



WEBB INSTITUTE

ETHICAL ENGINEERING ANALYSIS OF PASSENGER SHIP ACCIDENTS IN  
ZANZIBAR

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## **INTRODUCTION**

The disastrous connotation of an engineering failure stems from the public perception of risk. The recent number of passenger vessels capsizing in undeveloped nations is alarming, especially to a naval architect. Typically, the primary causes of engineering failures are human factors, design flaws, material failures, extreme conditions/environments, and combinations of the aforementioned. The blame for passenger ship failures is not always put on the engineers. As ship operators and owners hungry for profit continue to disregard the value of public safety, the pointing fingers are turning. In many cases, it is the previous owner that played the role of used car salesman to the poverty stricken nation. In these nations, the maritime industry is not heavily regulated, and many small nations develop vague laws that allow local maritime economies to exist. Maritime accidents occur daily in third world countries; smaller, personally owned row boats cross dangerously crowded rivers countless times a day. The media focuses their attention on these incidents only when they involve larger commercial passenger vessels. The story often left out by the media is the ship's history. A number of the passenger ships that have sunk have been those no longer suitable for service in developed countries. Rather than being scrapped or properly restored, the ships are sold to countries with less strict regulations. This is usually done at the consent of the owner without consulting honest naval architects and/or marine engineers.

## **MARINE ACCIDENTS IN ZANZIBAR**

In the last three years, there have been six marine accidents off the coasts of Zanzibar. In 2009, *MV Faith* capsized near Zanzibar, killing six. The same year, fire engulfed two passenger ships, *MV Aziza I* and *MV Aziza II*. The *MV Spice Islander I* capsized and sank in September of 2011, and the most recent was the sinking of *MV Skagit* in July 2012. These were all cheaper ferries or cargo boats used predominantly by local Tanzanians. These incidents all occurred between Tanzania and the main island of Zanzibar, shown in Figure 1.



**Figure 1. Island of Zanzibar East of Tanzania**  
**Source: <http://gcaptain.com/ferry-sinks-zanzibar-tanzania/>**

### **SINKING OF *M/V SPICE ISLANDER I***

The *MV Spice Islander I*, a 197-ft long, 37-ft wide Roll On/Roll Off (RO/RO) passenger vessel, was originally built in Greece in 1967 as the *Marianna*. Her original operator is unclear. In 1988, she was sold to the Greek company, Apostolos Shipping. She was later sold again to Seronikos Ferries. She was operated by Inlet Navigation Company (Inlet) until 2005. In 2005 she was sold to Hellenic Seaways and named the *M/V Tranquility*. Figure 2 depicts the ship during her operation under Hellenic Seaways.



**Figure 2. *Apostolos P. (Spice Islander I)***

**Source: <http://www.shipspotting.com/gallery/photo.php?lid=3121>**

The vessel was originally classed as a 1A1 bulk carrier by Det Norske Veritas A/S (DNV), and required several inspections to be completed before the purchase was finalized. Hellenic and Inlet had agreed upon this in a memorandum of agreements (MAO).

*“On the day of the purchase, inspectors from Hellenic’s insurers (the “P&I Club”) inspected the MARIANNA as a precursor to coverage. The P&I Club’s inspection, Hellenic maintains, revealed several deficiencies, which should have been revealed by the DNV inspections. According to Hellenic, these deficiencies caused problems in obtaining coverage for an imminent voyage. Nevertheless, Hellenic operated the TRANQUILLITY on at least two voyages after the purchase. Additional concerns with the TRANQUILLITY’s condition were discovered upon a port-state control inspection in Montreal, Canada. As a result of the subsequent arrest by port-state authorities, Hellenic sold the TRANQUILLITY.”*

*—U.S. Court of Appeals, Fifth Circuit, Hellenic Investment Fund, Inc., Plaintiff-appellant, v. Det Norske Veritas*

The new owners at Hellenic believed that the classification society did not properly perform the necessary inspections on the vessel for reclassification. Hellenic Investment Fund

Inc. filed suit against the U.S. division of DNV, but the case was dropped because of a forum clause; DNV rules state all trials must take place in the base nation of Sweden. The case eventually reached the U.S. Court of Appeals, Fifth Circuit (464 F.3d 514) on September 7, 2006. “The court rejected Hellenic’s claim that it had obtained no benefit from the Inlet-DNV contract and also rejected Hellenic’s effort to avoid the clause on the ground that its claim was for negligent misrepresentation (i.e., not a contract-based claim). With respect to the latter, the court observed that “[a]lthough sounding in tort, Hellenic’s claim is based on DNV’s failure to follow its own Rules in classing the [ship],” (Cortell et. al.).

Rather than fixing the problems found by the insurance company, the ship was sold in 2007 to Makame Hasnuu, Zanzibar, Tanzania and renamed *MV Spice Islander I*. Ironically, at “Lloyd’s List Greek Shipping Awards 2007”, Hellenic Seaways was voted “the Best Company of the year 2007 for the Passenger Shipping” and the newly built passenger/vehicle ferry of the company, NISSOS CHIOS, which was entirely built in Greece, was given the award of the “Best Ship for the Year 2007”. Under the company’s values, the website reads:

*“The ongoing modernization and enrichment of the fleet and the upgrade of the services provided to the passengers constitute a constant commitment and a strategic goal for the company. This way, Hellenic Seaways seeks and manages to keep its leading position in the competitive Market of coastal transportation services in Greece, and at the same time expands its presence in the sea transportation services of the Mediterranean. The company’s central values are to provide high-quality sea transportation services that will satisfy the expectations of its customers; to maintain high levels of safety during the operation of the ships, that will ensure the protection of the life of the passengers and the crews, as well as the protection of the sea environment.”*

Apparently, if the company name is no longer attached to the ship, these values are not upheld. In 2006, the Zanzibar government altered its maritime policy from the Tanzania

mainland's laws. Under the new law, Zanzibar holds the sole responsibility for vessel inspection and regulation. Tanzanian law limits the age of a passenger vessel, which the Zanzibar law ignores. After being sold for operation in Zanzibar, the ship's age began to show quickly as she was consistently overloaded and operated in rough conditions. Figure 3 and Figure 4 show the vessel's buckling passenger deck and cargo deck upon its rusting hull.



