

BY-CATCH AND ITS UTILIZATION, SOCIO-ECONOMIC IMPACT OF BYCATCH REDUCTION OFF MANGALORE COAST

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ABSTRACT : By-catch is distinguished as unavoidable in any kind of fishing but the quantity varies according to the gear and vessel operated. The changing outlook of by-catch itself offers the greatest challenge, as yesterday's by-catch becomes today's target catch. This trend showed that significant increased of low value fish species with decrease in commercial fish species in by-catch. More than 50% by-catch was used for fishmeal/fish oil industry. Fishes like anchovies, ribbonfish, cluepeids, driftfish, croakers, gobids were used for local consumption as dried fish (10%) salted (5%) and medium-size fish and soles were used for local consumption as fresh (12-15%). The Oil sardine were used maximum (98.2 %) followed by Mackerel (1.2%) for manufacturing fish oil, whereas 91.2% Oil sardine were used by fish meal industry. Studies have indicated that the Mangalore coast is one of the major fishing harbours having rich biodiversity.

Key words : By-catch, commercially important species, utilisation, resources.

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INTRODUCTION

India has a coastline of 8118 kms having an Exclusive Economic Zone (EEZ) of 2.02 million sq.kms. Including 0.5 million sq. kms of continental shelf. Fishery by-catch and discards are old issues in fishing history, but have become one of the most significant problems currently encountered by politicians, environmental groups, the public and scientists. Bycatch is the incidental capture of any marine animal in fishing gear. It has been defined as the portion of catch that is not targeted and that has no economic value, either because no markets exist for a species or because its retention is prohibited by law (Hall, 1996). By-catch is one of the most important issues affecting Fisheries management today. Bycatch is defined as the catch of non-target fish, whether kept for market or discarded at sea (Alverson *et al*, 1994). Bycatch is a leading conservation concern for long-lived species with low reproductive rates (Hall *et al*, 2000), particularly endangered or threatened species with already small population sizes. The synthesis by Moore *et al* (2009) provides a rationale for taking a multi-species approach to bycatch research and management and a broad overview of marine mammal, sea turtle, and sea bird bycatch in US fisheries. The bycatch issue involves those

of both fisheries organisms such as finfishes, crustaceans, etc. and non-fisheries animals which are not aimed in fishing. Poiner and Hallis (Poiner and Hallis, 1986) compared bycatch finfish compositions between before starting the prawn trawl industry and 20 years later in the Gulf of Carpentaria and found that species such as bony fishes *Leiognathus* spp. distinctively declined. This result suggests that the impacts of bycatch and discards are different among species. Commercial fishing is responsible for large-scale declines and local extinctions of many species (Dulvy *et al*, 2003; Jennings and Blanchard, 2004; Scales *et al*, 2006; Scales *et al*, 2007) and presently 79% of fisheries worldwide are believed to be overexploited (FAO, 2009).

There are a number of definitions available regarding the term, by-catch. Gordon (1991) defined by-catch as “non-target species caught with and incidentally to the target species”. McCaughan (1992) defined by-catch as ‘that portion of the catch returned to the sea as a result of economic, legal or personal considerations plus the retained catch of non-targeted species’. Hall (1996) defined by-catch as “that part of the catch that is discarded at sea dead (or injured to an extent that death is the result)”. Clucas (1997) defined by-catch as “that