

# The Functions of A Fishery Data Centre



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In the modern world, no government or business house can function properly without recourse to a wide variety of statistical information at its disposal. The statistical data constitute the quantitative information based on which development plans or expansion programmes are drawn up. The more accurate the basic statistical information are, the plans or programmes drawn up are more realistic or correct. It is needless to emphasize that a wide range of statistical information are required to formulate a realistic plan for the development of marine fisheries in India.

## **Various types of data**

Fishery statistics may be broadly classified into two categories. The first category of statistics relates to the fishing industry and may be termed "Trade Statistics". The second category relates to the "Fishery resources" and may be termed "Resources Statistics". It should be emphasized that because of the concealed nature of the marine fishery resources as distinguished from agricultural resources, the availability of "Fishery Resources Statistics" is of

greater importance in fisheries work than in agriculture and for the same reasons, the collection of such statistics becomes a "specialist job". The "Trade Statistics" relating to fisheries may again be subclassified into 3 broad categories viz., (1) Inventories, (2) Production and (3) Utilization.

The statistics on "inventories" will include various types of data relating to the different stages of the fishing industry. In the primary stage, information are required on the magnitude of the fishable area, the extent of area actually exploited at present; the number of persons engaged in fishing and the equipments they use viz., the various types of boats and nets etc., the total investment made on these and the returns realized. In the secondary stage, the information on the number and varieties of establishments based on the production of raw material, the number of men employed in these and the investment and return derived from them are required. The information on the ancillary industries like ice factories, boat building yards, net making factories etc.,

related to the fishing industries are also required in the tertiary stage. The total investment and return accruing from them are also necessary. Since any betterment plan of fishing industry must also aim at the betterment of the condition of men engaged in them, socio-economic data with regard to them are also necessary. The facilities available for the training of these people as well as for the improvement of their skill are also necessary.

The statistics of "production" should in the primary stage include information on the catch of marine fish by geographical regions, seasons and varieties. In the secondary stage, information on the processed and manufactured fishery products like frozen fish, canned fish, fish meal, shark liver oil etc. are necessary.

The statistics of "utilization" will throw light on the manner in which the available production is utilized. First, since the fish is highly perishable commodity, we must know how much is being consumed fresh and how much is being preserved by processing of various methods. It is also necessary to know the regional and seasonal demands along with the quantity of exports and imports both in magnitude and value. This is related to a study of fluctuations in prices. Detailed data on the infrastructure of prices between fishermen and consumers will explain the trade structure and will indicate the modifications necessary in the various links of the trade chain.

So far we have dealt with the statistics needed to understand the industry. But the fishing industry and also the ancillary industries are dependent on the exploitation of the fishery resources.

For efficient exploitation, it is required to have full information regarding the resources. The information required with respect to each fishery resources may be broadly grouped into 3 heads, namely, (i) distribution, in time and space, (ii) abundance and potential yield and (iii) behaviour of the the resource in relation to environmental variations. The resource information are required both by the Industry and the Government. The industry requires them in connection with their fishing operations and also in extending their operations with a view to achieve maximum operational efficiency. If only generalized resource information are available, the industry will have to spend quite some time searching for fish thereby operating at less than maximum efficiency. If detailed resource information are available, the loss of time due to search will be minimised. If accurate information on mortality, growth and recruitment are available, the order of potential catch will be known and the industry can decide if any further investment is worth-while in the long run in extending and expanding its operations.

The Government uses the resource information generally for planning development, organizing and conducting further work in promoting and assisting development and in guiding the industry within the broad national policy. Within the allotted national budget, the Government may have to take decisions regarding priorities over a wide range of developmental possibilities. It may have to decide on the types of fisheries to be developed, the types of boats, fishing gear and other equipments to be chosen and may have to make many other decisions in respect of financial investment in public and private sector, requirements of competent personnel and

their training programme and so on. All these decisions can be effectively made provided there are reliable information available on the various aspects.

It will be seen that it is easier to collect information on "Trade Statistics" relating to fisheries provided funds and organization for the collection of such statistics are available. The collection of "Resources Statistics", on the other hand, must require specialized competency and will require lot of scientific research. Fortunately, however, certain synoptics like catch per unit effort, mean size of the commercial catch, age structure of the commercial catch, relation between catch per unit effort and the effort input etc., throw up a good deal of information regarding the status of a resource. Systematic collection of statistics on these synoptics and their intelligent analysis based on all commercial and exploratory operations will provide adequate information on the resources. These together with hydrological data collected on a systematic basis will permit drawing in the long run contour maps for various fishery resources. These maps will be of immense values to the fishing industry.

### **Fishery Data Centre**

It is highly desirable that all type of fishery data are available at one central place. The Data Centre will be the store-house of all types of fishery data. The Centre will be responsible for co-ordinating the work of several agencies collecting various types of data. Where necessary, it must lay down precise definitions and methods for uniform collection of data and prepare standard proformae and circulate them to various agencies collecting data. It will be finally responsible for collecting

and receiving all types of data and then codifying, storing, processing and disseminating them. Periodic publication of processed data will be one of the functions of the Data Centre.

The Central Marine Fisheries Research Institute is the only Institute in India which is collecting and analysing various items of "Resource Statistics". On the basis of a scientifically designed sample survey, the Institute is providing variety-wise estimates of marine fish landings with seasonal and regional break-up. Estimates of fishing effort according to different types of fishing units are also being estimated by the Institute. For important varieties of fish, biological data on the size and age composition of the commercial catch are also collected from which estimates of growth, natural and fishing mortality rates are obtained leading to estimates of potential yields from exploited stocks. The fishing data arising from the exploratory surveys undertaken by the Government of India vessels operated by the Deep-Sea Fishing Station as well as those operated by the Indo-Norwegian Projects are also processed in the Central Marine Fisheries Research Institute. The analysis of these data throw up synoptics of relative abundance of various types of fish in different regions of the sea together with their seasonal variations. These results have successfully led to commercial fishing enterprise in hitherto unexplored areas with good results. Trial fishing by research cruises undertaken by the Institute together with echosoundings and asdic readings have revealed the existence of good fishery resources in the deeper waters of the continental shelf and slope areas which can be profitably exploited commercially. The voluminous environmental data collected by the Institute will help

in correlating these with the abundance and fluctuations of various fisheries.

Regarding "Trade Statistics", the Central Marine Fisheries Research Institute makes quinquennial surveys for estimating the number of fishermen engaged in marine fishing, the number of different types of boats and nets employed in fishing. Some items of other data on "Trade Statistics" are collected by some of the Fisheries Department of the States. But as there is no uniformity in the method of collections and in the definition of various items of information collected no clear picture for the whole country is available for any of the items. Reliable statistics on wholesale, retail and landed prices for the different varieties of fish are not available except at a handful of places. General import and trade statistics are collected through the agency of custom officials and published by the Department of Commercial Intelligence and Statistics. These statistics are

fairly complete and relate to the quantities and values of imports and exports of various types of fishery products. The Marine Products Export Promotion Council also uses and publishes these figures. Data on investment and returns are lacking for the most part.

In respect of "Resources Statistics", the Central Marine Fisheries Research Institute has necessary arrangements to collect all relevant data. It is also collecting some items of "Trade Statistics". Thus already a "Fishery Data Centre" exists in the Institute. If arrangements are made to receive other items of "Trade Statistics" from the agencies collecting them, the existing centre will ultimately develop into a full-fledged Fishery Data Centre, the usefulness of which has already been emphasized. The arrangements for expansion and co-ordination necessary towards this purpose should not be difficult.

