in orientation of risk-based provision. So, coming back to this topic of today, I think as my colleague Stefan said, sort of new to central banks and especially in our part of the world, we are really starting to understand what it is, what impact it will have on our mandates how that may come from different channels compared to maybe the developed world. I think for us, the biggest impact of climate change today is on agriculture, and mainly because our agriculture is still predominantly linked to the weather patterns on how the weather is, how rains are coming in different periods.

So, we were used to normal rain periods, for example in Rwanda and many African countries, we have two crop seasons and, in most cases, we'll be assured of rains during those crop seasons. But today, we are no longer sure of when the rains are coming or whether it's enough for agriculture, and so one is we are facing prolonged droughts and that affects, of course, farming. And the other channel is through floods, flooding, yes, but it's not as big maybe as we see in the west, but it also really affects us, effects agriculture to a big extent but mainly effects on the fiscal side because it destroys infrastructure. But coming back to droughts, today in Rwanda we have inflation we've never experienced since 2008, during the financial crisis, and this is really two angles that are merging to cause this big problem.



So, we have the normal global challenge that everybody's facing with high inflation, every country. But that, for example, when I look at my colleagues in the region, their inflations around 10% or so. But ours has been exacerbated by agriculture, by low produce of food crops last year, the entire two seasons I say we have in a year, we lost it last year because of prolonged droughts.

And today agriculture, I mean food inflation has gone above 50% and overall inflation is around 20% by December... So, these are high numbers that are really linked to climate change. And when we talk of inflation it's not just about the prices on the market affecting the consumers, but also the yields, the agriculture itself, more than 50% of our population get income through agriculture. So, with this prolonged drought, they lose their yields, they lose their income and so it's affecting the overall government program of fighting poverty, reducing poverty. So, when I look at our case, we're really mainly affected through economic instability because our mandate of economic stability is being challenged now with inflation, linked to agriculture, we don't have monetary tools we can use to fight this inflation linked to agriculture.

We've been really using the tools we have to fight second round effects of this inflation, but with little impact on the trends. So, we only hope we will be able to manage this inflation to bring it down to our levels, our bonds of between two and eight, if agriculture goes well. Good thing with our tools, we've seen what we call underlying co-inflation going down, but food inflation has just kept going up. So, that's a big challenge; we are seeing links to climate change. In terms of financial stability, it's not that big, which is a blessing to the financial to the banks mainly because they don't have big exposure in agriculture projects. In fact, in banks just about 1% of their total loans go to agriculture. Well, that is good for financial stability, but bad for economic development, because the main financing arm of economic involvement is the banking industry, and it's not financing one of our key sectors of the economy; Agriculture contributes about 25% of our economy.

But really from the financial stability point of view, at 1% we don't see any big challenge. Stability though, even this 1%, their non-performing loans are much higher than any other sector. In fact, last year I think we're at around 26% of this. So, I would say climate change is real, and when I talk, I'm giving a lot of experience, but this is really almost similar to most of our colleagues on the African continent. We are having big challenges on agriculture. And so, the investments; now what the government has been doing, in our case, is trying to encourage insurance in agriculture sector insurance; it has been almost non-existent. It's just now that through government, projects that are giving farmers subsidy that are helping to get farmers together with insurance companies, that we start seeing now insurance coming into support or to protect the farmers against these shocks.

But also, it is taking time to understand it and even the insurance sector is fearing, cause they're not yet good enough to assess the risks, the ensuring. But at least this is one positive step that will help to ease the challenges we see in agriculture. So, all in all, the big challenge for us as a central bank is that we just started to understand what these climate issues mean to our financial sector. We are carrying out a diagnostic study to see how the readiness of our banks in dealing with the shocks, maybe I'll say that on the next comment, what we are doing to try and address issues to do with green financing versus brand financing or whatever. Thank you.

**Jean Pesme:**

Thank you very much, Governor, and thank you very much for bringing the resilience and we may come back to that later because we focused a lot on stability and risk, but there is also that resilience now to reach out to small farmers and outsource. So maybe we'll come back to that a bit later. So Nezha, let me turn to you. So, you bring a very different perspective which is the one of security supervisor, but in addition to your work in Morocco, you also playing a role as the chair of the Africa Middle East regional Committee of IOSCO. So, we see a lot of moves in the securities supervisory family. So, can you elaborate a little bit on our capital market regulators, can you mainstream sustainable finance? What are the opportunities and the cost and what lessons are you drawing from your work in Morocco? The challenges that you are facing in Morocco but also in discussion with your colleagues in the African continent and Middle East, what they say and what they see as their role but also the challenges.

