THE COUNTDOWN TO 2050

a podcast by acción clima

Episode #1

Adaptation

How can we climate-proof our coasts?

Participants:

- Carolina Solano, moderator
- Pilar Velásquez, Fisheries and Marine Conservation Officer, WWF
- Alba Ocampo, Regional Head of the Forest Conservation Institute (ICF) of Tela and Coordinator of the Interinstitutional Environmental Committee of Tela (CIAT)

Carolina:

Honduras, an acclaimed diving destination, due to the beauty of the Mesoamerican Barrier Reef. The marine and coastal resources of the region allow for economic activities such as fishing and tourism and contribute to the protection of coastal communities from the adverse effects of climate change, but at the same time, the region is also one of the coasts that are most vulnerable to its impacts.

Welcome to our first episode of *The Countdown to 2050*, a podcast developed by the German Development Cooperation GIZ, as part of its mandate as interface project of the International Climate Initiative -IKI- for Central America and the Caribbean. My name is Carolina Solano, and I will be accompanying you during the next few episodes while we travel together through the region to discuss biodiversity and landscape conservation, mitigation, and adaptation efforts.

Today we are joined by Pilar Velásquez, Fisheries and Marine Conservation Officer, and Alba Ocampo, Regional Head of the Forest Conservation Institute (ICF) of Tela and Coordinator of the Interinstitutional Environmental Committee of Tela (CIAT). With them we will talk about the Smart Coasts project.

Now, to begin our conversation and, Pilar, to enamor and orient the people who are listening, **tell us about this wonderful reef system and what are the challenges faced as a result of climate change?**

Pilar:

Sure, Carolina, I'll tell you. The Mesoamerican Reef System is the second largest barrier reef in the world, and it is precisely located in the region where we come from. Because it is a coastal marine ecosystem, it is highly affected by climate change and

therefore it is the communities and the people of the area who are facing the challenges caused by climate change.

Among the challenges that people, communities, tourism service providers, food producers, infrastructure developers, institutions that must ensure the conservation of natural resources, and other actors face, is the issue of how to respond, for example, to the loss of crops, how to respond to changing rainfall patterns, how to respond to rising sea levels that inundate communities and affect local and hotel infrastructure, how to respond to changing distribution patterns of commercially important fish, for example, species that seek colder waters due to rising sea temperatures, etc.

So, the challenge is how to respond to this imminent scenario of climate change, how do we adapt to the consequences of climate change, how do we make it, twenty-four seven, to adapt to climate change. Therefore, that "how" is the challenge imposed by the consequences of climate change and in the case of the Mesoamerican Reef System, this "how" is what we are trying to respond to with the implementation of the Smart Coasts project. By identifying climate change adaptation measures that respond to the challenge of the "how", the project hopes to increase resilience, that is, the capacity to adapt to climate change in coastal communities throughout the four countries that make up the Mesoamerican Reef System.

Carolina:

Thanks, Pilar! And now that you are talking about challenges and implementation. **Tell us, how was the Smart Coasts project born and what is its main focus, what is being done to provide communities with adaptation strategies?**

Pilar:

Sure, Carolina, I'll tell you. The Smart Coasts project was born out of a previous collaboration between the Stanford University's Natural Capital Project and our Belize office. The Stanford University colleagues supported our colleagues in Belize with a modeling of the ecosystem services provided by the country's coastal marine ecosystems, which was expected to serve as input to build the first version of Belize's coastal marine management plan.

When we saw the results, we liked them very much, we saw their usefulness and that is why we started to ask ourselves, how can we extend this modeling to the Mesoamerican Reef Region, how can we incorporate climate scenarios and make this useful for decision making? When we saw the potential, we decided to partner with the Center for Climate System Research at Columbia University and when we found the window of opportunity for funding from the International Climate Initiative, we decided to contribute a proposal focused on finding measures for adaptation to climate change that would enhance the return of these ecosystem services, because

it is actually these services, such as coastal protection, sediment retention, tourism and fisheries opportunities, which help communities adapt to the consequences of climate change. That is how the project was born, Carolina.

