

# **Maritime Security: The Singaporean Experience**

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## Singapore: A Maritime Hub

A secure maritime domain is of paramount importance to Singapore. Firstly, the uninterrupted flow of seaborne trade to and from its port terminals is vital to the stability of its economy. At any one time, there are approximately 1000 ships in port. On average, it is estimated that some 140,000 vessels visit Singapore annually. This includes more than 10,000 oil tankers and 7000 chemical tankers every year.<sup>1</sup>

Singapore's high dependence on the maritime sector is due to its strategic location at the southern end of the Malacca Straits. At least 63, 000 vessels pass through the Singapore Straits on an annual basis on their way to the Straits of Malacca,<sup>2</sup> a waterway that has been described as one of the *arteries* of the global economy. Approximately one-third of the world's trade and half of the world's oil passes through the Malacca Straits, on its way to countries such as China and Japan.

Secondly, Singapore lacks strategic depth and its borders, which are entirely maritime, are by their very nature porous. Given that the country has been a terrorist target in the past and that piracy continues on an almost daily basis, it is vital that Singapore secures its borders and commercial shipping against these threats. As a result, maritime security has been a high priority of the Singapore Government, for the protection of its economic interests and its national security. Consequently, Singapore has been at the forefront of this field, both in terms of the implementation of measures and in promoting/taking part in multilateral and bilateral cooperation.

I will begin by giving an overview of the real and potential threats faced by Singapore. This will be followed by an examination of the maritime security measures

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<sup>1</sup> [http://www.mpa.gov.sg/maritimeportsecurity/maritime\\_security.htm](http://www.mpa.gov.sg/maritimeportsecurity/maritime_security.htm)

<sup>2</sup> Straitrep 2004 data provided by Capt. Mathew Mathai from the Nippon Maritime Centre, Singapore.

implemented by the state, in particular those that were put in place post-9/11. Recommendations will then be made on the direction that future counter-measures should take, not only in the context of Singapore but also on the regional level.

## **Southeast Asia – A Piracy Hotspot**

Singapore is located at the edge of one of the world's most high-risk zones for pirate activity. Despite a slight decrease in the number of reported pirate attacks, Indonesia continues to record the highest number in the world with 93 reported incidents in 2004.<sup>3</sup> The Malacca Straits ranked second highest with 37 reported cases, which was an increase from the year before. Together, these two areas account for over a third of the total pirate attacks worldwide. Despite this, the Singapore Straits have in recent years remained relatively piracy free. Since the number of incidents peaked in 1999, with 14 reported attacks, it has continually fallen to an all-time low in 2003, when only two were reported.<sup>4</sup> Although there was a slight increase in the number reported in 2004, a more detailed examination of the incidents reveals that of the eight that were reported, only six were actual attacks.

## **Piracy in Southeast Asia: Modus Operandi**

### *Harbour and Anchorage Attacks*

This type of attack is most common in Indonesian waters and consists of the opportunistic boarding of a ship while it is berthed or at anchor in or near a harbour. 51 actual attacks out of a total of 72 that occurred in Indonesia fall into this category.<sup>5</sup> These attacks generally take place at night between the hours of 0100 and 0600 hrs. The criminals board a ship, steal what they can immediately lay their hands on - for example cash or electronic equipment - and escape, often without the knowledge of the crew.

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<sup>3</sup>Piracy & Armed Robbery Against Ships Annual Report, *ICC International Maritime Bureau*, 2004, p. 16

<sup>4</sup> *Ibid.*, p. 4

<sup>5</sup> *Ibid.*, p. 8.

There is evidence of selective opening of containers or holds with high value cargoes, implying prior knowledge of the cargo manifest. This may be due to the fact that the perpetrators previously had access to the ship as employees of a shore-based contractor.

In Southeast Asia, these attacks tend to be less violent as the robbers are not interested in serious confrontations. In some cases it has been reported that the pirates fled empty-handed when surprised by an alert crew. The average take is less in this type of attack than other more sophisticated operations, and ranges from US\$5,000 to US\$10,000.<sup>6</sup>

### ***Attacks Against Vessels at Sea: Robbery***

This kind of piracy is often referred to as ‘Asian’ piracy. The sea areas dotted with islands and rocks which characterise the region form ideal hiding places for these ‘hit and run’ attacks, which have in the past taken place relatively frequently.

In this type of attack, the pirates come alongside a ship underway, usually at night, again most often between 0100 and 0600 hours, board it using grappling hooks and then take possession of cash and valuables from the ship’s safe and the crew, including high-tech navigation equipment or whatever else they can seize quickly. In this type of attack the value of the stolen goods can be between US\$10,000 and US\$20,000.<sup>7</sup> In recent years there has been an increase in the number of incidents where several vessels intercept a target and open fire on the ship, forcing it to stop. In this style of attack the ship can be seized for up to a few hours by around five to ten pirates, although many attacks can be over within half an hour.