Nezha Hayat:

Okay, thank you Jean. Well first I'd like to thank the Toronto Centre, Chair, and Presidency Babak for inviting me to this panel today. I'm very happy we have an active participation within Toronto as an active member of the Toronto Centre Securities advisory board. We also are very happy to benefit from the different seminars that we organize and together we had one on green finance just before COVID, as you mentioned, Babak. So, in fact our journey in this field of green finance and how capital markets regulators and securities regulators can play a role; well, it started, at least for the Moroccan Capital Market Authority, it started a little bit before IOSCO started to talk to think that we had a role to play and that was during COP 22 in Marrakesh. So, because we understood that it was the COP of the African continent, but it was also the COP to mobilize resources to address climate change investments and to tackle the climate change issues.

What we've done as first Moroccan Capital Market Authority but also, and this is the link with the central bank, we first worked on a national roadmap. Sustainable development in Morocco is embedded by the Kingdom Constitution. So sustainable development and the financing of the sustainable development, it is a priority, and we started to join the national roadmap, gathering old regulators, central banks, ministers of economic finance, the insurance supervisory banking system investors to tackle all these issues and to see what was our role. Within our financial stability committee, that is held twice a year, we see the progress of what we are doing. So as related to the supervisors of capital markets, usually our mission is to protect investors, ensure the good function of the market, fairness, integrity, and transparency. So, we tried to understand what would be our role, and our role was to see how the tools, if instruments within capital markets could attract investment for sustainable projects.

So, what we did, instead of working first on the regulatory issues or legal issues, we had the more flexible and dynamic approach. We started with guidelines with IFC; we published four guidelines on green bonds to enable companies and corporations to finance. Then they're a green project. We published the first guideline, of course including all the international standards at that time and explaining. So, we studied with guidelines, and what we've seen, we've had issues explaining. It was also the opportunity to explain to the investors, what they have to expect to incorporate the requirements that we will have in terms of information, of disclosure, and it enabled since then a certain number of issues, green sustainable, also gender oriented. So, little by little we included mandatory reports in our regulation. So, instead of working hard to introduce this issue within our legislation, we started and then little by little, and so what we have done as well, as we had this national roadmap during COP 22, we also pushed an initiative called the Marrakesh Pledge that gathered African capital markets regulators as well as a stock exchanges to commit to commit and develop the sustainable capital markets.



So, this is what we've done and today we are an active contributor within IOSCO because we were the first to understand that we had the role to play, we had that momentum, the COP 22 in Marrakesh and little by little today there is IOSCO talks about it. We have a committee, a task force, an within IOSCO and the AMERC, which is African Middle East Committee, our role also is to explain not only to share the experience and expertise that we've had in different jurisdictions because we try to share and learn from the others' experience because as we were all, I think we were very late and it is a problem. It's not the only field where we have to come after something exists, and we see that in other FinTech issues, and we have to regulate, we have to explain, and we have to understand what is our role. And today, on the continent we assist each other; there's a lot of efforts in financial education, explaining and also sharing the expertise and seeing how it can be adapted in other markets within the region.

Jean Pesme:

Thank you much, Nezha. One element that I want to flag and maybe there will be questions, is also what's coming in terms of disclosures. Securities regulators will have a very important role to play very soon on disclosure because the ISSB is soon going to disclose its new standard on this, so, also to flag the role that security supervisors will have in terms of contributing to sustainable finance when it comes to disclosure. So, I'm going to turn to the second round of questions and then we will open the floor for any question that you may have. And going back to Stefan: a little bit around that issue of mandate, which as you mentioned has evolved a lot. I think there was a lot of skepticism a couple of years ago, now it's much more embedded. I think the ECB wrote recently that climate change makes monetary policy more difficult; can affect the stability of financial and banking systems. I think this is now much more recognized and embedded. At the same time, the issue is also when all jurisdictions move to net zero commitment and net zero economy, how can central bank supervisors grapple with that challenge, and in that transition to a net zero, managing that with the need to deliver price stability and financial stability. So how would you see that forward looking agenda and that facilitation of that transition?

