

WORLD ENVIRONMENT DAY SYMPOSIUM ORGANISED BY THE GREEN INSTITUTE

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ENVIRONMENT SESSION

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INTRODUCTION

Ms Dinah Awino: Morning, good afternoon and good evening, wherever you are joining us from, and this world environment day, happy world environment day, wherever you are, and welcome back to session to where we have amazing expert. I'd like to introduce them just very quickly, so we have Doctor Emma Camp. We have Dr. Susan Gardner, Miss Sian Sutherland and Dr. Rolph Payet I just a quick bio about Dr. Emma camp. She's a marine biologist a team leader of the future risk Teem of the UTS and National Geographic Explorer and associate Lord low-rate sorry. Australian women's hands very well and was recently named the winner of macrina University recognized for their outstanding early career researchers. And we have the second speaker, who is also Sian Sutherland. She is the co-founder of a plastic planet, very recognized and respected organization, and we will meet her also and know much about in her presentation, also have real Rolph Payet and he is an international policy expert researcher, speaker on environment, climate and Island issues. And we have a very big viral including being a minister of environment and energy cabinet of seashells from 2012 to 2014, currently the United Nations, executive secretary for the brazil Rotterdam Stockholm convention, he has won numerous International Awards and is recognized for his work on islands and climate change. And lastly, we have Dr. Susan Gardener, who is the director of the ecosystems division of the UN environmental program. She leads programs promoting nature based Solutions including food system transformation, climate resilience and Global biodiversity protection. She's had three decades experience in international environmental policy and has worked with the Mexican and the United States government. She is very rich including walking with women and girls in science. And she has also gotten an award like the gold medal for exceptional services from the US Environmental Protection Agency, and the highest one of national honor that the agency gave her also, she has a research background with over 30 Publications, including a book. So, I really welcome you today to this session, please enjoy. You can say hi in the chat and I look forward to engaging all of you. So I'm going to introduce the first Speaker, who is Dr. Emma Camp and she is going to be presenting today. I hope you're looking forward to her presentation her title is **Stakeholder Site Stewardship to Conserve Coral Reefs** I'd like to share her scream in a minute.

Ms Dinah Awino: Okay, here it comes. I hope you can see the screen.

Ms Dinah Awino: Welcome.

Dr. Emma Camp: Hi is your end slide now showing?

Ms Dinah Awino: yes, the screen is showing right here, let's confirm if you can see it on your end.

Dr. Emma Camp: I'm sorry. Yes, it is showing sorry,

Ms Dinah Awino: great.

STAKEHOLDER SITE STEWARDSHIP TO CONSERVE CORAL REEFS

Dr. Emma Camp: thank you for having me today on World environment day. It's a pleasure to talk about coral reefs in particular, its World ocean day on the Apes that is coming up very soon and I'm head of a research team

here in the University of Technology Sydney. We're really focused on how local site stewardship is crucial. To conserve our coral reefs, before I go much further, I do I want to acknowledge and pay my deepest respects to the traditional, custodians of the land, and sea countries, where I'm privileged to work from Sydney, through to the cans of Port, Douglas region, and I recognize that continue to connection to land and pay my respects to the elders, past present and emerging. And just to say that I'm lucky enough to work with a whole range of stakeholders. That some of the work I'm going to show you involves. So why coral reefs? Well, when we think about the environment, when we think about and it Change that we're experiencing coral reefs are kind of like the canary in the coal there in an early warning signal for us to see the something's going on in the in the world and they really show us and through history, through their skeletal records, we can actually see how the environment has changed. And it really amplifies the rate of change that we're experiencing now with climate change. So, before I got to talk a bit about and the sustainability that we look to do through College Community restoration is good to understand what a reef is. So, a coral reef is this amazing diverse system? If you think about the Great Barrier Reef is visible from space, is the size of Italy, the country but actually is made up of individual colonies that are closely related to and jellyfish. And if we zoom in on these individual politics, we see that there's actually this microscopic algae that live inside the car and give the coroner's energy so you can think of the coroner's and Factory and the Audi is the solar panels given the factory it's energy and then there are bacteria and viruses that I like the workers have been the factory moving resources around and these system are really, really complex but provide essential services around the world so they provide and resource provision cultural value regulatory Authority Services, support services. But coral reefs are under threat globally, primarily from physical damage changes, in water quality and climate change, climate change in particular, ocean warming, Ocean acidification, ocean deoxygenation these trios stressess and leading us to a situation where reefs at least as we know them may cease to exist. The latest UN report suggested that if we hit one point five degrees of warming, 70 to 90% of the world's coral, reefs will be lost. Here in Australia where I am, we've had several Coral bleaching events. This is where the algae leaves, the coral, due to stress, in the coral, can't stay like that. Very long. We've had the stress event in 2016, 2017, 2020 again in 2022. And what this means is that we're seeing just a massive loss of coral cover. So what can we do? We want to try and stop that decline, or ideally reverse the trend. And so, we've worked with local stakeholders to establish something called Coral, nurture program, and is recognized as one of the United Nations ecosystem of restoration axis. And we basically partner Research and local stakeholders to try to optimize how we restore coral, reefs. Today we've out partied over 85,000, corals on the Great Barrier Reef the Nashville, using local, stakeholder knowledge and resources and combining that with scientific research. We basically transform the scale at which we can outclass by developing new ways and new tools to our plant corals diversifying, how we access calls to our Platinum. So using naturally fragment and corals but also growing them in Coral, nurseries and then happy. Topsy. How can we transform this into practices that are operated on the reef? So for us, we work return, operators and traditional owners who have boats, who go out to the reef to bring down the cost of restoration. And finally, and really important is the question is, how can we Scout activities and that's white cooperating and working as a network? And we've seen that site stewardship in this manner, empowering local communities, to look after their region, providing new means to do that is helping to provide Not only ecologically resilience but also socio economic and ecological resilience in the face of climate change. We look at a variety of research is research questions to try and facilitate the practices and these include things like optimizing how you grow corals. So the top picture show corals one year ago in the bottom corner was a year. Latest you can see particularly and for the place in corals and left hand side how quickly they grow and there's just some more examples of them when they Coral gets put out on the reef. We find that actually the corals when they're in the nurseries creating novel, Vicious Circle. I have a tattoo fish communities. So, again, this is a way that we can try and support the reef, and support the life that relies on the reef while they're going through this environmental change and importantly, we use novel science to try and find out which corals are got the best chance of surviving the future. So we can propagate those. They have the best chance of surviving future environmental change. As I mentioned the community and collectively for Carnage program is our plan today, the 85,000 corals and diverse types and nearly 1,500 hours of diving time, reviewing the community. So before I take some questions, I think I just wanted to end on this quote. A lot of people say to me, they often feel helpless, or they feel that they can't do anything. Can we felt like that before we set up Carnage program? And its really been transformative to work with the local communities, to try and feel With resilience on the reef. And so this quote, by Sylvia Rel asks,