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<sup>6</sup> Adam Young & Mark Valencia, Conflation of Piracy and Terrorism in Southeast Asia: Rectitude and Utility, *Contemporary Southeast Asia*, Vol. 25, No. 25, 2003, p. 272.

<sup>7</sup> Anthony Davis, Piracy in Southeast Asia shows signs of increased organization, *Jane’s Intelligence Review*, 1 June 2004, p. 2.

This mode of attack requires a certain amount of capital investment in boats and arms, and a certain degree of organisation is necessary in order to coordinate a large group and to obtain inside information regarding what a particular vessel is carrying.

In the last year-and-a-half there has been a drastic reduction in the number of robberies taking place in the Malacca and Singapore Straits. In 2004, there were eight reported robberies at sea out of a total of 41 attacks, whereas in 2003 there were 20 robberies out of a total of 36. The decrease in robberies at sea, as opposed to other types of piracy, some of which saw an increase over the same period, may be due to an increased awareness on the part of some crewmembers to the threat of piracy following the introduction of new maritime security requirements for vessels.

### ***Attacks Against Vessels at Sea: Hijacking***

This brand of piracy involving a vessel underway may be less common but is far more serious. It involves the long-term seizure or hijacking of a vessel, perhaps for several days, while the cargo is unloaded at ports selected by the pirates or transferred to another vessel. In Southeast Asia, particularly in the late 1990s, the favourite cargo to steal was fuel oil that was easily sold onto a booming black-market.

This type of incident was not seen at all in 2003. It is believed that China's crackdown on black-market activity and the disruption of the international crime syndicates involved (several of which were believed to have been run by Indonesian-Chinese bosses) was a contributing factor. However, this positive development was short-lived as such an operation was recently carried out in an attack which took place on the 22 April 2005. At 5 am, gun-wielding pirates hijacked a vessel carrying a cargo of tin worth \$4.6 million just off the Lingga Islands in Indonesian waters. The vessel, which was en route to Singapore, was boarded by the pirates, who then ordered the crew to sail the ship to Pasir Gudang port, in Malaysia's southern Johor state. The vessel docked in Pasir Gudang port for two days while the crew unloaded the tin into a warehouse under threat of being killed if they did not cooperate. On 25 April, the pirates ordered the ship

back to Indonesian waters and escaped in a speedboat, leaving the crew uninjured. After the incident was reported, authorities checked the warehouse and found the cargo of tin intact. The investigation continues.<sup>8</sup>

This kind of operation requires good intelligence gathering and careful planning as the risk of being caught is greater. However, so too is the potential return. There is a need for the pirates to have secured a location to dock and unload the cargo, or another ship to transfer it to. Reliable access to markets for their stolen cargo is also required. There must be a plan to deal with the hostages. They may also in some instances gain the compliance of the local authorities. Bribery is often used to achieve this goal. In some extreme cases, it is believed that officials may even provide pirates with information on vessels and cargoes in their areas of jurisdiction.

A variation of this category of attack is the permanent seizure of a vessel by pirates, wherein the vessel is turned into a “phantom ship”; the key difference being that once the pirates have disposed of the vessel’s cargo, they do not abandon the vessel. In this type of attack the ship is then repainted and the crew dumped or killed. The ship then sails into a new port with a false name and forged documentation. Maritime certificate fraud is common in the maritime industry. The problem lies in the fact that it is possible to acquire, relatively easily, the legal documents needed to command a vessel, without any proof of qualifications. In these types of operations the vessel is often given a temporary six-month registration under a flag of convenience. This allows the vessels’ owners to hide behind a wall of secrecy created by the dubious ownership structures of flag of convenience shipping. These vessels are then often used in various maritime criminal activities, such as to conduct pirate attacks and the smuggling of goods and people.

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<sup>8</sup>Worldwide Threat to Shipping Mariner Warning Information, Office of Naval Intelligence Civil Maritime Analysis Dept, 18 May 05, at [http://pollux.nss.nima.mil/MISC/wwtts/wwtts\\_20050518000000.txt](http://pollux.nss.nima.mil/MISC/wwtts/wwtts_20050518000000.txt) <accessed 18 May 2005>

The most famous case of this kind was the hijacking of the Singaporean-owned *Petro Ranger*, in April 1998. A large tanker carrying a cargo of diesel and Jet-A1 fuel, the *Petro Ranger* was on its way from Singapore to Ho Chi Minh City. The vessel was taken over by pirates three hours out of Singaporean waters. The ship's name was painted over and it was renamed *MV Wilby*. Its Malaysian flag was exchanged for a Honduran one. A day later most of its cargo was transhipped into two other tankers in the Gulf of Thailand. The ship was sailed into port on China's Hainan Island, where the pirates passed themselves off as the ship's rightful crew. Despite the fact that the Chinese authorities arrested the pirates, they were released after only a few months in jail.<sup>9</sup>