The communities and decision-makers, who participated from the beginning of the project until the end, have been provided with the science, modeling, and mapping, which indicate practically where on the ground these adaptation measures should be implemented to obtain the greatest return of ecosystem services that will help them adapt to the consequences of climate change.

Carolina:

Thank you very much! And now that we are talking about climate change, Alba, whom we introduced earlier, is Honduran. **How is climate change affecting Honduras, and specifically this reef region?**

Alba:

Hello! Well, look. According to the experience of the residents who were consulted during the workshops for the implementation of the Smart Coasts project, these residents, both young and old, among them fishermen and tourism service providers, believe that there has been a considerable impact. For example, starting with the increase in ambient temperature, the increase in sea temperature, there has also been an increase in sea level, more intense storms, and hurricanes than before, since they did not use to be as frequent or as intense.

On the other hand, there has also been erosion and loss of the coastline. For example, in the Tela Bay, there has been a minimum of impact, but in some places, there is damage to the coral reefs due to the high temperature, and that leads to a decrease in the quantity of fish in the sea. When all these events occur, it really triggers a series of impacts that go beyond diseases also in the corals, and that greatly affect the reproduction of fish in Tela Bay, which is one of the effects we have had.

Carolina:

Alba, and here we are talking about the effects on the reef region, but you are also talking about effects in the sea, about erosion. I'd like to ask a question, not about the region per se, but about the people, **what is happening with the people who make a living from fishing, for example, what effects are they experiencing?**

Alba:

As is known to many, coral reef ecosystems are important sites in the reproduction cycle of fish as well as mangrove ecosystems, which, when damaged, trigger a series

of impacts that affect the economy of many families who live from fishing and tourism, and in this value chain also affected are restauranteurs and hoteliers, since these ecosystems attract a lot of local, national and international tourism, as well as research tourism.

Carolina:

And now, let's talk a little bit about the involvement of Smart Coasts. **What has changed, how has the project been implemented in Honduras, what has been addressed, what are the achievements to date?**

Alba:

Regarding the implementation of the project, the integration of local actors who told us about their experiences over time and, as a result, shared the climate scenarios, was of great importance for decision-making for us as institutions. With these inputs it is possible to generate strategies to counteract these abrupt changes we have experienced in the local climate. We were able to incorporate all of these scenarios into our planning tools, such as management plans, biannual operational plans, and especially, specific plans for the protected areas of the Tela Bay subsystem, specifically Blanca de Net Caguas National Park, and Punta Izopo National Park.

Specifically for Tela Bay, we identified eight adaptation measures related to the project. Among them are very important, for example, the restoration and protection of watersheds, since everybody today is concerned about water resources, right? The issue of sustainable agriculture and sustainable palm oil, since our protected areas have been the scenario for many small producers who in some ways are not implementing good environmentally friendly practices and are also affecting our wetlands. Therefore, raising their awareness is very important for us, the institutions. It is also in our interest to maintain the coverage through the protection and surveillance of mangroves, to restore those degraded areas. These ecosystems are of great importance for the local population, and another of the adaptation measures was the protection of reefs and the restoration of dunes.

In Tela Bay, we prioritized reef protection in the adaptation measures. It was a very nice experience, since our main objective was to maintain the current habitat coverage in a healthy state, through protection and surveillance and in compliance with current legislation and rules of use. We managed to certify 8 local tour guides, raising their awareness about the importance of how coral reefs provide us with protection against hurricanes. Our interest is always to protect and conserve these main tourist attractions while promoting good sustainable practices, not only in the certified guides, but also in the fishermen and tourist service providers in general, because there are many of them in Tela Bay. We achieved the creation of the Tourism Advisory Council, which is a civil council that is established in the Forestry, Protected

Areas, and Wildlife Law. Another achievement was the strengthening of capacities through the exchange of experiences between Honduras and Guatemala.