Stefan Ingves:

If, well first of all, the transition will probably be different in many different countries because it's easy to talk about these things in the abstract. But one of the hardest things to deal with for us human beings is the difference between today and tomorrow. And when we start talking about tomorrow, usually we tend to say, "well that's for tomorrow so let's not deal with it." And if we try to deal with it today, we tend to say, "well it's not my problem, it's somebody else's problem." And that means that you would expect change to be uneven in different parts of the world and in different countries. And some of my guesses is that some of the political processes around this will be quite different. And I see this very, very clearly in my own country because we have an elaborate conversation to become polite about "not in my backyard" when it comes to wind and wind power.

And that will show up in many, many places. And that of course can create uneven developments, and at the same time it's obvious that you need to do these things and when you do them, they will produce relative price changes between different means of production. Now if you talk about this from a central banking perspective, a relative price change is actually not inflation. So, you need to accept those relative price changes. But why at the same time we just don't know whether those relative price changes also de facto will change inflation expectations and if that is the case then it's sort of, the whole issue kind of morphs into monetary policy in one form or the other and we haven't really seen as of yet and we need to think hard about how to deal with those things. I actually think that a number of other countries in the developing part of the world will probably have much more experience when it comes to this because as we heard here, I don't know what the proportion of food prices is in the Rwandan CPI but it's pretty big.



That creates a completely different way of having to think about monetary policy in that environment because should monetary policy be based on what happens to the reins or not. I mean that's a serious underlying issue when it comes to how you actually do these things and how you deal with it. And, we don't have the answers to that, but we do know that we will have to deal with it as best as we can. And then as I started out saying, in addition for most central banks, these types of issues are not really included in the mandate from the beginning. So, solving these problems has to be dealt with by others but we certainly do need to be aware of them and do our best on our side. At the same time, if you are running a central bank or a supervisory agency, then of course at the super, super micro level, you also need to be aware of what you do in terms of your own carbon footprint. That is also sort of technical issues that were from the beginning not really trained to deal with, but we also have to adapt on that side.

Jean Pesme:

Thank you very much, Stefan. So, segue to the Rwanda Governor, what's the perspective? So, Rwanda has committed to net zero CO2 emission by 2050. At the same time, in some developing countries the issue is less about mitigation but more about adaptation and what you see as the role of the central bank in either facilitating, contributing directly to that transition and how are you practically preparing for that role?

The Honourable John Rwangombwa:

Yeah, thank you. I think it's a new area we are entering into, and we joined our colleagues, different institutions within our country under the Kigali International Financial Centre, and we just put up a sustainable finance roadmap. So, through this we are working out to see how we can establish a framework and then the National Green Taxonomy to try and understand what is happening and how we are working towards guiding this objective the government has given itself to zero emissions. Again, it's not that big because we are not really big emitters of such and already, the government has taken all decisions. Well back in 2008, the government banned plastic bags. So, they had adjustment costs because this was mainly the packaging material used in the market. So, it took time to adjust to new packaging materials and how that affected the pricing; it wasn't that pronounced as such because it's not a big component of the basket as we say but had an impact on some industries on terms of trying to adjust to this new orientation the government had given.

But again, government has been really keen on reforestation of the entire country. I think originally, we had a target of planting up 30% of our surface area by 2020, but by 2020 had accelerated that to about 33%. So, we are not dealing with any big projects that are really big carbon emitters; we don't have any big energy projects that we need to be transitioned out. So, that in itself helps in terms of the cost of transitioning to a green economy. So, from our end, also working with this framework we are setting up, we are trying to understand what that means. So, as I said earlier, we've commissioned a study to see what that means, what impact can it have on the financial institutions, how ready are the financial institutions to deal with this. So, through this study we just starting to develop guidelines that will help the financial institutions to deal or to understand the climate risks within the financials.

And so, we are still really trying to position ourselves and I think one big challenge that we saw already is really understanding exactly what are the channels of how this is going to affect financial stability, to get readily available numbers in the granular form that will help us to do proper analysis of how big this impact is. But it's not, again, as Stefan said, it's really different in different countries because we are not heavily invested in carbon emitting projects that will require a big cost to transition to green. But in any case, we need to understand what it is. So, we are really trying to position ourselves, the central bank, to build our capacity in understanding this.



