

**Anti piracy disaster risk management for sea cargo logistics in the
south east Atlantic and Benguela coastal area.**

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Abstract

Piracy in the south east Atlantic is an increasing challenge for shippers and freight forwarders, especially in the Gulf of Guinea. At the coast of Nigeria, Benin and Togo 63 per cent of piracy acts involved vessels are tankers carrying refined petroleum products. According to the International Maritime Organization (IMO) the official number of annual successful attacks in this region is approximately 50. The International Maritime Bureau (IMB) concedes that the real number of pirate attacks is at least twice this figure (UNODC, 2014).

The Namibian newspaper The Namibian reported on Thursday 11 July 2013 about the expanding plans of Namibia's biggest port in Walvis Bay (Namport). It has been reported that Namport will increase its container handling ability up to one million TEU's a year. It also will have one of the largest gas and oil supply bases in the region (Hartmann, 2013). Due to this, there will be a higher traffic of oil tankers and other cargo ships along the west coast of Africa. This situation could attract pirates to conduct attacks in the Benguela coast region. The Angolan air force and navy were already hunting suspected pirates after an oil tanker went missing near Luanda (BBC, 2014). Angola is a direct neighboring country to Namibia.

Members of the Southern African Development Community (SADC) like South Africa, Botswana, Lesotho, Malawi, Zambia, Zimbabwe and Namibia already exercise techniques and procedures to coordinate anti-piracy operations. More than 700 soldiers were involved in the Operation Welwitschia in 2013 (Nkala, 2013).

Key words:

Maritime piracy; risk management; south east Atlantic; Benguela; trade; Walvis Bay

The research question of this study is the following:

- *Considering piracy risk potential on the Benguela coast region in the south east Atlantic, how can port operators, shippers and consigners protect themselves from this threat?*

Introduction

If people nowadays think about piracy, they think about the adventures of Blackbeard, Klaus Störtebeker or Hollywood character Captain Jack Sparrow. Charismatic personalities who are always seeking for next gold treasure or rum drinking bouts with their crew at places like Tortuga. However, the truth is a different. The world has different piracy hotspots. One of them is currently the Gulf of Guinea in western Africa. The pirate groups in this area are not looking for gold treasures or rum. They are seeking for vessels with high value cargo such as oil which brings high profits on the black markets. Furthermore, they try to take the cargo ships crews as hostages to get high ransoms from the shipping companies. The overall annual costs of piracy for the world's economy are between US\$1 billion and US\$16 billion. The real figure is might be much higher (Chalk, 2009).

Therefore, it is essential to forecast the piracy risk potential in the south east Atlantic and find adequate preventive measures as well as well as measures during a pirate attack for shippers, freight forwarders and port operators operating in this region.

Literature review

Risk management concept

According to Waters (2011) there is a model of the basic process of risk management which also shows its parts of vulnerability (see figure 1) (Waters, 2011).

