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CHAPTER- 29

FISH PROCESSING WASTES AS A POTENTIAL SOURCE OF FISH BY-PRODUCT

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Introduction:

The world's marine fisheries account for more than 50 percent of the world's overall production of fish. Approximately 70% of the fish is processed before the final sale, results in 20-80% of fish waste, depending on the type of final product demand, level of processing and the type of fish being processed (AMEC, 2003). In addition,

annually, huge amount of the total catch from the aquaculture is discarded. The processing of fish often involves significant quantities of potable water, producing large quantity of waste water as reported by FOC 2005. Dumping of the fish waste to the ocean has been a practiced since time. The aerobic bacteria present in the water decomposed the organic matter leading to depletion of the oxygen in water. There is a pH variation, algae decomposition and water turbidity due to the presence of huge quantities of N, P and NH_3. With the decrease in oxygen level, anaerobic environment is created which causes the release of foul gases like H_2S, NH_3, green house gases like carbon dioxide, methane and organic acids (Tchoukanova *et al.* 2012). As reported by (AMEC, 2003), 20 million tons is discards from processing plants which equals to 25% of the world's total marine fish production. These processing waste products can be processed and used for the production of fish oils refined, fish protein and the enzymes like chymotrypsin and pepsin or other value-added fish products. Fish oil could be used to produce products such as omega-3 fatty acids, biodiesel and margarine. The fish protein concentrate is used for human and animal consumption added to the diet. The fish protein is also a source of amino acids for consumption by humans (Murray and Burt, 2011).

Fish waste composition: