Contribution of the R/V *Dr Fridtjof Nansen* to research capacity development, management, and conservation of marine resources and ecosystems in the Western Indian Ocean region: Call for expression of interest as co-authors

GENERAL INFORMATION

Since 1975, the Government of Norway through the Norwegian Agency for Development Cooperation (Norad) has been funding the Nansen programme (and recently the EAF-Nansen Project) which has been carrying out fisheries resources surveys in developing countries, including the Western Indian Ocean (WIO) region using the research vessel *Dr Fridtjof Nansen*. The R/V *Dr Fridtjof Nansen* undertook its first cruise in the WIO in 1975 and since then over 30 cruises have been carried out in the region. Because of the temporal and spatial coverage of the surveys, the vessel has provided a unique opportunity to assess changes in ecosystems and fisheries resource groups over time. Each survey has resulted in a detailed report, and a number of scientific publications based on the Nansen data have also been produced. However there is no publication that has reviewed this information in totality, to summarize the body of information collected, and shed light on broad patterns in marine systems and resource potential. An assessment of how the data and information from the R/V *Dr Fridtjof Nansen* surveys have been used by the countries in the region is also lacking. For these reasons there is strong justification for a dedicated publication that will make this information widely available for the benefit of the region.

Capacity building has been at the core of the Nansen Programme. Capacity building activities have been conducted for regional scientists and students both on-board the research vessel during the cruises and prior to or after cruises. Regional scientists have been trained in different aspects of the planning and execution of cruises and the use of the data. The process of producing this publication offers yet another opportunity for participating regional scientists and students to strengthen their capacity in the fields of data analysis and scientific writing.

Production of a publication based on the R/V *Dr Fridtjof Nansen* data will be of benefit to the countries of the region as well as contributing to the capacity development objectives of both Norad and FAO. The publication has a potential to contribute to the improved management and conservation of marine resources and ecosystems if the existing data is adequately summarized and the publication and associated products are strategically disseminated to reach key stakeholders. The review of historical data also has the potential to identify policy and management recommendations for the individual countries and the South West Indian Ocean Fisheries Commission (SWIOFC) and translation of this knowledge for managers and policy makers.

Lastly, because of the comprehensiveness of the process to produce such a publication, there is a strong likelihood that new research gaps will be identified, which will stimulate, or

contribute to, the development of regional fisheries management initiatives, or new research projects.

The main objective of the proposed project is to summarize and interpret results presented in the reports from the R/V *Dr Fridtjof Nansen* cruises conducted in the Southwest Indian Ocean from 1975 to present, perform limited analyses of the data where necessary, and publish and disseminate the results. More specifically, the project intends to examine the following at a regional scale:

i) Cross shelf and bathymetric productivity measurements, and trends;
ii) Composition and diversity differences/similarities and continuity of shelf fish assemblages on a north-south axis along the eastern coast of Africa, and in relation to depth;
iii) Trends in the abundance and distribution of main fisheries groups;
iv) How the data and information from the R/V *Dr Fridtjof Nansen* have been used by WIO countries. This includes individual countries and regional fisheries bodies.

Expressions of Interest are sought from experts, who would be able to contribute to a chapter (as lead or co-author) in the five core disciplines shown below:

Chapter	**Aspects to be covered**
Hydrographic and meteorological sampling	Physical oceanography measurements, ocean currents, hydrography measurements (CTD), water column profiles, sediment grab samples, multibeam echosounder for bottom mapping
Productivity	Primary productivity, nutrients, chlorophyll, phytoplankton and zooplankton profiles and gradients
Pelagic fish resources	Acoustic abundance and distribution, mid-water trawl sampling and biological sampling, species diversity, biomass estimates. Would include small and medium pelagic fishes as well as mesopelagic fish.
Demersal fish and crustacean resources	Species composition, abundance, biomass estimates and biological samples of collections from demersal trawls. Description of trawled areas (locations; bottom characteristics; fisheries potential)
Impact of the Nansen survey programme on policy & management	Would describe the broad impact of the programme on fisheries development, capacity building, and management paradigms (including EAF) since the 1970s. Would also include analyses of the scientific output of the programme through partner projects as well as output in peer-reviewed literature

These chapters will describe the information collected and its use, advances made, and impact of the Nansen programme on fisheries development, capacity building, and management paradigms in the Western Indian Ocean since the 1970s. Chapters will be based on a review of survey reports and literature, and where necessary some analysis of data provided in the reports will be undertaken. The Chapters will go through a peer-review process.