And so, we recently, last year I think, we joined the network of central banks and supervisors for greening of the financial system to help us build our own capacity, to learn from experiences of our colleagues, and see how we position what we are doing. One, to support and ensure financial stability through this transition. At least the original assessment we don't think would be a big challenge to us because of where we are in our development. So today, it's easy for us and this is a decision of the government to go green as we are implementing different government projects. It might be expensive today, in terms of the initial investments, but long term, it is good for the country and for the economy.

Jean Pesme:

Excellent, thank you, and thank you, both of you, for reminding us that it's very country specific, but part of it is also to start because by beginning the journey, you are learning a lot and you are building your own capacity to understand what are the most specific challenges but also what may be your opportunities for action. And as I remind leaders that Morocco started the journey at COP 22, so quite some experience, still a long way to go. So, how does this learning by doing, to some extent, influence how you see the future, the road, but also address some of the challenges you may have found in the specific context of Morocco and how that can help the global community also understand how to prepare to that.

Nezha Hayat:

Thank you. Well, since we started this journey comes, and Jean, you reminded us of it, it's the issue of disclosure. Today, not only through the sustainability task force within IOSCO but also in America where IOSCO has undertaken work to assess the suitability of standards that we will probably have to adopt the ISSP sustainability related disclosure standards because we need reference and the work is being done to see and we will probably have by the next board or by June, 2023, I think IOSCO will be able to disclose its position within our emerging markets, within our continent and region. We also, and the challenge is to make sure that every jurisdiction understands what these standards can mean and their ability to adopt them.

And the challenge is a lot about capacity building, a lot about capacity building, not only in each jurisdiction, and for not only for the investors but also for the corporations. Understand what is expected if they want to finance through capital market, a sustainable project, but also to prepare investors and fund investors to include these in their management policy, to include the information regarding the sustainable, their impact on ESG, and on sustainability. Well for the region we are currently launching, the region of Africa and Middle East, we're currently launching a survey to find out the ability of each country; each country has its specificity, it's in a different level of development of this issue, but also different development of capital markets and we have to take everything into account. Also, the challenge in the continent is our markets are really fragmented, and so we need to have a really harmonized system and not only regulation regarding capital markets, stock exchanges, but also the same understanding of the information and of the disclosure requirements.

Jean Pesme:

Okay, thank you very much. Thank you to the three of you for setting the scene. So, let's open it up to questions from the audience. So, I think we have a mic ready if you can introduce yourself and if you want to have one of the three panelists specifically answer your question, please flag it. But let's open, we have a little more than 15 minutes for questions and answers. So please. *Calls on audience member*



Audience Member:

Thank you. I'm interested in what the panel thinks is coming next. So, I think, Mr. Ingves, you laid it out very well: there's been a huge growth and knowledge of the topic, great work done on the stress testing, on the reporting, et cetera. But to be frank, we've not seen the financial sector really have the impact it could have on the real economy yet what comes next? Do we need prudential capital charges? Do we need incentivized lending rates? Do we need to move to the next level from the risk assessment and the reporting to actual other policy tools to really have the impact on the real economy?

Jean Pesme:

So, I think that's a question that may be for the three of you. Governor, do you want to start on including on that element of how to bring the risk assessment into prudential thinking?

The Honourable John Rwangombwa:

Yeah, I think what she's saying which is interesting is maybe beyond the mandate of the central bank normally, because our focus is on financial stability as we look at the channels through which this could destabilize distribution of the banks. I think what you're asking is beyond that, what can be done to incentivize the financial institution to finance green projects. I think it's better through other incentives brought through maybe a fiscal side or government initiatives than really regulations by the central bank. I don't know, my colleague, my senior, Stefan, could say more on this, but I think it is always difficult to use regulations to sort of direct or influence financing of the financial sector to a certain sector or project of this nature.

So, it would be difficult to really use the central bank of money to do that. But normally what happens, like today for example in Rwanda the government has put up a project that is supporting financing the agriculture sector with lower interest rates with the link to developing the insurance into agriculture. That's the best channel we can use to support or to incentivize banks or financial institutions or to really focus on green financing than brown financing. It's difficult to use regulations, but I'll request my senior Stefan to comment on it.