In recent times there has been a shift away from the hijacking of larger freighters and tankers, and an increase in attacks against tugboats. In 2003, according to IMB statistics, a total of 13 vessels were hijacked in Southeast Asian waters. 10 out of the 13 hijacked ships were tugs either sailing alone or pulling barges.<sup>10</sup> Although the figures are lower for 2004, they show the same pattern of targeting: out of the eight hijackings that took place, five of the vessels were tugboats.<sup>11</sup> There was a concern that the stolen tugs could be used by terrorists to carry out attacks against shipping in the Straits of Malacca. Stories circulated in the media that these vessels could be packed with explosives and rammed into tankers carrying gas or petroleum products, or into port facilities close to large cities. The vessels could avoid suspicion given their small size and the fact that they are a common sight in ports and international waterways.

### ***Kidnap-for-ransom***

This category of piracy first emerged in 2001 and in the last two years there has been a rapid and worrying increase in the number cases in Southeast Asian waters. In 2004 alone

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<sup>9</sup> Anti-Shipping Activity Messages, 1998, at <http://www.fas.org/irp/world/para/docs/ASAM-1998.htm> <accessed 20 May 2005>

<sup>10</sup> Piracy & Armed Robbery Against Ships Annual Report, *ICC International Maritime Bureau*, 2003, p. 27 – 44.

<sup>11</sup> Piracy & Armed Robbery Against Ships Annual Report, *ICC International Maritime Bureau*, 2004, p. 29 – 43.

there were 14 kidnap-for-ransom attacks in the Malacca and Singapore Straits. This was more than triple the number that occurred in 2003.

In a typical operation of this kind the attackers perform an armed takeover of the vessel (often the vessel is a small one, for example a tug boat) followed by the abduction of two or three senior crewmembers who are held ashore pending negotiations. The result is normally the release of the kidnapped crewmembers following the payment of a ransom by the crew's employers.<sup>12</sup> According to Noel Chong of the IMB, many of these attacks are likely to go unreported as ship owners want to avoid a backlash from the industry for giving into the demands of the pirates.<sup>13</sup> Ransoms demanded for the release of crew members can range from US\$100,000 to US\$200,000. However, the sum of money eventually paid to the attackers following negotiations is usually substantially lower, somewhere in the region of US\$10,000 to US\$20,000.

This new brand of piracy drew considerable media attention when two incidents occurred within days of each other in the Malacca Strait. In the first attack, which took place on 12 March 2005, an Indonesian chemical tanker was the target. 35 gunmen, who according to reports were armed with rocket launchers, stormed the tanker and kidnapped the captain and the chief engineer. The second attack took place a few days later on 14 March. The target this time was a Japanese-registered tugboat, which was towing a construction barge from Indonesia to Burma. Pirates in three fishing boats opened fire on the tug, forcing it to stop. The pirates stole US\$7000 worth of navigational charts and documents and kidnapped three members of the crew. The attacks sparked a considerable reaction from the littoral states, Indonesia and Malaysia, which both launched rescue operations.

In the past, it was believed that, rather than pirates, terrorist groups such as ASG and the Free Aceh Movement, also known as GAM, were responsible for carrying out these attacks. GAM in particular was singled out as being responsible for the dramatic

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<sup>12</sup> Anthony Davis, Piracy in Southeast Asia shows signs of increased organization, *Jane's Intelligence Review*, 1 June 2004, p. 3.

<sup>13</sup> Ibid.



increase in attacks in Indonesian waters at the northern end of the Malacca Straits, off North Sumatra; this is traditionally one of its areas of operation. Since the 1970s GAM has been fighting a separatist war against the Indonesian Government, with the aim of creating an independent Islamic kingdom in the province of Aceh. The group is said to partly finance its terrorist activities through sea piracy and smuggling.<sup>14</sup> However, GAM has only ever admitted to carrying out one attack, which was against a boat being chartered by Exxon Mobil, in 2002.

One such attack attributed to GAM was the hijacking of the *Penrider*, en route from Singapore to Penang, in August 2003. The tanker, which was carrying fuel oil, was boarded 12 miles from Port Klang, Malaysia, in the Malacca Straits by eight to 14 armed pirates who kidnapped three crewmembers.<sup>15</sup> After protracted ransom negotiations, the hostages were returned unharmed. According to one member of the crew, the pirates were wearing military-style fatigues, spoke the Acehnese language and claimed to be Aceh soldiers. Some of the hostages were even taken to jungle hideouts in Aceh, where according to the statements made by the victims, the pirates made no secret of the fact that they belonged to GAM.<sup>16</sup>

Despite evidence pointing to the involvement of GAM, officials remain undecided. It would have been their first such attack so close to the Malaysian coast and so far south of Aceh. GAM also vehemently denied any involvement.