**Figure 3. MV Spice Islander in port on 12/12/2009**  
**Source: <http://www.shipspotting.com/gallery/photo.php?lid=1091612>**



**Figure 4. *MV Spice Islander* with new paint (3/23/2010)**  
**Source: <http://www.shipspotting.com/gallery/photo.php?lid=1091610>**

The ship's capacity was listed as 45 crew and 645 passengers. On her last voyage, the overloaded vessel, carrying over 800 passengers and cargo, encountered heavy rolling seas and strong winds the night of the voyage. Approximately five hours into the journey, the ship rolled and began to sink. Nearby ferries rescued nearly 600 from the water, but the disaster claimed at least 200 victims.

### **SINKING OF THE *MV SKAGIT***

In the case of the most recent (7/18/2012) sinking of the *MV Skagit*, the vessel and her sister ship were recently purchased in 2011 from "The Washington State Department of Transportation (WSDOT) to Scope Community Consultants Ltd of Port Coquitlam, B.C., for \$400,000," (WSDOT). The ships once served as the passenger only ferry between Vashon Island and Seattle, but the program was discontinued and the ships were left at the dock for two years. The service life for the ship was estimated as 25 years, and they were sold in year 22 of that estimated lifetime. The *Skagit*, shown in Figure 5, was built in New Orleans in 1989 as a 112-ft long monohull high speed ferry with a 25-ft beam and a rated speed of 25 kts.



**Figure 5. *MV Skagit* Operating Between Seattle and Vashon**  
**Source: <http://www.evergreenfleet.com/monohull.html>**

The ship's capacity was originally rated in the US at 230 passengers. On the day she sank, reports claim she was carrying as many as 281 passengers and nine crew. Similar to the environment of the *MV Spice Islander I's* sinking, the ship encountered rough seas and high winds causing the ship to list severely and ultimately sink (Dake). The Seattle Times reports, "Hamza Kabelwa, Tanzania's head of meteorology, told the BBC that vessels had been warned not to make the crossing because of rough seas." The ferry route is shown in Figure 6.





**Figure 6. Route of MV Skagit**

**Source:** [http://seattletimes.com/html/nationworld/2018713753\\_skagit19m.html](http://seattletimes.com/html/nationworld/2018713753_skagit19m.html)

The incident claimed 141 victims not even a year after the previous sinking that killed nearly 200 passengers. Reports vary significantly, and many claim the Tanzanian government lowered numbers to minimize the amount of global attention. The highest estimate claims the vessel was carrying 447 people and records list 81 dead and 212 missing. Regardless of the actual numbers, the vessel was loaded beyond capacity and operating in dangerous weather conditions. The capsized vessel and passengers awaiting rescue are shown below in Figure 6. The surrounding breaking waves clearly show the windy conditions still noticeable hours after the ship capsized.



**Figure 7. *MV Skagit* capsized off the coast of Zanzibar**  
**Source: <http://maritimematters.com/2012/07/mv-skagit-former-u-s-ferry-capsizes-off-tanzanian-coast/>**

Following the disaster, Zanzibar officials were quick to take action on the case this time. “The three men most responsible for her sailing; Captain Mussa Makame Mussa (49), company manager Omar Hassan Mkoje (50), and owner Said Abdulrahman Juma (46) were charged by Zanzibar’s High Court with manslaughter. The Tanzanian minister of marine transportation has also resigned his post.” (Dake). The Tanzanian minister of marine transportation initially claimed he would not resign and pointed fingers at the Zanzibar maritime officials.

## **CONCLUSION**

As tourism increases, local use of outdated ferries operating at night is increasing due to the much cheaper fare. Vessels carrying tourists generally operate in daylight and have fares nearly 10 times that of the local ferries. The Tanzanian government claims they do not have the money to renovate the local ships, yet they have recently been seen investing in automatic radar sensors to “enhance the fight against illegal fishing and piracy,” (Mitra).

*“Among the islanders there is a feeling of inevitability. These outdated ferries, will often break down en route and, while complaints are often made, the government says there are no funds to update the fleet.” —The Guardian*

After the sinking of the *MV Spice Islander I*, the disaster, “sparked a call-to-action from the International Maritime Organization offering assistance in the investigation and help to find ways of preventing such accidents in the future,” (GCaptain). The number of recent incidents in the area of Zanzibar and other undeveloped nations has risen due to the widespread, unethical practices of ship owners and operators. With developing tourism economies and the recent developments in technology, nations can no longer hide from the influence of the mass media. It is clear that regulations are always needed to protect the public at risk. In the near future, nations with increasing maritime activity and accidents will draw attention and will be forced to establish a governing body of regulations for the area. The operators cannot continue to overload the boats beyond their capacity and governments must begin investing in new fleets. Above all, westernized nations should not sell vessels that are in any way questionable to poverty stricken nations that are desperate for vessels.

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