many of us ask, what can I as one person do? But everything in history, good or bad starts because somebody does or doesn't do something. So I think it's a great reminder that our everyday actions and what we choose to do or not do and can collectively make a difference. So thank you and happy world environment day and I'd love to take some questions.

Ms Dinah Awino: Thank you so much that is a very nice presentation. I just have a few questions for you as a resource for the audience to just ask. So what are some of the effective adaptation strategies that can be adopted to address the challenges of all ocean acidification? As you've mentioned in your presentation and coral bleaching. So maybe you could answer that very quickly, maybe the minute.

Dr. Emma Camp: Yes, yes so the biggest threat that that's causing, that is climate change there. Anything that we can do to reduce the impacts of climate change, driving our car less is an example can help, but that alone is not going to be enough. And so a scientist we now are looking for a tool box, basically of approaches that we can apply. So this is looking at things like we can actually manipulate the types of algae or the types of bacteria within the coral to try and select the ones that have got greater chance to survive through warming or acidification. We're trying to map ocean currents and map locations to find the natural Refugees that have got the best chance of surviving. So there's a whole variety of things from kind of using nature, but nature see-through, so things like genetic engineering to try to enhance that resilient so it's really going to be all tools in our toolbox to try and buy time for coral reefs.

Ms Dinah Awino: Thank you so much. Just go straight to the second one. So how can the marine protected areas and oceans joining help address, the biodiversity crisis and yet as you've mentioned climate change yet?

Emma Camp: Yeah, great question. We know through Decades of kind of research now that any kind of conservation, areas Marine, protected areas are really important to minimize stresses on that part of the race, even though the big threats of climate change. We know that local stresses such as unsustainable fishing practices or poor tourism can make that work. So anyway, that we can minimize the stresses that we can control. We know that, that can increase fish stocks. It can create increase biodiversity, and obviously, we're in a biodiversity crisis at the moment. So anything that can help sustain, that is great. The big challenge is to enforce them. So we so they don't end up just being a paper and part where we know they exist. But without the necessary Enforcement issue is really hard to actually see those benefits.

Ms Dinah Awino: Thank you so much. Last thing I just asked, how can we incorporate SDGs and marine conservation and thank you?

Emma Camp: Yeah, great, you know, great for me, obviously go 14 Life Below water is the obvious one. But I actually think, for me, it's goal 17, it's about Partnerships. And it's the challenges that we face, not only an ocean, but, you know, in the environment as a whole and not going to be solved by one individual, one scientist, one organization, and it really takes that collective action that Collective knowledge to for us all to come together. So for me, utilizing Partnerships for the goals thinking outside of the box, looking for new ways to do things, is how we're going to solve the problems that we're facing.

Ms Dinah Awino: Thank you so much. There's a last question from Bridget, what Innovative opportunities or technologies have you come across that can help cities, mitigate water, scarcity, improve water quality and ensure long-term water sustainability.

Dr. Emma Camp: So a little bit out of my direct research area but I am aware of a few kind of activities particularly around plastic pollution. We've seen a few examples of those here in Sydney where people are using an Innovative Nets and barriers that have been created around drainage and that's been to try and stop any plastic or any things that should end up in the water, being so connected at that waterway not ending up, then into people's drinking Waters or eventually in the ocean. And again not my direct focus but that's something I know can help.

Ms Dinah Awino: Welcome back. Hello. I'm back. So you can survive. Thank you for responding to the question. Like this, no other question in the comment. Yes, sir, thank you so much.

Dr. Emma Camp: appreciate you for having me. Thank you.

Ms Dinah Awino: So our next speaker is none. Other than **Ms. Sian Sutherland** her presentation is very interesting. I'll just let her get to it immediately. Thank you and welcome Sian see, and I see you're on the screen. Very happy today have the environment day. Happy to be with you all. I'm just going to quickly share my screen and check that this works. I think it's real good.

Excellent so let me just get started because I've got as you can tell I can't see you but you can see me can you?