

ISBN 978-93-82263-37-1  
9 789382 263371

# mbai-mecos 3

Book of Abstracts



International Symposium  
**Marine Ecosystems  
Challenges & Opportunities**  
8-10 January 2020, Kochi



**MBAI**  
Marine Biological Association of India

Marine Biological Association of India | CMFRI, Kochi, India

## **Marine Ecosystem Challenges & Opportunities (MECOS 3)**

ISBN 978-93-82263-37-1

### **Printed and Published by,**

Dr. K. Sunilkumar Mohamed  
Convenor, MECOS3  
for and on behalf of the Marine Biological Association  
of India  
January 2020

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### **Design**

Sibi and Shibu, Graficreations

### **Citations**

John Kurian.2020. Indian Marine Fisheries, Possible  
pathways in to the future. In Joshi K. K. et al. Marine  
Ecosystem Challenges & Opportunities (MECOS 3)

# Advisory on stock assessment periodicity for exploited marine fisheries resources along the Indian coast

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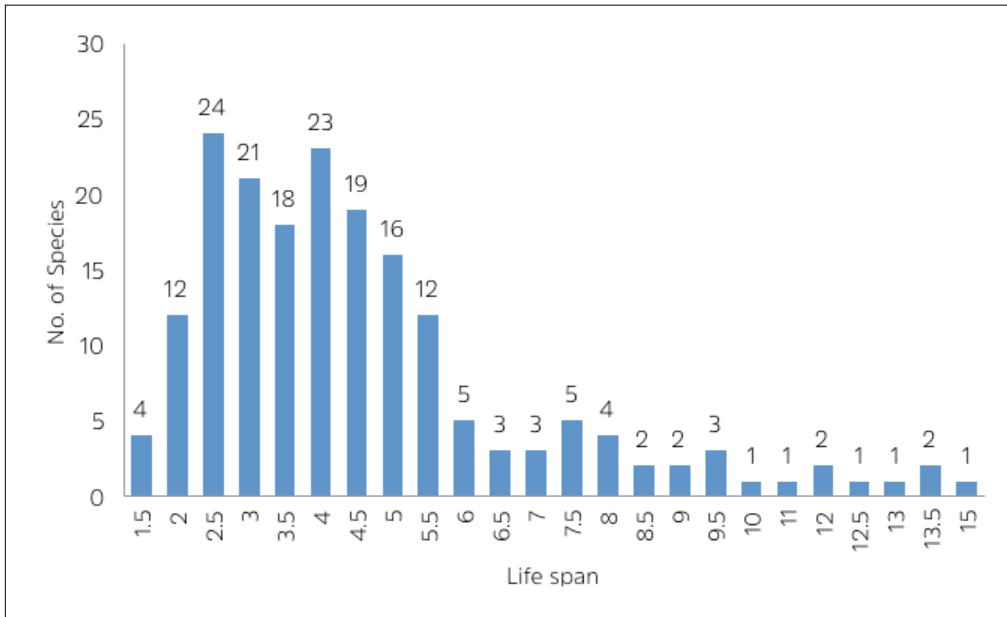
One of the key roles of stock assessment is to understand the dynamics of fisheries. This is because biological resources and the environment are dynamic not static. Further, fisheries will necessarily respond dynamically over time to management actions as well as to external factors such as the environment. Life history characteristics play an important role in assessing populations and managing stocks. They provide information on how a species grows and develops, senses its environment, captures food, avoids predation and reproduces. Understanding these dynamics are essential to make an estimate fish abundance, fishing-related impacts and other factors to describe the past and current status of a fish stock which is the ultimate role of stock assessment.

The need for more timely and comprehensive stock assessments has increased greatly for management of depleted or overfished stocks. It also depends on the life span and of those species which are economically most important and which forms majority of the fisheries biomass. An estimate of the maximum age or life span (time for growing upto 95% of asymptotic length) that a fish can attain is  $3/K$ ,

where  $K$  is the curvature parameter or growth rate coefficient in von Betralanffy growth equation. The  $K$  values estimated from earlier stock assessment studies for 186 species were used as input to determine the life span of different species. This information formed the basis for determining the periodicity of stock assessments (stock assessment cycle). The following criteria were followed to arrive at stock assessment cycles and related aspects.

- (i) The stock assessment for fishes having a life span up to two years should be carried out every year (annually). Cephalopods, shrimps, crabs and small pelagic fishes mostly come under this category.
- (ii) Biannual i. e. every two year assessment should be done for the stocks having a life span from 2 to 4 years.
- (iii) The assessment frequency for the stocks having a life span from 4 to 6 years should be at every three years interval.
- (iv) The stock assessment should be done once in five years for all fishes with more than 6 years of life span

Assessment Frequency	Life span (years)	No. of Species
Annual	$\leq 2$	16
Biennial	$>2$ and $\leq 4$	87
Triennial	$>4$ and $\leq 6$	52
Quinquennial	$>6$	31



This advisory needs to be taken into consideration by stock assessment agencies/ institutes in deciding the stock assessment periodicity. This information is available for each region/resource along the Indian coast