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(for information)

Floating Rubbish in the Harbour

Introduction

Every year Marine Department collects about 4,000 tonnes of floating refuse from the harbour. Floating refuse comprises a wide range of material including logs, plastic bags, polyfoam packaging and similar material. According to a study carried out a few years ago, most of the rubbish found in the sea is in fact generated from land and not from ships and boats.

2. Apart from being an environmental nuisance, floating rubbish also poses health hazard as well as danger to ship navigation, especially high speed crafts.
3. Under the government administration, the Secretary for Planning, Environment and Lands is responsible for policy matters on floating refuse. Marine Department is the executive arm to provide the necessary services.
4. Presently, Marine Department's service comprises two main types, namely ship and boat refuse collection service and floating refuse scavenging service. A fleet of 36 vessels are currently deployed to provide a limited service.

Ship and Boat Refuse Collection Service

5. Domestic refuse from visiting ocean going ships in the Victoria Harbour is presently collected by three hired vessels. On average, about 24 ships are serviced every day.
6. Three additional hired vessels are deployed to collect refuse mainly from dwelling boats in Aberdeen, Causeway Bay and Shaukiwan Typhoon Shelters as well as lighters in New Yaumatei Typhoon Shelter. The collection service has recently been extended to other types of local craft^s such as fishing vessels. This could be done because the number of dwelling boats has been declining. Presently, there are around 16,000 locally licensed vessels in Hong Kong. Our service covers about 3% of these vessels.

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Floating Refuse Scavenging Service

7. Our floating refuse scavenging fleet currently comprises seven specialised government vessels, namely one Disfloater and 6 Waterwitches, and 23 hired boats comprising 5 motorised cargo boats and 18 motorised sampans. The fleet serves the Victoria Harbour and various typhoon shelters and other remote areas in Sai Kung, Cheung Chau and Tai Po in a limited manner.

Disposal of Collected Refuse

8. Both collected ship and boat refuse and scavenged floating refuse are transported to 3 shore based Marine Refuse Collection Points located at Cha Kwo Ling, Ap Lei Chau and Causeway Bay. Refuse is then transferred to trucks provided by a contractor who in turn transports the same to landfill sites for disposal.

The Problems

9. Over 80% of the floating rubbish is land sourced. There is a noticeable increase in floating rubbish encountered in the harbour following heavy rain as water courses and storm water drains carry the accumulated shore rubbish into the sea. Irrespective of the amount of effort that we may put in, it is impossible to completely eradicate the floating refuse problem.

10. Floating refuse drifts by wind and tide and consequently scatters over large areas. Unless concentrated in a large mass, it is rather difficult to spot from the scavenging boats. It is also sometimes semi-submerged in the water, making out surface scavenging ineffective.

11. Floating rubbish tends to accumulate near the coastline such as breakwaters and rocky shores. This creates operational problems as water in such areas is too shallow for the specialised craft or even the smaller sampans.

12. The existing scavenging fleet is quite old. This results in considerable amount of down time which inevitably lowers the efficiency of the service. The Waterwitches are 14 to 18 years old. The Disfloater is only 6 years old, but is liable to frequent breakdowns due to continuous use and the type of the operation.

Measures to Tackle the Problems

13. Apart from our own efforts, we also draw on resources from other government departments. In this respect, an inter-departmental working group chaired by Director of Marine has been established since June 1994. Its function is to identify measures to efficiently deploy existing resources of the government in three major areas, namely prevention, collection and enforcement.

Prevention

14. The best remedy for controlling the floating refuse problem is prevention by way of education and publicity. This is done through the following channels :