The rapid increase in incidents of kidnap-for-ransom has prompted many in the maritime security industry to come to a new conclusion - that these attacks are not necessarily perpetrated by terrorist groups but are the work of crime syndicates operating from fishing boats and staging copycat kidnaps which they see as an easy way to make money.

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<sup>14</sup> Ralf Emmers, *Non-Traditional Security in the Asia-Pacific*, Eastern University Press, p. 37.

<sup>15</sup> New brand of piracy threatens oil tankers in Malacca Straits, *ICC Commercial Crime Services*, 2 Sept 2003, at [http://www.iccwbo.org/ccs/news\\_archives/2003/piracy\\_ms.asp](http://www.iccwbo.org/ccs/news_archives/2003/piracy_ms.asp) <accessed 6 Sept 2005>

<sup>16</sup> Kate McGeown, 'Aceh rebels blamed for piracy', *BBC News Online*, 8 Sept 2003, at <http://newswww.bbc.net.uk/1/hi/world/asia-pacific/3090136.stm> <accessed 21 May 2005>

## **The Pirates**

### *Small-scale Criminals*

Pirate attacks in Southeast Asia are carried out by a variety of groups. However, the majority are perpetrated by small-scale petty criminals. For this reason, their attacks are less organised and more opportunistic. Their targets are mostly small vessels in port or anchorage, or those on local voyages between, for example, one Indonesian port and another. This category of pirate is also least likely to be well-armed. Most will carry knives or machetes but occasionally guns may also be used.

Those suspected of being involved in small-scale pirate attacks in and around the Straits of Malacca are believed to be mainly of Indonesian nationality, living in coastal settlements, who use piracy as a way of supplementing their inadequate living. There has also been some speculation that members of the Indonesian military may be involved in, or are carrying out, pirate attacks.

### *Criminal Syndicates*

The IMB believes that about five criminal syndicates – probably based in Indonesia and Malaysia – are responsible for most of the larger-scale hijackings in the Straits of Malacca.<sup>17</sup> These attacks feature well-trained personnel using fast boats, modern weapons and in some cases, sophisticated communications.<sup>18</sup> These groups are likely to have established links to the black market, where they would be able to dispose of their stolen cargo. They may also be in collusion with local authorities, who would be needed to guarantee a safe port for cargo to be unloaded or in some cases a secure berth where a

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<sup>17</sup> Simon Elegant, 'Dire Straits'. *Time Asia*, 6 Dec 2004, p. 2.

<sup>18</sup> 'Piracy and maritime terror in Southeast Asia', *Strategic Comments*, The International Institute for Strategic Studies, Vol. 10, Issue 6, 2004, at <http://www.iiss.org/newsite/stratcomfree.php?scID=386> <accessed 22 May 2005>

vessel can be given a new identity. These pirate groups may have connections with warlords and political movements that are linked to terrorism.

### ***Terrorist Groups***

As was noted above, although there is very little evidence to substantiate it, the terrorist group GAM is often accused of being responsible for pirate attacks in the Straits of Malacca, the waters around Indonesia and even Malaysia. In the Philippines the line between piracy and terrorism is even more unclear. ASG, the Moro Islamic Liberation Front (MILF) and the Moro National Liberation Front (MNLF) all engage in maritime piracy to generate much needed funds.<sup>19</sup> There has even been speculation that some segments of ASG and GAM are undergoing a process of criminalisation.<sup>20</sup> In other words, they are becoming increasingly motivated by pecuniary rewards rather than ideological or political goals.<sup>21</sup>

The targets of these groups are often small, vulnerable vessels such as tugs or fishing boats. This is due to the fact that the target is not the vessel itself, or its cargo but the crewmembers, who can be kidnapped and held for ransom. In cases such as these, when the attack takes place in the Straits of Malacca or the waters around Indonesia, it is most likely that the hostages will be released unharmed. However, in the waters around the Philippines some of these attacks are carried out by the ASG, who have been known to kill hostages in the past.<sup>22</sup>

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<sup>19</sup> Eduardo Ma R Santos, Piracy & Armed Robbery Against Ships: Philippine Perspective, paper delivered at ISEAS conference: Maritime Security, Maritime Terrorism and Piracy in Southeast Asia, 23-24 September 2004, p. 5.

<sup>20</sup> If a group becomes motivated by pecuniary rewards, the acts that it carries out no longer fall under the definition of terrorism, which states that: Terrorism is “the unlawful use or threatened use of force or violence against people or property to coerce or intimidate governments or societies, often to achieve political, religious, or ideological objectives.” At <http://www.globalsecurity.org/military/library/policy/army/fm/100-20/10020gl.htm> <Accessed 1 July 2005>

<sup>21</sup> Stefan Eklof, Political Piracy & Maritime Terrorism: A Comparison Between the Southern Philippines and the Straits of Malacca, *paper delivered at ISEAS conference: Maritime Security, Maritime Terrorism and Piracy in Southeast Asia*, 23-24 September 2004, p. 5.

