SHORT TRAINING INITIATIVE 2016

TRAINING ON SCIENTIFIC CRUISE PLANNING, OCEANOGRAPHIC SAMPLING, FISHERIES AND DATA MANAGEMENT

18 – 27 APRIL, 2016 AT KMFRI, DOLPHIN HALL, MOMBASA, KENYA

Group discussion for opportunities and challenges in fisheries research – REPORT

Present: trainers, participants, coordinators and guest speakers (see website)

Harrison Ong'anda (Kenya) opened the discussion asking what the way forward for managing fisheries data could be.

Cosmas Munga (Kenya) mentioned that data management onboard RV Fridtjov Nansen is opportune, inbuilt, designed for the ship. They have the NANSIS database installed. He enquired if RV Mtafiti could be fitted with a similar system. The system is user-friendly and you can generate a lot of underway data. In addition, such a system could ease the level of work on land, as data processing could already be done on the ship and arrive on land with the cruise report ready.

Question: What policies are available for the resources in your countries?

Harrison Ong'anda (Kenya) said that Seychelles as well as Comoros are prominent fishing countries and asked the participants from those countries if there are any fisheries management plans on-going and if there are opportunities for fisheries research in those countries?

Calvin Gerry (Seychelles) informed the group that there is a big fisheries management plan being developed. No demersal trawling is allowed in Seychelles so research for using other techniques (dropline and longlines) is ongoing. He also mentioned that knowledge can be shared for the purpose of regional research. Regarding tuna fisheries, Seychelles assisted in the tagging and they have a good logging system (log books, Vessel monitoring system for locating vessels) for that purpose. For sea cucumber, a more domestic approach is used and field research is done by diving. For research on lobsters, snorkeling is used. Traps have also been used but not deeper than 100m.

Rahamata Boina (Comoros) explained that she is new in the domain and would take all the information gathered from the workshop home. For Comoros, it would be good to develop an atlas with the abundance and biomass of all species and to explore if a workshop like this can result in a research program. Concerning research in Comoros we can develop a lot of things such as pollution. But the main problem for Comoros is money. Rahamata also said that although Kenya has a research vessel, it appears there is no money for regional research so it is not clear at this point how collaboration can be made.

Gladys Okemwa (Kenya) explained that each country has own priorities and needs but the way forward is to build further on South West Indian Ocean Fisheries Project (SWIOFP). There were still gaps and challenges in SWIOFP so a regional meeting should be needed and a gap analysis should be conducted to see what species are common and can be studied together as a way forward for regional fisheries research.

"Tuna does not know country boarders and a regional approach to this assessment is a great way forward"

Andre Cattrijsse (Belgium) mentioned that in order to asses fish stock of for example tuna all countries at the East African Coast should put their data together because tuna does not know country boarders and a regional approach to this assessment is a great way forward. The Second International

Indian Ocean Expedition (IIOE2, 2015-2020) could represent as a platform to facilitate this regional meeting.

Sabyasachi Sautya (India) informed the group that India has a very big coastline (8000 km) with different regions with varieties of habitats and ecosystems and bottom trawling has been adapted to the different regions. Bottom trawling is a devastating method for the benthic habitats and their biological communities which plays important role on ecosystem process. Research in this is on-going and they are looking for regulations on bottom trawling. The techniques Andre used could also be used for India. India is trying to move towards deep water line fishing.

Harrison Ong'anda (Kenya) mentioned that in Kenya illegal, unregulated unreported fishing is a problem because the fisheries data are unreliable. This was evident during the SWIOPF project where data flow was problematic. There was no personnel and limited IT equipment. There is more fishing going on in our waters than we know of.

Rui Mutombene (Mozambique) said that an extensive assessment for our resources was needed and results suggest that main coastal resources are overexploited and others are suboptimaly exploited and production is decreasing. There is not a lot of space to increase production but we see from some fisheries data a lot of investment is requested. Those resources that need a lot of investment such as tuna and other deep water resources, we don't have them. We have space in terms of evaluating and maybe finding fishing potential to increase the production. For example resources from the slopes in northern Mozambique we try to do a dropline survey for the first time fora short period and the slopes might have some potential but we need more research to come up with the results to stimulate investments. However, in other sites slopes are narrow and sensitive and we have very limited resources there. Deep water resources are less exploited ad trawling can be done. So we can't assume there is a potential without previous research in fishing capacity. Other resources can be exploited by trawling or maybe by using pods. And it seems that RV Mtafiti has the capacity to use this kind of gears.

BensonKirathe (Kenya) would like to say something about the challenges affecting the management of marine resources in our areas. I am involved in fisheries management and collaborations in fisheries research. The biggest challenge is the flow of data and results to flow to the managers of the resources. The managers do not feel involved in the process of management. Sientific data needs to be properly disseminated to managers. For me, for Kenyan surveys to be successful is that exploitation is sustainable and that any results achieved onboard are integrated. Also fisheries management should be incorporated into the preparation, execution and implementation of the work so they can implement the result. It is necessary to involve managers from the beginning of the survey process and not only for the result.

