Urbanization and increase in human population is the two major outcomes in this modern era. Tremendous change in lifestyle of the people in urban area had played a major role in the accumulation of solid wastes at a huge level. As per the reports the organic wastes contributes to half of the generated wastes (Indrawati and Purwaningrum 2018). It had been also observed that the illegal dumping of these wastes has been creating major environmental issues daily. As of the presently existing rules and regulation this is known as illegal dumping. This creates a hindrance causing an anxiety for keeping the surroundings clean finally affecting the human health. Here arise the need for constructing a proper waste disposal sites with all the facilities for waste management.

Most of the organic wastes are biodegradable but the illegal dumping causes critical environmental issues and also severe health hazards by spreading deadly diseases. Hence a strict management system has to be developed inorder to control this. Animal waste is said to be one among the organic wastes generated which is causing a major issue in illegal dumping. Within this fishery wastes contributes a considerable share (approximately 50% of raw material) especially from fish processing plants and also underutilized or under sized fishes caught illegally. In this, fishery wastes contributes a considerable share which comes from fish processing plants and also underutilized or small sized fishes caught illegally. As per the reports, annual fishery wastes discarded globally exceed 20 million tons which is equal to 25% of the total production of marine fishery catch. (Rustad, 2003 & Kim and Mendis, 2006), which also include “non-target” species, fish processing wastes and by-products (Caruso, 2015).

Fishery wastes are being generated around 20 million tons per year globally, which interprets huge loss of nutrients. (Ramírez et al., 2013). It is now essential for an industry to have an inbuilt facility to utilize its generated wastes to produce a valuable by product. It is a visual fact that natural resources are exploited at its maximum and at the same time environmental pollution is increasing exponentially which insist the necessity for the utilization of these wastes from processing activities and also low value fishes caught. Fishing industries produce huge quantity of wastes both from processing and fishing activities. Around 30 million tons of discards are wasted into sea every year (New & Csavas, 1995).

It is always a serious issue of generating and releasing into the environment wastes by the fishing industries leading to the pollution of water, air and soil resources (Pessatti, 2001). Construction of effluent treatment plant and sanitary landings may not be always possible as it may produce nasty odor in coastal or nearby water areas. Neto (1984) reported that construction of effluent treatment plant and sanitary landings is not always a viable alternative as it may produce an unpleasant odor in coastal or interior water areas, which are used as recreation. Wastes generated from the fish processing activities are one among the raw materials which are available currently unutilized (Raghunath & Gopakumar, 2002). Hence a better alternative is to use these wastes to generate by products and there by reduce waste generation (Maia et al., 1998) Fishery waste generated after the processing activities is not merely the wastes but are huge source of protien (Raa & Gildberg 1983; Hardyet al., 1984; Arason et al., 1994). As per the reports greater significance are given to the byproducts generated from freshly processed food. Several works are being undertaken to produce several byproducts from these huge quantities of generated wastes. Attempts are being made to transform these products to animal rations. Besides fish discards and skeleton, the highest amount of wastes consists of viscera. Visceral wastes are reported to have a greater possibilities to be used as a protein supplement in animal
feeds (Fai et al., 1997) and also to be used as a promising agent of proteolytic enzymes and marine peptones for aiding the production of bacteriocin (Vazquez et al., 2004). Addition of acid helps in the lowering the Ph there by activating the enzymes and favouring the liquefaction of the wastes (Tanuja et al., 2014). If the wastes from fish and fish offal is not preserved properly it may lead to the spoilage of these resources there by wasting huge source of protein. It has also been observed that when this fishery wastes are being dried it exhibits a protein content of around 50-55 % which just need a value addition instead of protein level enhancement.

Hence the fishery wastes are excellent resources rich in nutrients which can be utilized wisely to produce valuable byproducts. They has to be stored under optimum temperature inorder to reduce spoilage and to prevent the loss of nutrients. Various high value products having huge application can be developed by using these raw material.

Six tips to make your fish farm more environmentally sustainable

The following tips are designed to help small-scale aquaculture operators, particularly in Asia and Africa, reduce their environmental impacts and embrace operational sustainability.

The aquaculture sector continues to grow rapidly across the globe – but its environmental impacts are growing as well. From farmed salmon displacing indigenous salmon and other fish to tonnes of aquaculture sludge quietly blanketing and degrading coral reefs and other natural habitats, old-school aquaculture has become a boom-and-bust venture.

1. Choose the right species

As discussed in one of our recent articles on invasive species, invasive non-native species (INNS) are plants and animals which do not naturally occur in a specific location and can spread quickly enough to rob native species of resources. These can eventually overtake and replace native species, or hybridise with them.

2. Select a suitable farm site

When selecting a good site for a new farm, environmentally sensitive areas like swamps, coral reefs or mangrove forest should be avoided. Establishing a farm would have severe consequences on local biodiversity if, for example, mangrove forests or wetlands were cleared and converted into fish ponds. Farm effluents would also eventually have a considerable negative impact. Excessive nutrients via the influx of farm effluents would result in eutrophication, making waters murky, blotting out sunlight and negatively affecting the growth of plants, corals and the area’s other denizens.

3. Farm design and layout

Most traditional fish farms, especially pond farms, directly release their untreated wastewater into the environment surrounding their farms. This is a serious concern, not just for the natural environment, but also for surrounding communities which often use the water from public canals for drinking, bathing and washing utensils. Neighbouring fish farms are also threatened, as potential pathogens will spread swiftly and easily this way.

4. Manage feeding practices

Feeds contribute the largest share of waste in and around fish farms. When using trash fish or low-quality pellets, a great deal of feeds will be ignored by the fish. These will sink to the bottom, causing the water quality to deteriorate. When released, these effluents also degrade the water quality of the surrounding area.

5. Minimise chemicals and veterinary drugs

Many farmers use chemicals for pond preparation – eradicating predators and snails – and to maintain water-quality parameters. Veterinary drugs are sometimes used to keep fish healthy or to treat ailing batches.

6. Plant native vegetation

Finally, planting trees around your farm is always a good idea. Trees provide shade, reduce the impacts of wind and can provide an extra source of food for people, fish, birds and other animals.