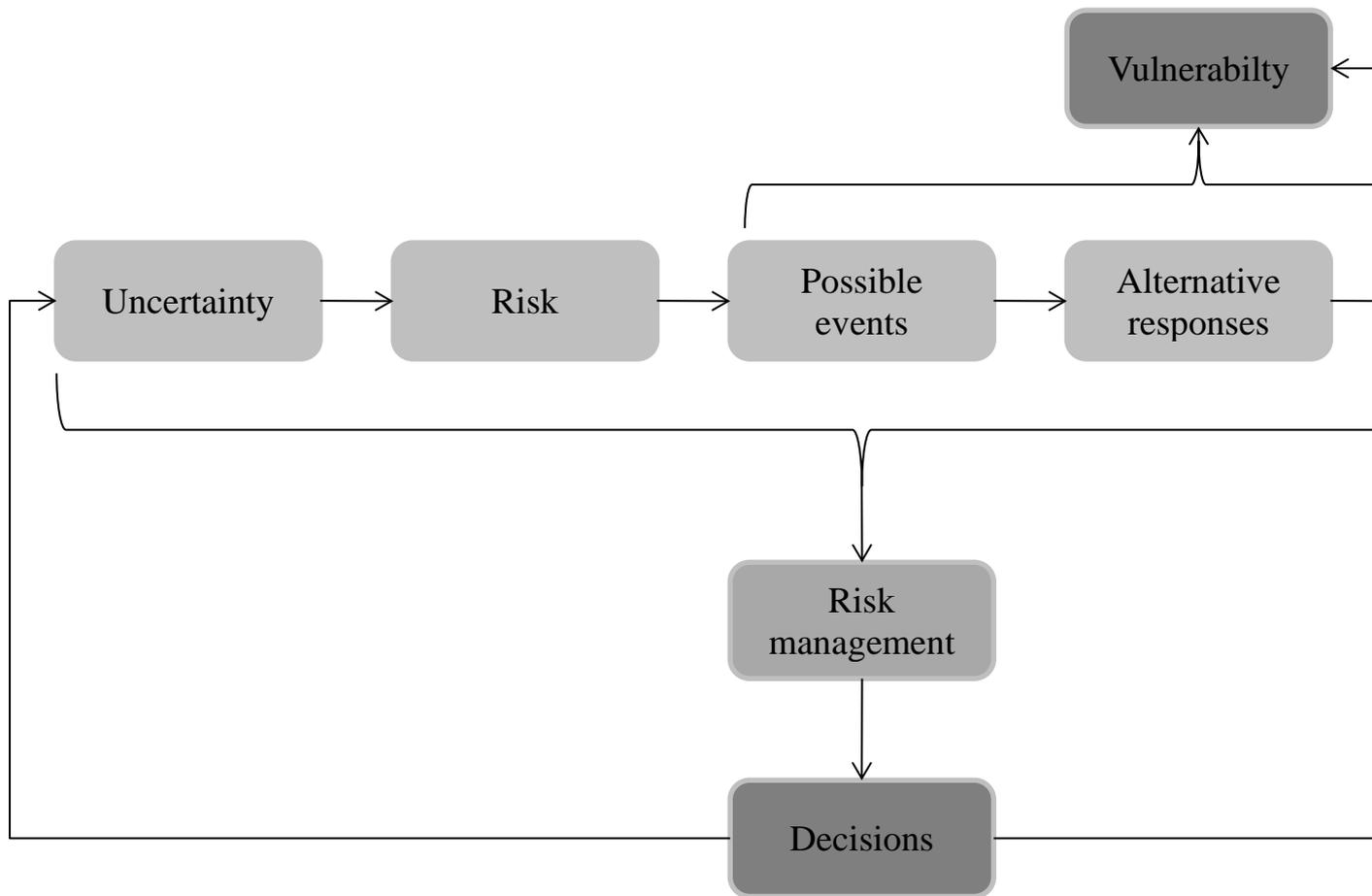


Figure 1 The basic process of risk management and its vulnerability

It can be seen that every risk management process starts with uncertainty. Due to this risk occurs (Waters, 2011). There are two different types of risk. There are external risks and internal risks. External risks arise for instance from natural disasters, wars, terrorism, epidemics. This means the external risks cannot be influenced by managerial decisions and actions. Internal risks arise through the management and the managements decisions in normal operations in the supply chain (Christopher, 2005). This means the risk manager has to deal with both of them – uncertainty and risk. The result of these two factors is different possible events with different probabilities. Every event has different consequences to an enterprise. For each risk event that occurs there are alternative responses (Waters, 2011). Generally there are two different ways to handle with risk events. On the one hand it is possible just to ignore it. This is the normal approach if decisions are based on normal conditions and risk events can be defined as rare. In this case managers start to react when something happens. This approach is called a reactive risk policy and can be slow and expensive. On the other hand there is the proactive approach. Therefore, risks have to be identified in advance to reduce them or reduce their effects. At the end of the basic process of

risk management there is the consequence. The consequence is the result of the risk event and its response (Waters, 2011).

Considering this chain from uncertainty to its consequences is called risk management. The main job of risk management is to deal with the risk events. It can be described in three core activities (see figure 2):

1. Identifying risk: This means the whole chain has to be examined. Therefore each activity has to be defined as well as their relationships. These activities and relationships have to be studied to find areas of risk. The output of the first core activity is a list of potential risk areas.
2. Analysis the risk: If the potential risk is identified the next core activity is to consider the potential of their impact. There are two factors according to the impact. On the one hand there is the probability that a risk event will occur. On the other hand there is the severity of consequences when it occurs. On the basis of these two factors risk managers can prioritize the risk events. The output of the second core activity is a list of risk events. The risk events with the highest impact should be on top of this list so that risk managers can concentrate their resources on it.
3. Design appropriate response: After identifying the risk the managers know the severity of it. Hence the risk managers have to find different ways to handle it. There are three common types to response to identified risks:
 - a. Prevention: This means to reduce the probability that a risk event occurs
 - b. Mitigation: This means to reduce the consequences of a risk event
 - c. Response: This means to wait until the actual risk event is evaluated and decide how to response on the basis of the results (Waters, 2011)

