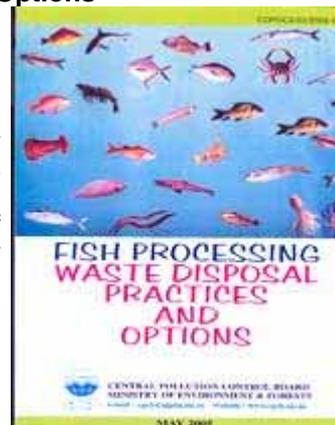


## Fish Processing Waste Disposal Practices And Options

### Foreword

The importance of fish as food has been understood by human being since ancient times. At present it has become an export-oriented industry contributing to the national economy. Fishing industry not only provides proteinaceous food for millions of people, but also employs millions of people throughout the world. Many of them work in ocean going fishing boats, coastal crafts and small boats. A large number of people work in aquaculture farms also. Other areas of fishing industry include, the processing, packing and distribution of fish products. Besides, a large number of people are also engaged in boat building and fabrication of gears utilised for fishing.



Fish is a highly putrifiable commodity. In India with its tropical and subtropical climate, the problem of decomposition process become more severe as heat and moisture promote decomposition. Microbes of water and air attack the fish flesh slowly at first and more rapidly later. Therefore, fish processing technologies are used for preservation of the fish and its products. The products include dried, salted, smoked and boiled fish, fish paste and a variety of canned foods in addition to frozen products. Thus processing industry contributes raw materials for a broad spectrum of other industries. During industrial processes a large amount of water is used. In each stage the quality of the water is to be maintained. Almost the entire water used become wastewater. This liquid waste from fish processing industry contains organic loads high in biochemical oxygen demand (BOD), suspended solids and oil.

The report presented here is the outcome of the studies conducted by the Central Pollution Control Board in the states of Gujarat and Maharashtra during 2002-03 and 2003-04 covering 60 fish processing units including a fish waste processing unit. It has been observed that depending upon the processing technology, the type of fish processed and seasons, the pollution load varies. The maximum BOD load was contributed from untreated wastewater from fish beheading, degutting and processing plants to the tune of 4200 mg/l, while from the whole fish processing units, it ranged between 1 mg/l and 45 mg/l. Similarly contribution of phosphate phosphorous and total nitrogen are also high.

The dedicated teamwork of the officials in executing the project and bringing out this 32 i report is appreciated. The Central Board wishes to acknowledge the co-operation rendered by the Gujarat and Maharashtra State Pollution Control Boards during the monitoring programme. The help provided by the fish processing industries and their , association during data collection and monitoring is worth mentioning. We hope that this report will be useful to those concerned with environmental aspects of fish processing industries.

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