<sup>22</sup> The use of piracy by terrorist groups must not be confused with acts of maritime terrorism. It has been well documented that terrorist groups have resorted to criminal activities in order to generate funds for their political campaigns. However, these criminal acts are not in themselves acts of terrorism.

## Equipment

Pirate boats are usually equipped with several outboard motors on the back, allowing them to go almost three times as fast as tankers. They often make use of modest radar systems to help them locate their targets. Pirates also use a low-tech version of stealth technology: that is “they choose boats made of wood, which are hard to spot on radar.”<sup>23</sup> According to reports, pirates can be armed with weapons ranging from knives to rocket launchers, AK47 and M16 rifles.<sup>24</sup> However, in a typical attack the most common weapons are still knives and guns.

## The Targets

The vessels most commonly targeted by pirates in Southeast Asia as a whole are bulk carriers. Almost a third of all attacks in Southeast Asia are against this type of vessel. This is due to a number of factors: bulk carriers may travel at a limited speed when making their way up the narrow waterways of the straits and they are also minimum freeboard ships. Thus the vessel is more easily boarded by pirates when it is underway. These vessels are vulnerable while at anchor or at berth because there is likely to be a reduced crew while they await the next cargo. Pirates have also attacked bulk carriers during cargo operations, when the crew is preoccupied with the task of loading the new cargo.

In the Straits of Malacca and Singapore specifically, over the last five years the most common targets have been tankers and general cargo vessels. These vessels are likely to be attacked firstly because they are numerous in these waters, and secondly because they are frequently engaged on local voyages closer to the coast, thereby making them easy targets for pirates lying in wait.

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<sup>23</sup> Keith Bradsher, ‘Threats and Responses: Seaborne Trade; Warnings from Al Qaeda Stir Fear that Terrorists May Attack Oil Tankers,’ *New York Times*, 12 Dec 2002, p. 3

<sup>24</sup> Special Press Summary: Piracy in the Malacca Straits, *Virtual Information Centre*, 16 Feb 2005, p. 7.

## Maritime Terrorist Threat

While piracy may represent the greatest threat to shipping on its way to and from Singapore, terrorism is now the number one threat to its port and shipping terminals. Following the attack on the USS Cole in 2000, the MV Limburg in 2002, and the Al Basra Oil Terminal last year, the threat of maritime terrorism cannot be ignored. In Southeast Asia specifically, the Jemaah Islamiyah (JI) network, despite recent arrests, remains resilient. Indeed, the second attack on Bali is evidence of its continued capability to carry out attacks. In late 2001 JI had planned to target American military vessels at Changi Naval Base, in Singapore.<sup>25</sup> However, it is understood that these plans had to be put on hold as the Singapore JI members lacked the operational capacity to launch the attack.

The Philippines continues to be a haven for terrorist activity, with evidence of terrorist training camps on the Philippine island of Mindanao and growing cooperation between J.I. and the two Philippine Muslim insurgency groups -- the Moro Islamic Liberation Front (MILF) and the Abu Sayyaf Group (ASG). Both MILF and ASG have carried out previous maritime terrorist attacks. One such attack by MILF took place on a busy seaport in Davao City, in the Philippines, in April 2003. Around seventeen people were killed in the attack. The group also carried out attacks on Philippine shipping, mainly placing bombs on domestic inter-island ferries being used to transport members of the Armed Forces of the Philippines and Christians to and from Mindanao. On February 27, 2004, ASG carried out a suicide bombing on the M/V Superferry 14 shortly after it left Manila Bay, killing more than 100 people. This attack resulted in the greatest number of deaths since the first Bali bombing.

Due to the fact that a pirate or terrorist attack may take many different forms, a number of different types of targeted countermeasures are required. Also, due to the

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<sup>25</sup> Terrorist Arrests in Singapore, *Channelnews Asia*, at [http://www.channelnewsasia.com/cna/arrests/press\\_020919.htm](http://www.channelnewsasia.com/cna/arrests/press_020919.htm) <accessed 1/11/2005>

transnational nature of the threats and that their source in most cases lies outside Singapore's jurisdiction, measures must be implemented both at the national level, the bilateral and multilateral level.

