Guest Speech

Developing fisheries and aquaculture in Indonesia on Global Climate Change Issues

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In Indonesia assessment of climate variability have already started. Attention from some institutions in this field is commendable. We needed a precise direction and enabled the acceleration to provide greater benefits. Right now there are many organization in charge of data and information on weather, climate, oceanography, and fish resources but it has not synergized well. There are several studies of climate change in Indonesia showed that the susceptibility (sensitivity) Indonesia's fishery resources of the ENSO (El Nino and Southern Oscillation) varies according to the existing production system. (Ghofar in 1995 and 2001, Ghofar and Mathews, 1996, Ghofar et al, 2000 as well as Mathews et al, 2001)

Lumuru fishery in the Bali Strait sensitive to ENSO with the abundant production in El Nino years and the slump in the years of anti-El Nino. As well known that Bali Strait ecosystem has supported by the frontal system, upwelling, and the effect of cross currents Indonesia (Indonesian Throughflow) and Pacific waters. The opposite effect occurs in the black tiger shrimp aquaculture in South Sulawesi, where production decreased in the years of El Nino and increased during the years of anti-El Nino. There is no general conclusion that the El Nino positive effect on fisheries and the negative impact on other fisheries or aquaculture in Indonesia. In connection with this, we need a shared understanding that there are not single institution strategies that can be useful for the management of fish resources, coastal, and Indonesia ocean that very diverse.

In the case of fish resources, four strategies can be applied. First, identifying the capture fisheries and aquaculture that vulnerable to changes or environmental variability. Second, the study of fish production systems has to begin from the climatological, oceanographic, biological until the effect on fish production. Third, constructing a dynamic model of production for each production system based on inputs obtained through the first and second strategies. Fourth, resource management plan for each production system that based on the model obtained.

It becomes evident that resource management is needed instead of numbers of potential resources, but it also need more dynamic production models that using environmental factors as a key. Therefore, only in this way can be possible for a reasonable anticipation to minimize (mitigation) ENSO impacts on coastal and ocean resources. Maintenance and improvement of the carrying capacity and environmental quality including freshwater, coastal, small islands and ocean is a general policy. For that, we need the system to anticipate global climate change and climate variability. The approach should use the integrated solution, which the dissemination of technology and mitigation in coastal communities can be done directly benefit coastal communities.