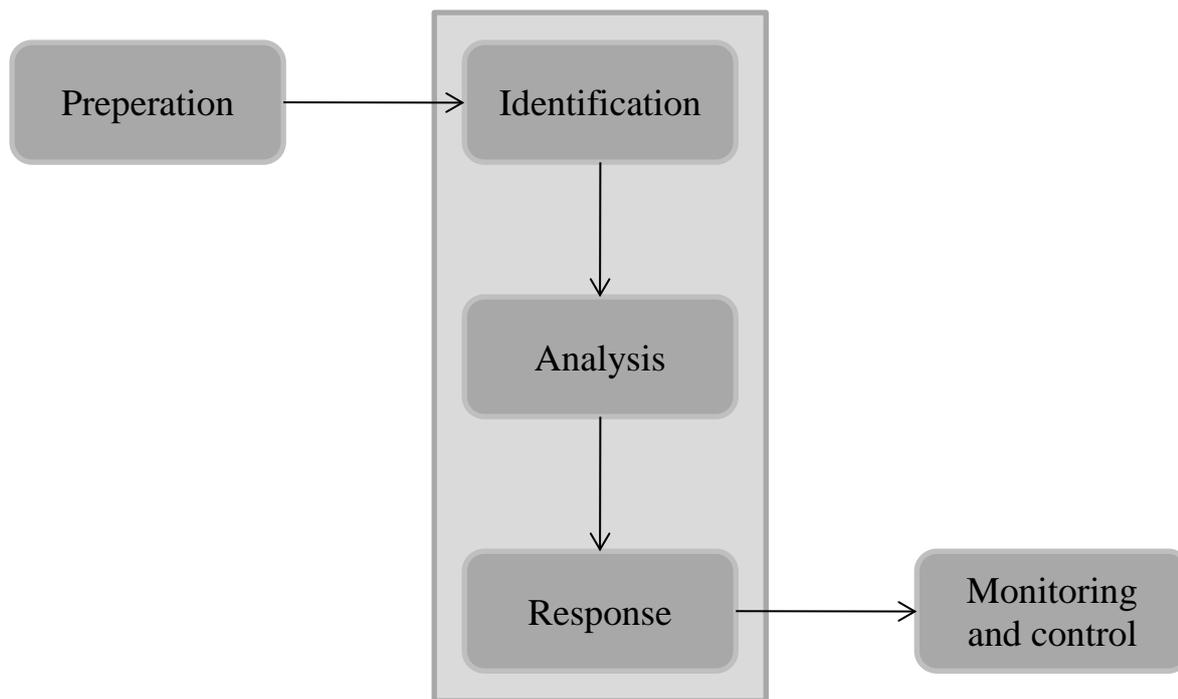


Figure 2: Three core activities of risk management

Besides the three core activities of risk management there is also preparation and monitoring needed. Beforehand preparation is needed to set up the organizational infrastructure and responsibilities of the whole risk management process. Therefore a risk strategy has to be defined to give context to all risk management decisions e.g. attitude to risk, aims and methods. Afterwards monitoring and control is needed. This is a continuous process because risks are changing constantly. So risk managers have to monitor the events continuously to control the risks. They also have to control the responses so that they are able to react to every changing risk in its best possible way (Waters, 2011).

Annual international damage through piracy

There are no exact official numbers about the annual international economic damage to the maritime industry caused by piracy. However, estimates indicate that the overall annual costs of piracy are between US\$1 billion and US\$16 billion. The real figure could be much higher, especially if the mitigation costs are also factored in (Chalk, 2009). Other estimations indicate that the costs maritime piracy are between US\$7 billion and US\$12 billion per year. This figure includes the costs for the organizations to combat piracy as well as the costs to all individual economic parties which have to bear the addition costs in case of damage. This more recent estimate differs between direct and indirect costs. On the one hand the direct costs must be borne by the parties which are directly affected from a pirate attack e.g. ship owners. On the other hand the indirect costs are difficult to calculate because they can

concern a whole economic area due to instability caused by piracy (Bowden, Hurlburt, Marts, Lee, & Aloyo, 2010).