Carolina:

And taking advantage of this, I am going to address Pilar again. Pilar, this is a regional project, we already heard from Alba about the experience in Honduras, but I want to know. **What has been the result of its implementation in other countries?**

Pilar:

Let me tell you, Carolina. The idea of this regional project was not only to generate science to increase the capacity of marine protected areas and target communities to adapt to climate change, but also to move from science to action. In Belize, of all the adaptation measures identified, 3 are being implemented:
in Corozal Bay they are working on mangrove protection and restoration, in Ambergis Key and Caye Caulker they are working on coral restoration, and in Plasencia, as well as in Corozal Bay, they are working on mangrove protection and restoration.

Measures in Belize related to mangroves have included: monitoring of mangrove health, training in mangrove restoration techniques, the development of guidelines for infrastructure developers and a series of educational events on the importance of mangroves, among many other actions. Measures focused on corals have included the establishment of nurseries for the growth of coral fragments that will later be transplanted to the colonies, as well as training in both techniques. In Guatemala, the stakeholders decided to bet on mangrove protection, and we are working together hand in hand.

In Honduras, of all the adaptation measures identified, only two are being implemented: forest restoration in Gomoa and protection of coral reefs in the Tela Bay. These two measures have led, in the case of forest restoration, to the establishment of agroforestry nurseries and, very importantly, to the creation of rural funds to ensure the livelihoods of the people who are participating in the water restoration activities. This case is extremely interesting; the rural funds have been of great support to the people. And in the case of the coral conservation measures, a series of local policy interventions have been carried out, such as the creation of the Tourism Advisory Committee for the protected areas of Tela, along with trainings of tour guides, dissemination of good tourism practices to protect the corals, and so on.

We really hope that as a result of the implementation of these measures we can achieve the expected global goal in the short term, which was the one I mentioned at the beginning, Carolina: to maintain and/or increase the coverage of these strategic ecosystems as providers of ecosystem services that help us increase our resilience and help us adapt to climate change in a better way.

Carolina:

So, the project has an important public policy component. **Pilar, why is the institutionalization of coastal resource management policies and frameworks being sought?**

Pilar:

Very good question, Carolina, I love that you are asking about this. Marine-coastal resources, throughout the world and not only in the Mesoamerican Reef system, require special attention due to the strong pressure to which they have been subjected mainly during the last decades. Unfortunately, very little attention has been paid to them compared to other types of resources to which there are other threats and with which we have a more direct connection.

In the Latin American region, mainly in Central America, it is considered that despite the importance of the seas and marine-coastal resources, we have been living and turning our backs to the sea for a long time, which clearly has an effect on the state of health of these resources. In other words, we all like to go to beautiful beaches, but who is taking care of the beaches? So, it is our duty, especially in a scenario of climate change, to focus our efforts on the conservation and sustainable use of these resources and this must permeate public policy and the local, national, and regional management frameworks.

Why should it permeate? Because although there are many efforts for the conservation of these resources, we must ensure their protection and proper use through the policy tools available since these are mandatory and must be followed by authorities and citizens. Once this science permeates public policy and this public policy is materialized through annual operational plans, we then would have money, people and other resources to start officially working to adapt to climate change. That is why it is very important that all this science, all this information and these initiatives permeate into public policy.

Carolina:

Of course. Thank you very much, Pilar. Now, for Alba, **what has been your experience of participating in the Smart Coasts project? What would you highlight from your experience and what message would you give to decision makers in terms of adaptation?**

Alba:

It has been an enriching experience, with a lot of knowledge and creation of environmental awareness both on a personal level and within the working team of the Interinstitutional Committee, and I am especially happy to see how it has impacted the focal group that we identified at the local level. On a personal level, I took on this project and the adaptation measure with great dedication, as a representative of ICF and as coordinator of the Interinstitutional Environmental Committee, and thanks to the support and dedication, as well as the commitment of CIAT and this working team from the local ICF office, we were able to work in a participatory manner.