Agnes Muthumbi (Kenya) commented about fisheries, but not as fisheries expert. She understood heard in the beginning KMFRI was looking at offshore fisheries which are important but we should also look at the inshore fisheries, the nursery fishing grounds because that is where the recruitment comes from. Regarding capacity development we should use RV Mtafiti. With KMFRI we have been talking about how we can have an integrative program working together with KMFRI, UoN and TUM building capacity for Kenya not for UoN or TUM but for Kenya, by sending students onboard the ship. However there are no funds for this. Hopefully, by collaborating with KMFRI we can find this fund.

"It is time we start studying all the systems to see what the link is with the productivity"

Cosmas Munga (Kenya): on fisheries research, there is a plan to start research with RV Fridtjov Nansen. Each country could give contributions. For Kenya, it that was me, Mr. Mika Odido, dr. Renison Ruwa and xxx(?).We were given the opportunity to give some scientific directions to the plan and once it comes out we will be able to see how we can utilize it. What we did for Kenya in that document was try to comment on the rivers' contribution to productivity. If we get an opportunity with RV Mtafiti we can borrow the ideas from RV Fridtjov Nansen if we don't get the opportunity to use RV Fridtjov Nansen to

study this. All the strong currents have influence on production. It is time we start studying all the systems to see what the link is with the productivity.

Amon Kimeli (Kenya) shortly mentioned that for Kenya in terms of capacity building for universities, courses on hydrography, ocean mapping are needed as there are not many specialized in these topics. It is technology driven and often uses very new techniques. We would like to get institutions like KMFRI to give courses on this and call on the expertise of others. He also informed the participants that three seamounts had been discovered in the Kenyan coast and needed to be named.

Harrison Ong'anda (Kenya) informed everybody that there were a lot of offers from the region in terms of vessels and gears that were discussed during the IIOE2 meeting held in India in 2015. From India equipment can be borrowed. In addition, NIO provides internships in their labs. Also South Africa would like to make an arrangement to lend gear to RV Mtafiti for joint use.

Rahamata Boina (Comoros) said it was good to have data on species, pollution and invasive species which can be assessed by using RV Mtafiti. Comoros does not have ships and the opportunistic ones are not cheap but samples can be shared. She suggested that an Atlas can be made of areas sampled.

Johnstone Omuhoya (Kenya)said something about small scale fisheries. For the time I've been working on coastal fisheries, getting information is difficult and makes it difficult to model this. Data on ecosystems in not fully understood. We get estimates of biomass but not of who consumes who and so at the end of each expedition we can never conclude as many other factors play. We need to be able to tell the managers how much kinds of this fish do we have. The managers tell us we need to work together as teams, so if people working on seagrass can give a measure on seagrass biomass I can calculate how much can be used for fisheries exploitation and how much need to be managed for conservation etc. using the ECOSIM/ECOPATH models. The problem is that local information is often dying on somebodies PC. KMFRI can now give stock assessment data.

Agnes Muthumbi (Kenya) agreed we need to look at the whole system. We need to look at more than just fisheries.

Sabyasachi Sautya (India) agreed. Fisheries is a very well-accepted benefit for human well-being but there are a lot of other factors such as primary production as well as several physical, chemical and geological phenomena are also linked to the entire system which are very important for understanding of fisheries production. We also have physical, chemical, geological oceanography divisions that deal with their specialized oceanographic analysis. Are there any opportunities for collaboration? We should conduct comparative studies between North Eastern Indian Ocean and Western Indian Ocean.

Harrison Ong'anda (Kenya) said they have received offers for internships at NIO in India and they appreciate that Sabyasachi Sautya (India) repeats this invitation for collaboration. I believe you are very well-equipped with a research vessel.

Harrison ends the discussion.

Nina Wambiji opens the reception offered by KMFRI.

Other relevant comments made during the Cruise Debriefing on 25 April 2016

Rahamata Boina (Comoros)

- Comoros can send students
- During the IIEO2 expedition questions can be asked e.g. climate change, environment and the experts in the cruises can answer them.
- Identify who, where we have equipment

Sabyasachi Sautya (India)

- Samples can be shared after collaboration
- Experts can travel around
- IIOE-2 can follow transects suggested by the RV trained participants
- Joint proposal may be written for all WIO and India
- He will provide information on the cruise plans of the Indian vessels for RV participants to join (Ship time)
- In retrospect, participants should also find out when RV Mtafiti will be out on cruises
- Set up a linked in/Facebook group
- Will provide the IIOE-1 reports or participants can visit the NIO website

Rui Mutombene (Mozambique)

- Mozambique conducts annual sampling and can collaborate with participants

Andre Cattrijsse (VLIZ)

- All countries can collect data on the same day and collate this data together(see Ocean Sampling Day)
- VLIZ can help map the capacity

Amon Kimeli (Kenya)

- Bathymetry works need to be included in the vessel plans
- Technical University of Mombasa is starting a marine science program thus a proposal should be written between TUM, KMFRI and RV Mtafiti to see how this vessel can be used

Cosmas Munga (Kenya)

- Link RV Mtafiti to Dr Fritdjof Nansen to work together. The new NANSEN vessel will be operational from June 2016.