Spread of piracy

Figure 3 shows that there were already piracy incidents at Pointe Noire in Congo Brazzaville. There are different meanings of the coloured spots in figure three and four. Yellow means attempted attack, orange means boarded, blue means fired upon, red means hijacked and purple means suspicious vessel (ICC, IMB Piracy & Armed Robbery Map 2013, 2013a).

All together it came to three incidents in Congo in 2013. In two cases the attacked vessels got boarded. The third case was an attempted attack. In all three cases the attacked vessels were anchored. In both boarding incidents the vessel crews were able to raise the alarm and the pirates were able to escape (ICC, IMB Piracy & Armed Robbery Map 2013, 2013a). Only the attack to an offshore tug on Sunday 24 November 2013 (attack number 233-13) the pirates were able to steal the ship's stores. Fortunately, in all cases the crew were safe from the attacks (ICC, 2013b).



Figure 3 The spread of piracy 2013

Figure 4 shows that there were already three boarding incidents in the first quarter of 2014. Compared to 2013, when there were only three incidents during the whole year. This shows that there is already an increase of piracy attacks in this region. It also shows that the spread of piracy attacks is heading in the direction of the Benguela coast.



Figure 4: The spread of piracy 1st quarter 2014

On Saturday 18 January 2014 a crude oil tanker went missing in Luanda in Angola (attack number 013-14). The anchored oil tanker was suspected to be hijacked by pirates and all communications with the crew were lost. The pirates stole a large amount of cargo before they released the oil tanker to the owners. One of the tankers crew members got injured during the hijacking (ICC, 2014a).

Current piracy hotspots in the south east Atlantic

Globally there were 264 piracy incidents reported to the Piracy Reporting Centre (PRC) of the International Maritime Bureau (IMB) in 2013. Compared to 2012 with 297 incidents globally, this means a decrease of 11% (IMB, 2014).

As seen in figure 3, the main piracy hotspot in the south east Atlantic is currently the Gulf of Guinea. In this area occurred 48 of the 264 piracy incidents in 2013. The most affected country is Nigeria. Nigerian pirate groups were responsible for 31 of the 48 incidents. These

attacks included two hijackings, 13 vessels boarded and 13 vessels fired upon. One crew member of the attacked vessels was killed and 36 kidnapped. The highest number of reported kidnappings through Nigerian pirate groups was 40 in 2008. Nigerian pirates were also involved in five further hijacking cases off Nigeria, Ivory Coast, Gabon and Togo in 2013 (IMB, 2014). This shows the heightened ability of Nigerian pirate groups to conduct attacks far away from their own coast.

Even other countries located at the Gulf of Guinea like Ivory Coast, Togo and Ghana were affected by piracy attacks or attempted attacks in 2013. The second most affected country after Nigeria was Togo with seven piracy incidents in 2013, followed by Ivory Coast with four and Ghana with one piracy incident. Other countries in this area like Benin and Cameroon have been unaffected of piracy attacks in 2013. Benin was affected by two attacks and Cameroon by one attack in 2012 (IMB, 2014).

Most involved types of ships

According to the International Maritime Bureau annual report 2013 most attacked types of vessels are tankers. Chemical and Product tankers got attacked 82 times in 2013. Another type of tankers which were involved in 39 piracy attacks in 2013 were tankers loaded with crude oil. Furthermore, bulk carriers, container ships and general cargo ships are main target of pirate groups (see table 1) (IMB, 2014).

