1 Analysis and Utilization of Fish Waste Emissions in Vieux Fort Fishing Port, St. Lucia

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[Background & Purpose]

Though Vieux Fort, Saint Lucia, is a popular tourist nation that has an international airport and the biggest fishing port located in a project area, only few tourists visit this area. Many banana skins consumed by residents are discarded and seaweeds wash up on the seashore which emit offensive smells can be found around this area. Improvement of base of living by effective uses of fisheries resources and by recycling are required. In this project, 1. The current situation of fish waste emissions were clarified for their effective use and 2. plants containing tannin were identified for processing the fish skins emitted from the residues.

[Activities]

1. Surveys were conducted 3-times a week from 10:00 to 17:00 between August 6 and September 6 (2019) at the landing site in Vieux Fort Fishing Port. When the fishing boats landed, data of landing date and time, fishing ground, registration number and name of boat, fishing gear, fish species, price, number and weight of fish, place of fish processing in the port and way of processing and residues generated which were analyzed in Japan, were recorded in the field book. 2. Skins of green bananas and seaweeds (sargassum) washed up on the seashore were chosen to examine their effectivity to process the fish skins so that they could be used for making craft products by the residents as follows: (1) 16 kinds of tannin extracts were decocted from 12.5, 25, 37.5, 50, 62.5, 75, 87.5 and 100 cm^3 of green banana skins and 5, 10, 20, 30, 40, 50, 60 and 70 g of dried seaweeds immersed for 15 minutes and 5 minutes respectively in 200 ml of boiling water then cooled down. (2) Well-washed squares cut from fish skins (9 cm^2) were immersed in 40 ml of the tannin extracts for a week. Then (3), the skins were dried while being spread and pinched with boards and weighted down so that the skins would become flat. Effectivities were evaluated as the measurement of hardness.

[Achievement]

1. From the 189 landing data obtained from 58 vessels, it was found that the fish waste generated in this area was mainly composed of guts, gills and fins from three species of fish mainly (Dolphinfish, Gray triggerfish and Wahoo), and skins from Gray triggerfish. Though guts were used as livestock feed, gills and fins were unlikely to be used at the present. Therefore, it was thought that only the skin of Gray triggerfish can be processed effectively. 2. From the above examples, the results obtained of higher concentration of tannin extract and less offensive smell from seaweeds than from banana skins suggested that it might be possible to use seaweeds for fish skin processing effectively.