## **Maritime Security: The Singaporean Way**

The lack of piracy, and/or a major maritime terrorist attack in the Singapore Straits is testimony to the success of Singaporean countermeasures. In the area of maritime security the Government has been very proactive, establishing a layered defence strategy built upon the strong conceptual framework of prevent-protect-respond. Since 2002, the Maritime Security Working Group has recommended and implemented measures to enhance security in the Singapore Straits and its territorial waters. However, due to a perceived increased threat from maritime terrorism and piracy, the working group has now been elevated to a task force. This task force is led by the Permanent Secretary for Defence and has the task of comprehensively reviewing maritime security measures and recommending improvements to address gaps in the current system.

Singapore's maritime security is primarily implemented by four key agencies: the Republic of Singapore Navy (RSN), in particular the 180 Squadron of the Coastal Command, the Police Coast Guard (PCG), the Maritime and Port Authority (MPA), as well as the Immigration and Checkpoints Authority (ICA), working in concert to provide a holistic approach to the threat.

As part of its immediate and longer-term maritime security strategy Singapore has identified six areas or components, which are mutually supportive and provide the foundation for its efforts. Within each component, initiatives and security measures have been conceived and implemented.

## *Situation Awareness*

The first key component of the strategy is Situation Awareness. Due to the huge quantity of traffic plying through the Straits on a daily basis it is necessary for Singapore to have a recognised sea situation picture to identify and sieve out suspicious targets. It does this in a number of different ways. Singapore has three operations centres whose task it is to detect, collate, identify and prosecute the threat. These are the Port Operation Control Centre under the MPA, the Coastal Command Operations Centre under the Navy and the Police Coast Guards POLCOM under Singapore Police Force. These organisations receive their sea situation pictures from the integrated surveillance and information network at the Port Operations Control Centre (POCC). It is hoped that the continual vigilance maintained by these centres will provide early warning of an attack.

In addition, Singapore has just completed the installation of new radars at Changi Naval base to increase the radar coverage of its territorial waters. In addition it has increased navy and coast-guard patrols in its waters.<sup>26</sup>

On the bilateral level, the Singaporean and Indonesian navies have launched a system that provides real-time radar surveillance for the Singapore Strait. The new system, known as SURPIC or the Surface Picture, Surveillance System, will be located on Batam in Indonesia.<sup>27</sup>

On the multilateral level, Singapore, Malaysia and Indonesia, with Thailand as an observer, began joint air patrols over the Malacca Strait in a bid to boost security in the waterway. The three states will each donate two planes for the patrols, which have been dubbed the 'Eye in the Sky' plan. It is hoped that the aerial patrols will provide a valuable supplement to the Trilateral Coordinated Sea-Patrols begun last year and carried out by the navies of the littoral states. One significant advantage of the aerial patrols is that they will be able to fly for up to three nautical miles inside the territorial waters of

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<sup>26</sup> Interview with Col. Chng Teow Hiang, Commander of Coastal Command on 24 February 2005.

<sup>27</sup> Singapore, Indonesia navies launch sea surveillance System, Channelnews Asia, 27/5/2005, at <http://www.channelnewsasia.com/stories/singaporelocalnews/view/149677/1/.html> , <accessed 1/11/2005>

the participating states. In the sea-patrols the navies were limited to patrolling in their own territorial waters.

On a less optimistic note, the 'Eye in the Sky' plan has already been criticized as being merely 'for show'. It is estimated that 70 sorties per week need to be carried out by the aerial patrols in order to effectively monitor the Strait 24/7. However, currently only 8 take place.<sup>28</sup> There is also a lack of sea-patrol vessels available to carry out investigation and interdiction if necessary, following the sighting of a suspect vessel by the aerial patrols. Although the 'Eye in the Sky' plan clearly has room for significant improvement, the valuable deterrent effect it will have on potential attackers cannot be dismissed.

Singapore has made full use of technological advances in order to enhance its Situation Awareness. It has installed Automatic Identification Systems on all vessels registered in Singapore of 300 gross tons and above engaged on international voyages. This requirement was made mandatory by the International Maritime Organisation last year. AIS is a shipboard broadcast system that acts like a continuous and autonomous transponder. It allows ships to easily track, identify, and exchange pertinent navigation information from one another or ashore. Singapore took this one step further when last year, the MPA began to look into ways to track the 3,000 smaller harbour craft that ply Singapore's port waters, not fitted with the new AIS transponders. This was recognised as a top priority due to the fact that both the attack on the *USS Cole* in Aden in 2000 and the bombing of the tanker *Limburg* in 2002 off the coast of Yemen, made use of a small high-speed boat to carry out the attack. It was feared that such similar attack could be mounted in Singapore.

It was decided that a Harbour Craft Transponder System (HARTS) should be developed that could allow the tracking of small harbour craft, such as tug boats and barges that are registered in Singapore. This would mean that the number of unknown craft in Singapore's waters would be considerably reduced, possibly by up to 80

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<sup>28</sup> G. G. Ong & J. Ho , Maritime Air Patrols, A New Weapon Against Piracy in the Malacca Straits, *IDSS Commentary*, 13/10/2005.



percent.<sup>29</sup> Thus, optimising resources to actively seek out any unidentified craft that would be easily identified and spotted. This new system is due for completion in December 2007.