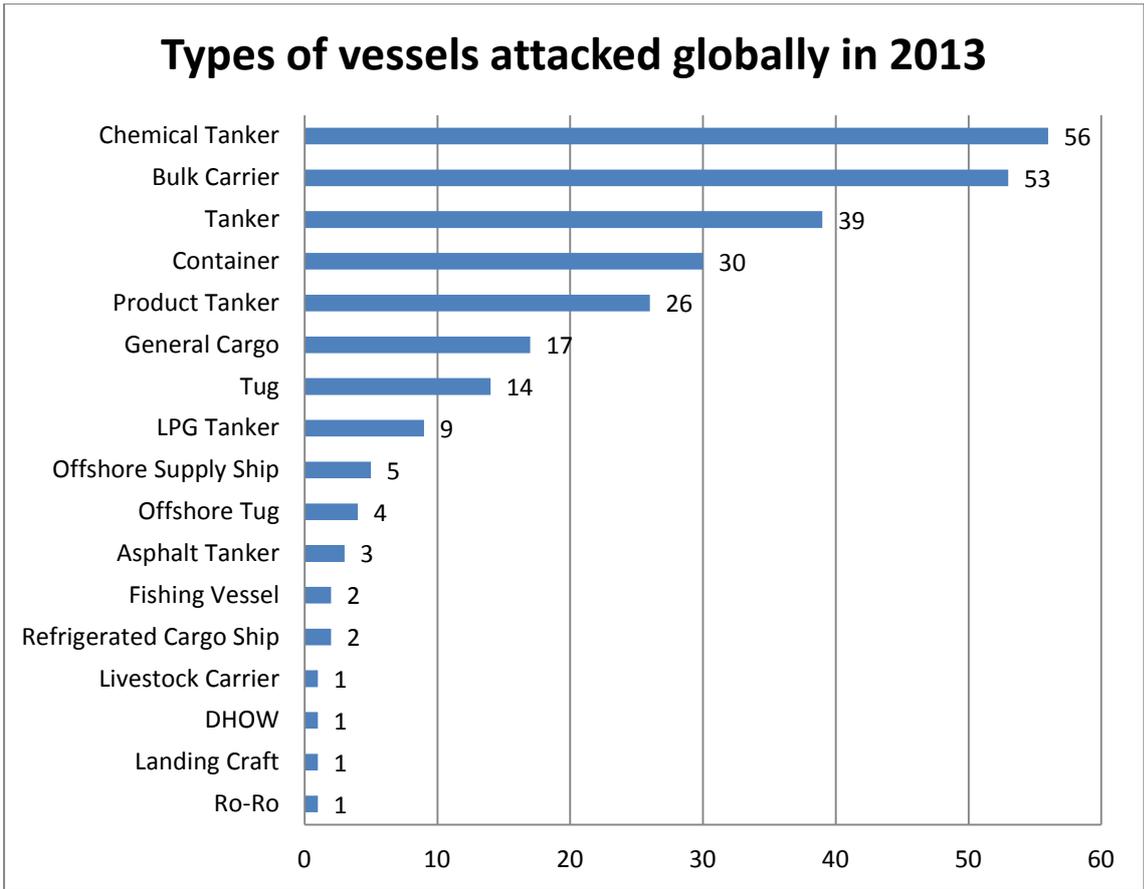


Table 1 Types of vessels attacked globally in 2013

This trend also reflected in West Africa again. Most piracy attacks concern vessels carrying petroleum products. The reason for this situation is that there is a booming black market for fuel in this region (UNODC, 2014).

The crude oil tanker which vanished in Luanda in Angola on 18 January 2014, MT Kerala, was released a week later from the hijackers off the coast of Nigeria. After hijacking the ship the pirates made a first stop in Republic of Congo for making their first sale of the stolen diesel. Thereafter, they moved on to the southwest coast of Nigeria for two more ship to ship diesel transfers. Altogether, the hijackers moved the MT Kerala 1.300 miles from Luanda to Nigeria and offloaded 12.270 tons of its diesel cargo. The market price of the stolen diesel was US\$10 million. This means if the pirates were able to sell the diesel for the half market price they earned US\$ 5 million within one week (Bridger, Piracy in the Gulf of Guinea: Oil Soaked Pirates, 2014). This therefore opens up a highly lucrative trade susceptible to pirate activity all along the western coasts of southern Africa.

Research methodology

This study uses five interviews to investigate if there is a risk potential of piracy in the Benguela coast region and how port operators, shippers and consigners can protect themselves from this threat.

The participants of the interviews are four managers in different leading positions in their companies and one port captain and supervisor. They are working in four different companies or institutions related to the maritime logistics sector in Namibia.

In this study open ended questions are used. This helps to get a detailed picture about the topic. The interview includes two DIN A4 pages of structured questions and contains four sections.

The interviews of this study are all conducted face to face at the participants' offices in Walvis Bay in Namibia. The interviews have been hold in English because the companies are located in Namibia and English is the country's official language. The interviews have been recorded to document them later. Furthermore, the researcher made additional notes during the interviews. It was necessary to conduct the interviews face to face and not via phone to avoid linguistic misunderstandings because English is not the first language of all participants and even of the researcher. Furthermore, the interviews were undertaken face to face due to the different cultural backgrounds of each interviewee and the researcher himself.