Jean Pesme:

Stefan, also to stay in the banking sector but also because of your experience at Basel and what you see may be coming. So, there is the domestic element, including do you use prudential or other incentives, but also what you think the global banking community is up to and what may be coming our way, and then we will go to capital market on the opportunity side; how to mobilize financing. Stefan?

Stefan Ingves:

Ideally of course one would like to have some kind of a grand plan and deliver on that plan, but in a complicated world it's not going to happen. So, one has to settle for various types of second, third, fourth, five, fifth best. And one way of thinking about that is to try to create successes at the micro level, and then use those successes to explain to others what is going on and why. Let me give you one example. I happen to come from an institution which produced one of the first financial stability reports in the world in the mid-1990s and today you probably can find more than 50 to a hundred central banks and supervisory agencies that produce various financial stability reports. It makes a lot of sense in those reports nowadays to include a section on the topic that we're talking about today. How does climate affect financial stability? How do we deal with reporting requirements? Do we have standards that are in some sense good enough? How do we avoid greenwashing? And hopefully, that over time builds capacity in such a way that these issues are more easily understood, and it's generally accepted that this is what you deal with.



Having said this, and maybe this is because I've been in this business now for a long, long time: during my entire professional career, I have listened to people who have come to me and said, "you are an evil person, lower the risk weight, because I'm doing such nice things."

I have always been against that because I have seen too many disasters during my professional life, when you have wandered down that route. If you really want to do it that way, then as we heard it's a fiscal issue, don't mess up the central banks and the supervisors by demanding putting risk weights down to zero when the risks are far higher than zero because that creates some serious difficulties down the road. So that really should be avoided, and it really forces central banks and supervisors to do things that they don't want to do, and it forces them to do things that are not really not in their mandate. There will always be a strong political pressure to do this. I call them "tweaks".

And why is that? Because in the short run, it appears to be for free. If I start tweaking the risk weights because of green this and that, nothing happens on the fiscal side today, but boy, what happens at some time in the future? But everybody is happy in the short run, both the bankers and the politicians, because you appear to solve a problem that costs you nothing and that's not a good way to go about. So, one has to try to use other types of solutions, but I do think that we have some serious conversations ahead of us on the topic. What is it for supervisors to do, what is it for central banks to do, and what is actually fiscal issues? I don't have an issue if you want to subsidize, subsidize this and that and the other in order to get these things moving, fine, fine. But those issues are actually fiscal issues. And then, on a completely different topic, which is very serious is to think about it the other way around. And that is today, they're by far too many subsidies on oil, coal, gas in different forms. Get rid of those subsidies. I mean that's a good start. But we do know, and particularly people working for the IMF who have tried this for decades, how difficult it is to get rid of those subsidies because if gasoline costs almost nothing, well people adjust to that and then you need to get rid of those subsidies. Thank you.

Jean Pesme:

So, thanks to the two of you for the remainder, that supervisors are very powerful but cannot do everything and that they should not be pushed too far from their command. Nezha, from a capital market perspective, there is also another angle to that discussion, which is mobilized private capital to move ahead in decarbonization, adaptation, et cetera. So, what do you see as the agenda coming? What other challenges and what can be done about it? And then, I will go back to the audience.

Nezha Hayat:

No, absolutely, I totally agree that we have to be neutral but also our mandate is to make sure that everyone, every stakeholder, understands what it is about, understands how capital can be attracted to finance climate related projects or climate friendly projects or sustainable projects in a way. So, what is today's challenge is first, capacity building and to make sure that everyone understands very clearly what are the commitments, for the investors, for the corporation, for the regulators. What we are doing is that we want to explain that capital markets can be an opportunity to finance and to attract all this capital to finance projects through capital markets. So, our role is to make it more clear, to explain, to raise awareness, and also to try and find a way to adopt the same to national standards to avoid greenwashing, to avoid many misunderstandings, and to mitigate the risks. All risks are related because we have to manage by the risks today, also in capital markets to avoid the other disasters that we've seen in for other issues.

