OCEANS OF THE FUTURE

1.2 UNITED NATIONS SUSTAINABLE DEVELOPMENT GOALS

VIDEO DURATION– 07:21

The Sustainable Development Goals were adopted by all member states of the United Nations, in September 2015. They encapsulate a new understanding about what holistic development means; balancing economy, society and the environment.

This lecture was written by Dr David Obura, a Founding Director of Coastal Oceans Research and Development – Indian Ocean, East Africa.

It offers an introduction to the United Nations Sustainable Development Goals, the SDGs, and explains their relevance and importance in relation to food security and marine ecosystem health in the Western Indian Ocean. Developed through intense negotiations over 2-3 years, the 17 goals make the aspirations of the United Nation's Agenda 2030 more concrete.

The SDGs may seem esoteric on first sight, but really they express quite a straightforward narrative, or vision, of a fair, just and inclusive world that provides for all people into the future.

- Here is **David Obura** to tell us more about the importance of SDGs:

  "We need the UN sustainable development goals because the economic practices we have been using for the last 50 years and longer have led to the situation today which is where resource use and how we treat the natural environment is causing a lot of degradation and decline in natural systems. The economic practices have had little regard for environmental sustainability and also for social welfare and equality, and so the goals are intended to readdress this imbalance."

We can consider SDGs this way:

> We want to **Eliminate Poverty** [1] and **Hunger** [2], in a **Just, Equitable** [10] and **Peaceful** [16] world across **Genders** [5] and countries, with **Education** [4], access to **Clean Water** [6] and **Medical Services** [3] for all, ensuring that our **Means of Production** [9,12] doesn't damage **Nature on Land** [15] [11] or **In the Sea** [14], through Fair and Just Employment [8], minimizing **Climate Change** [7,13] and through the complex and **Multi-Scaled Partnerships** [17] it will take to deliver all this.

So, you can see that the SDGs are relevant to all, from the level of countries in the United Nations, to businesses in a national, or in our case coastal economy, and to households and families living off the land, sea, or in cities.

Here is **David Obura** to tell us more about the importance of the SDGs for the Western Indian Ocean:

> "What is special about the SDGs in the Western Indian Ocean is that this is the region with a very high levels of poverty in the coastal zone and coastal communities so that the dependence on the ecosystem services and dependence on the natural environment is very high. The SDGs here will be very helpful in ensuring that the rights and access for the local communities to sea food and ocean resources are maintained and the development, which is desperately needed in the region, is done in a way that doesn't cause environmental decline and also doesn't take rights away from people."

But there is a catch, as it's not a simple matter to achieve all of the goals simultaneously, and if we try and focus on just one or a few, others may be negatively affected.

David Obura explaining the importance of the trade-offs between SDGs

> "We have to consider trade-offs between the SDGs because this is the reason they were there. If you try and maximize just one goal, for example food production, this is what humanity was doing for centuries; these leads to agricultural and fishing practices which are damaging to the environment. And so the trade-offs between producing food and maintaining a healthy environment are the sorts of things we need SDGs there to help us balance."

This highlights a fundamental issue for the SDGs – that there are often trade-offs between the goals. The SDGs are said to be "whole and indivisible", meaning that they must be addressed in concert. One cannot focus just on one goal to the exclusion of the others.

Let's have a closer look at SDG14 – life below water. The world's oceans – their temperature, chemistry, currents and life – drive global systems that make the Earth habitable for humankind.

David Obura explaining the importance of SDG14:

"The importance of SDG14 is that for the first time the united nations, the global governance system of the planet has had a focus on the oceans, so the goal is really

dedicated to what is happening in the oceans is sustainable and that the ocean resources are not overused and damaged."

Of course, understanding all the complex interactions between the SDGs needs accurate information and data. For the marine environment, ensuring a balance between fishing and ocean health requires information from many sources on many factors. So how does the ocean science community attempt to meet this need for the right data?

We are much more advanced in doing this now than 10-20 years ago, and of course the next decades will see innovations that we can barely even imagine at the moment. But a core of this effort is asking the right questions, identifying the best data to answer them, and then developing the tools to supply that data.

There is broad agreement consolidating around the identification of key variables, or "Essential Ocean Variables" – measures of specific aspects of the ocean, such as temperature, or plankton biomass, or live coral cover – that are both essential to know, and must be measured in standard ways so that data from multiple sources around the world can be aggregated.

David Obura explaining why Essential Ocean Variables are so important:

"Essential ocean variables are important because we need data sets covering large areas to support regional ocean governance and global governance as well. And the key thing is that the variables need to be measured in the same way across all the different programs and scientific institutions collecting data.

So, the essential ocean variables, for example in the Western Indian Ocean, a key one that we are already measuring is live coral cover on coral reefs. That's been measured in the same way for 20 years and reported globally, and for over 40 years with some scientific programs. So, these variables have really helped us to understand and report on the state of our system and respond to changes – to identify when the changes are happening and to address any negative changes."

But we also need other data for specific user-defined needs, and often at local or regional scales rather than global.

For example …

How much fish are in a stock and what is their reproduction and growth?

Or …

What is the health of coral reefs, sea grasses and mangroves that provide benefits far wider than just food – including for tourism, carbon sequestration and coastal erosion? And how much income and how many jobs are they supporting?

Or …

What is the risk of an upcoming ocean heat wave, or harmful algal bloom? Can we provide an early warning system to put in place responses to limit their impact?

As you go through this course you will see a range of challenges, data services and products, both operational and under development, where ocean scientists are working with stakeholders and governments to identify what the key question or need is in a particular place, and how ocean data services and products can be developed to meet these needs and get us closer to achieving the UN Sustainable Development Goals.