To analyze the gathered data, important statements of the interviewees are cited and evaluated. At some points there are additional sources of evidence used. This method is called triangulation. Various methods and perspectives are used to the same phenomenon. The strengths of one method or perspective are used for compensation of the weakness of another method or perspective. The aim of triangulation is to reach a higher degree of validity and avoid systematic errors (Yin, 2009).

Findings

The first set of the interview questions was about general information about the interviewee and his company. The four companies are located or have their main office in Walvis Bay in Namibia and all of them are operating in the maritime logistics industry.

The second set of question evaluates the interviewees point of view on the current risk level of piracy in the south east Atlantic. The participants identified the ports hinterland

infrastructure mainly the railway network to the neighboring landlocked countries as a main challenge in this region and for Walvis Bay in particular. This solution is currently not applied here. This means there is a limited value to use rail which is more cost effective, effective and environmentally sustainable (Savage, Jenkins, & Fransman, 2012). Another main challenge in the south east Atlantic is the competition of the ports such as the ports of Luanda, Cape Town and Walvis Bay. Despite these main challenges the interviewees identified the insecure political situation of some western African countries. The main example for this purpose is Nigeria due to precarious legal frameworks, poor law enforcements and corruption (Barrios, 2013). Furthermore, customs regulations are also a challenge in this region.

All participants agreed that piracy is also a challenge for shippers and freight forwarders in the south east Atlantic. The rating of their point of view on the current risk level in this region varies from low to high (see table 2).

Very high	High	Medium	Low	Nonexistent
0%	20%	40%	40%	0%

Table 2: Rating risk level in the south east Atlantic

The current piracy hotspots in the south east Atlantic are recognized up north from the equator. Mainly mentioned were countries in the area of the Gulf of Guinea. The hotspot number one in this area is Nigeria. Despite that, Cameroon, Togo, Gabon and Equatorial Guinea are piracy hotspots. This picture is confirmed by the annual IMB piracy report which identified 48 of the 264 global piracy incidents in the Gulf of Guinea in 2013 (IMB, 2014). Furthermore, south of the equator Angola were also recognized as a hotspot in this region.

There are different reasons why these hotspots are most attractive for pirates. First of all is the political situation in these countries due to the precarious legal frameworks and corruption. One interviewee mentioned that the governments do not really care about to stop piracy because they might be also involved in it somehow. This is the case especially in Nigeria but also in Angola and Gabon, where the authorities are part of the problem (Barrios, 2013). The second reason is why these hotspots are attractive for pirates, is the distribution of wealth in these countries. There is a small high income class but most people are live under the poverty line. There is no middle income class. While the elite is controlling the economy and the countries have high value minerals such as oil, most people are poor and unemployed (DW, 2014). Due to that, these people are seeking for opportunities to make fast money and

target vessels with high value cargo like oil and fish (Barrios, 2013). However, it is not only oil and fish vessels that pirates target. The interviewees recognized that pirate groups do not target only this specific cargo. It is more about the ransom they can reach by hijacking a vessel or kidnapping the crew. That is why they are also seeking for vessels which are easy accessible or vessels of big companies like Maersk which are able to pay high ransoms. Additionally they try at least to get access to the vessels safe where usually are high amounts of cash money. However, altogether oil was identified as the main target of pirate groups.

The third set of the interview questions was designed to identify the current risk level of the Benguela coast region and to get the interviewees expectations of how the piracy risk level will develop in the next years after Walvis Bay port increased its container handling up to one million TEU's a year and implementing a gas and oil supply base which will be one of the biggest in the SADC region.

Currently the interview partners rate the risk level of piracy in along the Benguela coast and for Walvis Bay port mainly nonexistent. Only 40% of the participants rated the current risk low because there is always some risk and all risk never can excluded (see table 3).

Very high	High	Medium	Low	Nonexistent
0%	0%	0%	40%	60%

Table 3: Current piracy risk level along the Benguela coast and for Walvis Bay port

This picture changed while discussing about the expectations of how the piracy risk level will develop in the next years after Walvis Bay port increased and implemented the gas and oil supply base in 2016 (see table 4).