Jean Pesme:

Okay, thank you very much. *Calls on audience member*

**Audience Member:**

Thank you. Very insightful panel. It's undeniable that climate change is there that the severity and frequency of events are occurring, and I appreciate your comments, Stefan on stability and the panelists have talked about the mandate of regulators but it occurs to me that, and if we look for the panelists' neighbors in Malawi and Mozambique who were impacted by Cyclone Freddy, their contribution to climate change was negligible. But the suffering, the devastation, was great. What advice do you have for regulators to enhance that conversation about the need to do more faster? Because you've all talked about the things that need to be done but, and Stefan from your comments yesterday or earlier, the picture is not good. So how do we accelerate the conversation with other regulators about the role that they can play to improve our actions against climate change? Thank you.

Jean Pesme:

Thank you. So, Stefan, maybe I'll turn to you and then there was also resilience angle to your question, so I will ask panels whether they can come to that. We have six minutes so a quick response.

Stefan Ingves:

Yeah, a quick reply. Just keep talking.

Jean Pesme:

Okay. Super-efficient. Governor, any perspective on that also on that mitigation adaptation, and who should move first but also how to raise somehow the resilience angle you started alluding to that earlier financial protection. So, what can you do as regulator also to push for that agenda; it's linked to financial inclusion but also new products being made available to our source and farmers, et cetera.

The Honourable John Rwangombwa:

Yeah, I think to his question, to his comment as my colleague said, to keep talking and walk the talk, I think there's a lot of talking and less doing. So, these COPs, I hope we can get better outcomes from the COPs. I think of carbon financing or carbon credits, so how do we really transfer the challenges? For example, the countries you mentioned Mozambique, Malawi or small islands in the Caribbean here are facing challenges with less contribution to this burden? How do we transfer resources from the biggest contributors to this burden to support these countries and to mitigate these risks. So, I think there we need really to push to have actual things happening than the talking. I think there's a lot of talking, it's happening on the ground. Unfortunately, there's always that tilt of influence and power in this talking. So, the country saying, "I don't think they have big influence and power in influencing what happens on the table."

So, we need, really, these independent minds to support the voices of these countries that are suffering. So, I think that's from the greater point of view, yes, as I said, we have this network that working together to what we can do, but I think there's the channel through the COPs that can yield better and quicker results than yes the meeting of regulators or the network of regulators. I think on resilience, we talked about the trying to see what kind of investments going forward and as I said for example in our case it's now easy that the national development agenda promotes green economies in terms of whatever you're doing in the projects coming up, there's always that when the building requires that green factor, or climate change is embedded into that, so that will help the country. But of course, unfortunately we have these big shocks coming from global warming itself that we can't do much about.



So, positioning our banks in terms of understanding the risks and well as I said, stress testing against the risks. What are the possible channels that will be hit through these challenges linked to climate change, and how do they get against that? I think that's what we are trying to do as a regulator. But in terms of the going forward, at least in our case, government is serious about really greening the economy and that helps a lot. But to what she said, it's making it a bit expensive to finance projects and therefore, there that's where we need to see how we get these monies outside there that are supposed to support the mitigating initiatives to make it easy for these projects to get affordable financing.

Jean Pesme:

Very good. Nezha, last word from you and then we will conclude the panel.

Nezha Hayat:

Maybe what we have intended to do in Morocco to accelerate, we first worked on a national framework with all the countries, I mean all the regulators, and this is important and the stakeholders and also, we have tried this pragmatic approach. I think it's important, this is what we are sharing, to explain and to promote the innovation within the capital markets to attract the funding for these projects. And this is what we have done, and what we have shared, and what we are sharing with other countries and with other regulators. I agree that there are momentums, and the COP is always, the COP event is always the opportunity to gather all stakeholders and also to promote these different tools, different tools to finance and accelerate the financing of climate transition.

Jean Pesme:

Very good, thank you very much. Thank you very much to the three panelists, very complimentary perspective, A lot has been done, still a lot to be done, but let's respect the mandates and the role including what is the government, what are supervisory monetary authorities, capital markets obviously have a very important role to play. Your international experiences are also very interesting because coming from different angle, it reminds us that it's going to be very localized and not one-size-fits-all, but sharing information, including through the network like NGFS and the many work that is going on is very important. So, thank you very much. Thank you to the Toronto Centre again and thank you for this discussion on a very relevant topic. Thank you everyone.