- (a) fishermen and fish traders are advised to properly place their refuse in refuse receptacles at fish markets through correspondence, posters and radio broadcasts;
- (b) inspections at mariculture zones are conducted by staff of the Agriculture and Fisheries Department;
- (c) maps showing the location of the nearest refuse collection points are distributed to vessels in typhoon shelters;
- (d) "No littering" sign boards have been erected in Public Cargo Working Areas, on breakwaters, and near landing steps of typhoon shelters;
- (e) shipyard operators are advised to keep their premises and surrounding areas clean by Urban Services Department and Regional Services Department;
- (f) anti-marine littering posters and stickers are produced by the Joint Urban Council/Regional Council Keep Hong Kong Clean Steering Committee for distribution to boats, launches, ferries, ships and yacht clubs, fish markets, shipyards and cargo operators; also announcements of public interest are broadcast on television and radio;
- (g) activities involving public participation in refuse collection are regularly organised by the Environmental Campaign Committee and the Joint Urban Council/Regional Council Keep Hong Kong Clean Campaign Committee. This helps to increase public awareness of the problem;
- (h) new clauses have been introduced in the conditions of new tenancy agreements requiring tenants of waterfront sites to take appropriate measures to prevent any waste from entering into the sea or becoming deposited on the seafront; and
- (i) organisations such as community groups, schools and commercial corporations are encouraged to participate in clean up operations as part of educational programmes and publicity activities.

Collection

15. Effort to collect refuse by various departments has been stepped up and co-ordinated : -

- (a) additional receptacles have been provided in Public Cargo Working Areas and fish markets; frequency of collection at these refuse collection points has been increased;
- (b) joint operations to clean up typhoon shelters are conducted weekly by staff of Marine Department, Regional Services Department and Urban Services Department;
- (c) Regional Services Department and Urban Services Department have stepped up collection of refuse around nullahs, open drains and watercourses;
- (d) supervision of the marine refuse scavenging fleet has been stepped up by Marine Department; and
- (e) two special cleansing teams consisting of Marine Department's scavenging vessels and Regional and Urban Services Department staff have been conducting special operations at identified littoral black spots since September 1994.

Enforcement

16. Enforcement actions have been stepped up by the relevant departments to deter littering. This however is not easy because it is difficult to catch littering offenders red handed, especially at sea.

Monitoring

17. Marine Department has conducted two sample surveys on the kinds of floating refuse in the waters of Hong Kong and their effects on the operations of vessels in the harbour. The surveys covered ferry companies, boat and yacht clubs, pilot associations, ship owner associations and other organisations involved in sea transportation. The latest survey concluded that the problem of floating refuse in the harbour has improved considerably after the implementation of the above mentioned measures.

The Way Forward

18. In spite of the above mentioned measures, the problem is not quite under control. This is because the increasing affluence of the society has a two fold effect: ever increasing generation of rubbish and ever increasing expectation for

a cleaner environment. To meet this demand, it is necessary for the Marine Department to expand the scavenging and refuse collection services.

19. To this end, we plan to acquire additional boats and to set up additional marine refuse collection points ashore. The proposed plan envisages the following improvements :-

- (a) procurement of six new specialised made to order vessels;
- (b) hiring of 29 additional scavenging and refuse collection vessels;
- (c) improvement works to the three existing marine refuse collection points and construction of four new ones;
- (d) installation of cranes at the seven marine refuse collection points ashore; and
- (e) recruitment of additional launch crew and supervisory staff to manage the expanded fleet.

The New Specialised Vessels

20. The proposed specialised vessels will be purpose-built 18 metre long twin hull catamarans, capable of speeds upto 13 knots. The vessels will be fitted with an improved mechanical refuse collection system for collecting floating refuse as the vessels move through the water. Each vessel will have a carrying capacity of 15 cubic metres of floating refuse.

21. The proposed vessels will have a big advantage over the existing ones in that, unlike the present scavenging vessels, the new vessels will operate independently for scavenging, collection and transfer purposes without depending on a working boat for support. Moreover, to cater for refuse collection needs in littoral areas, two of the six new vessels will be provided with a dinghy with an outboard engine to assist in those congested and shallow waters.

22. We envisage that the expanded fleet will enable Marine Department to widen the coverage of refuse scavenging service in Hong Kong waters and to visit black spots of floating refuse more frequently.

Expansion of Refuse Collection Service

23. Simultaneously with the introduction of new specialised vessels for floating refuse collection, the fleet for collection of refuse from ships and boats will also be expanded to cover territory wide demand. This expansion will have a two fold effect :-

- (i) it would serve to meet our obligation under the International Convention on Marine Pollution Annex V; and
- (ii) collection of refuse from the ships and boats will help to reduce rubbish being dumped into the sea.

Concluding Remarks

24. Our mission is to promote excellence in marine services. Providing an efficient scavenging service to secure a cleaner harbour is one of our prime concerns.

Marine Department
July 1996