In this process we were able to integrate other voluntary actors with positive influence in the protected areas of the Tela subsystem. Whenever I have the opportunity, I always say that this project got to where it was supposed to go, creating awareness among fishermen and tourism service providers, who were our target group. We are confident that we are going to achieve the quality associativity that is required in these actors. And well, my advice is not to abandon these initiatives and to knock on the doors that should be knocked on to achieve the proper follow-up and the best results to maintain these ecosystems in optimal conditions.

Carolina:

That's how it is. Pilar, **what has been the most rewarding part of this project?**

Pilar:

There have been some extremely gratifying things for me. As a scientist, seeing all this modeling and the maps and so on, has been extremely gratifying, but what I have liked the most has been to see how from the science of this modeling, from being behind the computers and so on, we have moved on to the implementation of climate change adaptation measures in the field. In other words, we are already seeing it in reality.

What do these measures look like in the field? For us it has been very satisfying to see how almost 3 years of modeling climate scenarios and modeling ecosystem services resulted in a portfolio of adaptation measures per country, which at the end of the day, although we cannot or could not implement them all within the project, some of them, such as the ones I told you about, are being implemented locally in the target communities.

Unfortunately, Carolina, many projects do not manage to take that step of turning science into action in the field, but fortunately, the Smart Coasts project is doing it with some measures, hand in hand with its local partners and the beneficiary communities. We know that there is still a long way to go to implement all the adaptation measures in the field, but we have already taken that step with some of

these measures, so, as I was saying, we already know what it looks like in the field, don't we? All this will surely feed the future implementation of those measures that we were not able to address within the framework of the project.

Carolina:

And talking of heading towards those goals, Pilar and Alba, we are reaching the end of this episode on our podcast called *The Countdown to 2050*, alluding to the commitment and global sustainability goals at this date and presenting the efforts of IKI projects on this path. As a last question for you: **What is your vision for 2050 - how does your project contribute and what is still missing to achieve these goals?**

Pilar:

Well, the vision for 2050 of both WWF and the Smart Coasts project focus on continuing to contribute to building a harmonious relationship between humans and nature. This is our vision. We really hope that the measures identified by the project can be implemented in the short and medium term, in support of the communities and people who need to adapt to climate change. Of course, its implementation needs coordinated work; which is very important; political will, and also important is the budget, so that we can continue working in a coordinated manner, as we have done to date. That is what is missing, Carolina. But the truth is, we hope that in 2050 we will all be able to say: “We did it, people!”

Alba:

In the ideal world and by raising awareness in people, my vision would be that climate data would be maintained or decreased with timely implementation of good practices. We don't really want to get to that point of no return that is predicted. With the implementation and execution of the other adaptation measures, perhaps we would contribute significantly at the local level with the implementation of those measures. Our commitment as the Interinstitutional Committee for the Environment, ICF, and in coordination with the Center for Marine Studies, is to continue to influence this change in people's attitudes and to maintain the pleasant environment that we all desire. Thanks to the Center for Marine Studies, thanks to WWF and thanks to Smart Coasts.

Carolina:

Alba, Pilar, I would like to congratulate you on your commitment to strengthening coastal community capacity to adapt to climate change.

We invite you to follow Smart Coasts at https://www.wwfca.org/costaslistas/.

In our next episode we will discuss the Green Watersheds project, which seeks to promote the implementation of Ecosystem-based Adaptation measures and innovative Governance Mechanisms through an integrated model of conservation and resilience to climate change.

To learn more about the IKI portfolio in Central America and the Caribbean, follow us on Twitter under IKI_CAC or at www.iki-cac.org.

This was *The Countdown to 2050*. We look forward to seeing you in the next episode!