Very high	High	Medium	Low	Nonexistent
0%	0%	40%	40%	20%

Table 4: Expectation of piracy risk level development along the Benguela coast and for Walvis Bay port in the next years

It can be seen that the interviewees expect an increase of potential piracy incidents in this area. The main reason for this increase is the upcoming higher traffic of gas and oil in this region and Walvis Bay port in particular. These high volume commodities might attract pirate groups to concentrate more on this region. 40% of the participants expressed that the potential risk of piracy will not come from Namibia. It will come from Nigerian or Angolan pirate groups. These statements underline the willingness of piracy groups to go long

distances for hijacking vessels of their interest which bring them high profits like shown on the example of the MT Kerala (Bridger, 2014). Only 20% of the interviewees expressed the view that there will be no changes of potential piracy risk in the Benguela coast region. Namibia will not be immune to this threat, but the interviewees expect that the law enforcements are in place and ready for this risk.

The fourth set of questions were designed to find appropriate risk management measures for a potential risk of piracy along the Benguela coast and Walvis Bay in particular. Furthermore, it was planned to find preventive measures for shippers, freight forwarders and port operators to protect themselves from this threat and also during certain pirate attack scenarios.

The interview partners expressed the view that right now during the planning and expanding period, Namport has to forecast the possibility of piracy in future as well as port vulnerability. Furthermore, preplanning for such risk is necessary. The right security measures have to be in place and more patrol vessels are needed to defense to piracy. However, Namport has already undertaken some steps to tighten the security in the port. They already implemented scanner so that they can see what type of cargo is going through the port. Additionally, they implemented port security and also set up a police office in the port to foster and improve the collaboration with the local law enforcements. Further security measures in future can be encouraging collaboration with the navy, or if necessary to put military persons onboard of the vessels at least in the area of Walvis Bay and Swakopmund.

The interview participants expressed various preventive measures for shippers and freight forwarders to reduce the risk of getting involved in piracy attacks. First of all, they have to make sure that the insurance cover is in place so that there is no risk to the cargo owners. The aggression is between the ship owners and the pirate groups. The shippers have to make use of the common International Ship and Port Facility Security (ISPS) code preventive measures. The ISPS code is a set of measures to enhance the security of ports and ships as well as the supply chain. It was developed inter alia due to the terrorist attacks on September 11, 2001 in New York (IMO, 2014). These measures are similar to the BMP4 Best Management Practice measures. Despite that, the shippers should know the areas and their risk where they are going and the crew should be aware and trained for such situations. The interviewees identified the use of security guards or special forces as the most adequate preventive measure. To make your security present and visual seems like the most effective

method to reduce the risk for getting involved in piracy attacks because pirate groups are looking for easy accessible vessels and they do not want to fight.

If nevertheless shippers and freight forwarders get involved in a piracy attack on the high seas, there are still measures to protect themselves from this threat. First of all, they should proceed with high speed. According to the Best Management Practice this is one of the most effective ways to defeat a pirate attack and means to proceed with a speed of 18 knots or more (BMP3, 2010). Anyway, they should try to counter this threat before the pirates come onboard and keep to international laws. However, if the pirates are able to get onboard it is most important to keep the crew safe. Therefore, the vessel should have something like a safe room where the crew can lock themselves inside. This can be for instance the bridge which is usually the focus for the attack because the pirates try to take control of the vessel (BMP3, 2010). Inside this room there is a radio which the crew can use to put an alarm to the piracy reporting centre which will send a navy vessel to save them. Therefore, it is important that the communication and navigation system is always in place to keep continuous updates about the situation and the vessel position.

Another possible piracy attack scenario is that the anchored vessels get attacked in the ports area. In this case the port operator should be able to protect the anchored vessels but even the port itself. Sixty percent of the interviewees expressed the idea that the only thing that the port operator can do is work together with the law enforcements such as police and navy. These forces will know how to solve this situation. Besides that, the other 40% of the participants recommended to show a high presence of security in the port at all times. Therefore, police vessels have to patrol the Namibian waters and port areas continuously. Even fishery vessels could be used to observe the Namibian territory. This presence of security will indicate the pirate groups that the port is prepared for such situations, that it is proactive and will make it less attractive for them to undertake an attack. Despite that, the shippers and freight forwards should be able to protect themselves from a pirate attack while anchored in the port. On the one hand, the interview partners mainly expressed the view that the best way for shippers to reduce the risk of getting involved in piracy attacks while anchored in the port, is to place security guards on the deck. These well trained and skilled security guards must patrol regularly around the vessel and observe the surrounding area and situation. Furthermore, they have to observe the radar continuously to check if any suspicious vessels come close to the ship. Additionally, the guards have to make it as difficult as possible for pirate groups to take control over the anchored vessel. If there are any illegal

activities around, they should contact the port control and request for assistance. The port control will inform the local law enforcements which will know how to solve this situation. On the other hand, the best and only solution for freight forwarders to reduce the risk for losing their cargo, is again to make sure that insurance cover is in place. But even the ship itself should be insured for this eventuality.