### ***Flexible and Calibrated Capabilities***

Given the diverse nature of the threats facing Singapore today it is essential that the Singapore Armed Forces possess flexible and calibrated capabilities in order to effectively deal with any challenges it faces. To meet this requirement the RSN created the Accompanying Sea Security Teams (ASSeT). These teams comprise of small groups of armed personnel that are placed on selected merchant vessels, based on shipping data analysis conducted.<sup>30</sup> Their aim is to detect and deter any terrorist activity onboard these vessels within Singapore waters and ensure that the threat is neutralized.

### ***Credible Presence and Deterrence***

The third component of the maritime security strategy is the maintenance and strengthening of a credible presence to deter any potential adversaries. A number of measures have been implemented in order to achieve this. Firstly, the RSN has in place a comprehensive base defence management system which is tasked with securing both of its naval bases. In addition, force protection is provided for foreign warships berthed at Changi Naval Base.<sup>31</sup>

Routes have been designated for ferries, pleasure-craft and commercial vessels in order to keep them clear of sensitive anchorages and installations like Changi Naval Base and Jurong Island.

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<sup>29</sup> Kum Chee Meng, Enhancing Maritime Security & Port Security Through Harbour Craft Identification & Monitoring System, presentation given at the Homeland & Maritime Security Asia Conference 12/10/05.

<sup>30</sup> Interview with Col. Chng Teow Hiang, Commander of Coastal Command on 24 February 2005.

<sup>31</sup> Col Dexter Chai, Positioning the RSN to Handle Maritime Security Challenges, presentation given at the Homeland & Maritime Security Asia Conference 12/10/05.

Security has been strengthened at sea checkpoints, including the Singapore Cruise Centre, the Tanah Merah Ferry Terminal and the waters around Sembawang Wharves and islands such as Pulau Bukom. Navy and coast-guard patrols have been increased in its territorial waters so that there is now a 24/7 general presence.<sup>32</sup> Security escort operations are, as was noted earlier, carried out on selected vessels.

High-profile maritime security related exercises take place on a regular basis. Not only do they help to maintain operational readiness and instill confidence in the international community that maritime security is a high-priority in Singapore, they also act as a deterrent to potential attackers. One recent example of such an exercise is that which was conducted at the ASEAN Regional Forum in May of this year. During the demonstration two police coast guard boats chased down and boarded a suspected terrorist speedboat, in front of an audience of ARF delegates and the international media.

### *Speed and Responsiveness*

The Singapore Strait is, at its narrowest point, only 1.2 miles wide, therefore there is very little response time from the moment a pirate or terrorist craft exposes itself. Also, the interval between ships proceeding in any one direction is only approximately twenty minutes.<sup>33</sup> During a pirate attack the crew is most often rounded up and held captive, and consequently unable to maintain a look-out and other navigational responsibilities, which are essential when transiting the region's narrow waterways. The potential environmental consequences of a collision involving an unmanned oil tanker are not hard to imagine. Therefore it is essential that Singapore maintains and constantly increases the speed and responsiveness of its force capabilities. At the beginning of this year the Special Tactics and Rescue (or STAR) Unit of the Singapore Police Force acquired 'maritime assault capability'. It now has an elite police maritime unit, which has specialized skills and equipment to board vessels, engage the enemy in close-quarter combat and conduct

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<sup>32</sup> Interview with Col. Chng Teow Hiang, Commander of Coastal Command on 24 February 2005.

<sup>33</sup> Jayant Abhyankar, Piracy, Armed Robbery & Terrorism at Sea in Southeast Asia; A Global & Regional Outlook, *paper delivered at ISEAS conference: Maritime Security, Maritime Terrorism and Piracy in Southeast Asia*, 23-24 September 2004, p. 9

assault diving.<sup>34</sup> There are also plans in the future to employ air assets such as helicopters or unmanned air vehicles.<sup>35</sup>

### ***Sustainability***

The threats from the maritime domain facing Singapore today are expected to continue for many years to come. Therefore Singapore's maritime security operations must be able to be sustained on a 24/7 basis indefinitely. As a large portion of its maritime-security related tasking requires the use of patrol vessels, there was a risk that resources could be overstretched. To address this problem, the multi-crew concept was implemented by the RSN in May last year. Now each operational patrol vessel has two sets of crew onboard thus maximising the operating capacity of each vessel.<sup>36</sup>

### ***Engagement and Cooperation***

The final component of the strategy is Engagement and Cooperation. Due to the transnational nature of piracy and terrorism a comprehensive strategy requires both multi-agency and multi-national collaboration. In order to achieve this integrated or networked approach to maritime security nationally, working arrangements have been implemented at the operational level for information sharing. Links and exchanges among all interested agencies such as the Navy, MPA, PCG, Port of Singapore Authority (PSA) and the shipping agencies have been established to ensure that efforts are not duplicated nor gaps left open. To coordinate the interests of these various stakeholders the Maritime Security Task Force was set up last year.

