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Jake Rice - Tuesday AM Panel: Target 6

Delegates, participants and friends. In the slide you can see on the screen I have reorganized the language in Target 6 to highlight that one target tries to capture all the ways that fisheries interacts with biodiversity: by changing the abundance of species at which the fishery directs, as well as species that fisheries may have taken incidentally as bycatch; by potentially altering the seafloor; and even having second order impacts on communities (as reflected in the recurrent reference to keeping ecosystems within safe limits).

In a perfect world, there would be OUTCOME indicators to track all these subcomponents of target 6. However, thinking even for a moment about the scale of our oceans (70% of the earth's surface) and the inclusive scope of ALL species taken by fisheries, intended or not, healthy or depleted, as well as the seafloors that constitute their habitats, that goal is unrealistic. Where data series do exist, we certainly try to achieve their maximum use. Unfortunately even the most capacity – rich countries and regions can support regular quantitative assessments of status and trends of only the more important of their harvested stocks. With effort, multispecies surveys and monitoring of commercial catches can provide trend data on more species. However, such data have all sorts of statistical problems (clustering, inter-annual noise, etc), so these types of surveys are only capable of detecting trends on multi-decadal scales. Some robustness can be gained by including aggregate indicators of the state of exploited communities, with size-based measures like the proportion of fish in a survey above a key size. Sustainably harvested communities have such indicators stable or increasing. However such indicators still assume long series of comprehensive survey and catch data; not a valid assumption for much of the world. To track progress towards target 6, we need alternatives to augment those based on survey and fishery monitoring data.

Countries at all scales of economic development have learned the value of including the knowledge of those living in coastal communities and fishers in understanding the trends in the marine and coastal ecosystems on which their livelihoods depend. Efforts should be enhanced to ensure that knowledge can be

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captured in national reporting processes, but other types of indicators need to be explored as well.

Two types have promise.

One type is pressure indicators; is the intensity of fishing on a community being reduced or is it increasing? Is the area of a region actually contacted by trawls and other bottom-contacting fishing gears increasing or decreasing? Current technologies make such indicators feasible for much more of the world than survey based indicators. Declining pressures do not guarantee improving marine biodiversity, but generally it will be a valuable contributor.

The other type are indicators of the presence of policies and management measures to protect biodiversity that have been adopted and implemented at national and regional levels. These types of indicators are explicit in the Target 6 language on depleted species, acknowledging that measures of actual recovery may require decades, depending on the life history of the species. But again, if the right policies are in place and corresponding measures have been implemented, Parties are at least moving in the right direction.

The ocean is vast, and hides from view tremendous biodiversity. It also contributes greatly to food security and human well-being. Great good can be done with realistic plans for how to monitor and report on progress towards Target 6.

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Target 6 decomposition

...all fish and invertebrate stocks ... :

Target Species: are managed and harvested sustainably, legally and applying ecosystem based approaches; so that overfishing is avoided; the impacts of fisheries on stocks, ... are within safe ecological limits.

Bycatch species: fisheries have no significant adverse impacts on threatened species ...; the impacts of fisheries on ... species ... are within safe ecological limits.

Habitats: fisheries have no significant adverse impacts on... vulnerable ecosystems; the impacts of fisheries on ... ecosystems are within safe ecological limits.

Protected or Depleted Species: recovery plans and measures are in place for all depleted species; fisheries have no significant adverse impacts on ... vulnerable ecosystems .