The final interview question was designed to give the participants an opportunity to add any other issues related to piracy in the Benguela coast region or risk management measurements to the interview. One interviewee stated that piracy is a disease. However, 60% of the interview partners expressed that Namibia is a peaceful country without pirate activities or suspicious activities which means Namibia has a low risk level about this subject. This current low piracy risk level might come from the countries non nonsense attitude to piracy as another participant stated. Namibia is as yet inexperienced with piracy, but anti-piracy exercises have commenced such as the Operation Welwitschia (Nkala, 2013). The interviewees did not exclude the view that piracy incidents could happen in Namibian waters in future, but continuous exercises will help the country to make them ready for such situations. They expressed the view that Namibia and Walvis Bays' port authorities take this potential risk to heart. Accordingly, there is a continuous development in the port security, such as implementing CCTV in all areas of the port or increases in the security presence.

Conclusion

Piracy is a global challenge. The Gulf of Guinea is currently the piracy hotspot in western Africa. The most affected country in this region is Nigeria. There are different reasons for this high level of piracy in Nigeria such as insecure political situation, corruption and poverty of the population. Due to that, pirate groups are seeking for opportunities to make money fast. In search of the right vessels and cargo, they are willing to go long distances like the case of the MT Kerala attack in Angolan waters shows. This willingness is a potential threat for the Benguela coast region. This situation also constitutes a potential threat for Walvis Bay port having increased the ports capacity, and after implementation of one of SADC region's largest gas and oil supply base in the next years. Thus, further forecasting and preplanning in security measures for the port is needed, so that the port authorities and the local law enforcements are prepared and ready for such situations. Furthermore, even shippers and freight forwarders have to be aware that there is a potential threat to their vessels and cargo in the Benguela coast region in future. This means even they have to preplan how to deal with

this threat. This study identified some preventive measures as well as measures during a pirate attack for shippers, freight forwarders and port operators. These measures should assist them to avoid getting involved in such situations or to protect themselves from this threat during an attack.

Recommendations

The aim of this research was to find out, considering piracy risk potential in the Benguela coast region how can port operators, shippers and freight forwarders operating in this region protect themselves from this threat. The basic process of risk management starts with uncertainty. However, this study shows that there is piracy potential alongside the Benguela coast which indicates that there should not be any uncertainty of it. On the basis of this potential threat, the participants of the conducted interviews identified several preventive measures as well as anti-piracy measures during a piracy attack for shippers, freight forwarders and port operators to protect themselves from this potential threat. The most important recommendations identified through the interviews are summarized below:

- Namport has to forecast the possibility of piracy in future as well as the ports vulnerability during the planning and expanding period. Preplanning for such risk is necessary, which means the right security measures have to be in place and more patrol vessels are needed to defense to the piracy.
- The main preventive measures for shippers and freight forwarders to reduce the risk of getting involved in piracy attacks are:
 - to make sure that insurance cover is in place so that there is no risk to the cargo owners,
 - that shippers have to make use of the International Ship and Port Facility Security (ISPS) code preventive measures which is similar to the Best Management Practices,
 - to know the risk areas,
 - to use security guards or special forces and it make it present and visual.
- During a pirate attack on the high seas the most adequate measures for shippers and freight forwarders to protect themselves from this threat are:
 - to proceed with high speed,
 - try to counter this threat before the pirates come onboard.

- The only thing what port operators can do if an anchored vessel gets attacked in the ports area is work together with the law enforcements such as police and navy.
- The most adequate method for shippers and freight forwarders to protect themselves while anchored in the port is again to place security guards on the deck.

The following table shows the most important identified measures for each party:

	Shippers	Freight forwarders	Port operators/Namport
Preventive measures	Insure the vessel	Insure the freight	Place right security measures in advance
	Make use to the ISPS code		more patrol vessels are needed
	Know the risk areas		
During an attack on the high seas	Proceed with high speed		
	Make use of security guards		
	Counter the pirates before they come onboard		
During an attack in the ports area	Make use of security guards		Collaborate with the law enforcements
	Collaborate with the law enforcements		

Table 5 Recommendations

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