In terms of multinational cooperation, Singapore has been very pro-active. Since June 1992, the RSN and the PCG have been taking part in the Indo-Sin coordinated patrols with the Indonesian Navy. The lack of piracy in the Singapore Straits is largely

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<sup>34</sup> Singapore Launches Elite Maritime Anti-terrorist Assault Unit, *Agence France Press*, 2/2/2005, at <http://www.singapore-window.org/sw05/050202af.htm> <accessed 31/10/2005>

<sup>35</sup> Dexter, Positioning the RSN to Handle Maritime Security Challenges.

<sup>36</sup> *Ibid.*

attributed to the success of the Indo-Sin patrols. More recently, there was the launch of the Trilateral Coordinated Patrol, which involved the navies of Malaysia, Indonesia and Singapore patrolling in a coordinated fashion in their own territorial waters.

One final measure, which is still currently in the process of being implemented is the Regional Cooperation Agreement on Anti-Piracy (ReCAAP). Singapore, Japan, Laos and Cambodia became the first four states to formally adhere to the agreement this year. Once six more of the participating states sign on, ReCAAP will enter into force and a new Information Sharing Centre will be set up in Singapore. The centre will facilitate communication and information exchanges between member countries and will improve the quality of statistics and reports on piracy and armed robbery against ships in the region.<sup>37</sup>

## **Recommendations & Conclusions**

Piracy in Southeast Asia is likely to continue into the foreseeable future. It acts as a constant reminder of the potential ease with which terrorists could use similar tactics to carry out an attack. Due to its small size and abundance of resources, Singapore has been able to implement a comprehensive and highly effective maritime security strategy. While the Singapore security model can to a certain extent be used by other countries facing similar maritime threats, they are unlikely to be so fortunate in terms of resources. Indonesia, for example, consists of over 17, 000 islands which cover a land area of around 2 million square kilometres and its territorial waters are nearly four times that size.<sup>38</sup> In addition, its defence and security resources are already stretched due to continued internal security problems and defence budget constraints.

It is becoming increasingly clear that maritime security needs to be improved one way or the other, particularly in the case of the Malacca Straits – a waterway of great

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<sup>37</sup> Julia Ng, 'Singapore, Japan, Laos and Cambodia Sign Pact to Fight Piracy', *ChannelNewsAsia* at <http://www.channelnewsasia.com/stories/singaporelocalnews/view/144975/1/.html> <accessed 20 May 2005>

<sup>38</sup> The Year of Living Dangerously: Indonesia After Suharto, by B. Brunner, 7/6/1999, at <http://www.infoplease.com/spot/indonesia1.html> <accessed 31/10/2005>

strategic importance. Following a recent risk assessment of the area, the Joint War Committee (JWC) of Lloyd's Market Association declared the Straits a "high-risk zone" and added it to its list of areas which are at risk from war, strikes, terrorism and related perils. Others on the list are countries such as Iraq, Somalia and Lebanon. Indonesian ports along the Straits were also added to the list.

This move by the JWC could result in higher insurance premiums for the ships that transit the Straits or call at some Indonesian ports. When war risk premiums were applied to the Yemeni port of Aden, container shipping lines were forced to divert to neighbouring ports. The resulting impact on the Yemeni economy was severe.

Major users of the region's waterways must begin to accept a greater responsibility for enhancing maritime security. Japan is one user state that has contributed significantly to efforts to improve safety and security in the Straits of Malacca. For example, it is currently providing support to Indonesia in order to help it implement the ISPS Code in its ports. Japan's efforts could be used in the future as a model for other states wishing to provide assistance, specifically in the areas of maritime enforcement capacity building, personnel training and resources.

It would be advantageous if all the Southeast Asian states signed the IMO's 1988 Convention on the Suppression of Unlawful Acts against the Safety of Maritime Navigation: "Ratification of the convention gives signatory governments the power to prosecute people caught in their own territorial waters for acts of piracy committed under another countries jurisdiction."<sup>39</sup> In Southeast Asia, only Singapore, Vietnam, Philippines, Myanmar and Brunei are signatories to this convention. ReCAAP should also be signed by those regional states that have not yet done so.

Finally, long-term solutions need to be found which address the root causes of piracy, which amongst others, includes poor socio-economic conditions. If these root causes are addressed at sometime in the future, it is possible that the problem of piracy in Southeast Asia may well be resolved.

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<sup>39</sup> Ronzitti, N., *Piracy and International Law*, Martinus Nijhoff publishers, 1990, p. 21