Water transportation conflict problem in Bangladesh

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Abstract

Our country Bangladesh is a riverine country.It's lies at the apex of the Bay of Bengal.Bangladesh is consist of low and plain lands.Our country has 9000 sq km of local waterway with 720 km long coast line and in the sea 20000 sq km Economic Resources Zone[3].Inland water transport system is the cheapest among all the transportation free. On the other hand In every occasion passenger face a huge intensity of highway transport,so a large number of people chose waterway.But the accident rate in waterway is increasing day by day.It is galling that most of the accidents are occurred by passenger carrying launches[2]. Most of the cases transports are collide face to face. So in this paper I want to find the way to solve these problem.

Contents

1 Introduction

Day by day the population of our country is increasing as well as all types of transportation system enhance their number of transport. In waterway,here are some very busy routes,They are:
1.Calcutta-Chalna-Khulha-Mongla
2.Kaukhali-Barisal-Chadpur-Aricha
3.Raimongal-Narayangonj-Ajmirigonj-Sherpur
4.Karimgonj-Khawkhali-Zakigonj-Markawli
5.Bhairab Bazar-Lalpur-Suramgonj-Chhatak[4].
These routes have a massive traffic near the terminal area. So that most of the time transport are conflict with each other as we know in water stoping a vessel instantly is a very tough work,So it's a major problem[2].When vessels meet a disastrous and fatal accidents in waterways. Then that waterways remains almost close for some days. it's makes a massive impact on passengers family as well as on the economy of our country[6].So relief from these fatal problem is very important.It's a very difficult task as almost all the stakeholders of marine transport company are very greedy,They want much profit so they appoints low class captains in master vessels without maintaining Government rules and it's a large syndicate which can't be solved overnight.It's has been tried for a few eras but day by day accidents number is increasing,Now it's time to control vessels through system.To implement my system practically I should use Water level indicates sensors, Map sensors, Air flow sensors,Engine speed sensors,Flue temperature sensors,Pressure Sensor,Capacity sensor,Obstacle identifier sensor.[1]
In my first step all the sensors are placed in the proper.

2 Research Goal

1.Indentify the main causes of water transportation collision
2.Identify the solution for water transportation collision
3.Process of implementing the system.

3 Causes of Water Transportation Collision

Some of the important causes are[3]:

3.1 Vessel Design Factor

Incorrect design and construction of vessel,Low quality or 2nd Marine engine used and insufficient navigational instrument.

3.2 Operating Environment factor

Foggy,Rainy condition, Too much current in estuary, Cyclone and stormy,windy weather.

3.3 Human Factor

Accept Overloading and overcrowding, Creating rush situation arriving and departure time.

3.4 Educational Factor

Lack of public awareness, unskilled captains and drivers are allowed.

3.5 Other Causes

1.Massive current in river
2.Physical failure of vessel
3.Overtaking tendency
4.Rules and laws are not implementing properly
5.Shortage of Naval police[5].

4 Solution for Water Transportation Collision

In these paper I want to discuss about solution for water transportation collision in our country.According to ZI Awal only for collision in 1995-1999; 19 accidents occurs and in 2000-2005 we face 38 accidents[1].Now if we noticed in weather conditions,According to Dr.M.Rafiqul Islam 58 percent was stormy 3 percent was foggy and surprisingly 39 percent was fair weather[7].Most of the accidents were occurred for involvement of human error, Mechanical error and deficiency of safety on the voyages[8].So i look for a intelligence system which can control the whole vessel and notify captains frequently,based on demands system can take decisions.Water level indicator sensor measure the basic water level based on vessel type,Map sensor indicator suggest the best path,Air flow sensors measure the wind flow and suggest safer decisions to captains.Engine speed sensors can control engine based on scenario.Fule temperature sensors measure engine oil and based on demand system can heat or cool it.Pressure and capacity sensors measure total pressure and when it's overloads it's not allow to start the main engine.Obstacle identifier sensor look for obstacle through cameras and can control engine speed sensors.All the sensors notify captain and on situation demand system can take own decisions[1].

5 Process of Implementing the system

For implementation process I select a limited area which is a busy route and here a good number of accident occurs[3].

5.1 Scenario

For these study purpose,I chose Dhaleshwari River,Meghna River Treemohini[23.572409,90.568663] Here we found massive current in estuary.A place where a good number of accidents occurs.For study 2km is considered only[3].

5.2 System Sensors placement and activity

Water level indicator: These sensor is placed in all-around the side plates.It's measure the water level.
Map Sensor: It's suggest the best path and able to measure speed and time to arrived to the destination.It will be placed in the master bridge cabin.
Air flow Sensor: It's measure the air flow and notify captains go to the safe zone.It will be placed on the top of the master cabin.
Engine Speed Sensor: It will be placed in the main engine.It can read RPM of the engine and can able to control engine gear box.
Fuel Temperature Sensor: it will placed in oil filter of the engine.It can measure oil quality and quantity and notify to the captain.
Pressure Sensor: It will be placed under every dake plates.There should be a limit based on vessel type.
Capacity Sensor: It will be placed in the engine room and in the hull.It will measure capacity.
Obstacle Identifier Sensor: It is the most important sensor.It will be placed 6 sides of the vessel.It can control engine speed sensor.

When all the sensors are resulting positive then the captain can start the main engine.

6 Conclusion and further Research

In these paper a real-time system is introduced to solve conflict problem between water transport.All the marine companies and people of our country will have to come forward to solve this.Goverment should implement serious and active law to solve this.Waterway accidents become a sin for a nation like us.It can destroy the economic growth of a country.Many families lost their only earning people in a fatal accident.
If the system is implement properly then I will go for the result.Analysing the data I go for further development of the system.

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