# PIRATES ON THE HIGH SEAS: DESTABILISED SUPPLY CHAIN EFFICIENCY AND PERFORMANCE, THE CASE OF SIDS (SMALL ISLAND DEVELOPING STATE) SEYCHELLES.

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### Introduction.

The period over the past 5 years, 2006 to the present day, has seen a dramatic change to the pre-existing levels of security and safe passage for sea-going vessels in Seychelles waters. In 2006, for example, there were no reported incidents of pirate activity in Seychelles waters. However, this has rapidly changed over these past 5 years, to one where the EUNAVFOR European Union Naval Force Operation ATALANTA now defines that entire north west Indian Ocean as Suez to the north, 10 degrees south (northern tip of Madagascar) and 78 degrees East (Cape Comorin, India). This is a massive sea area, and encompasses the entire Seychelles EEZ Economic Exclusion Zone which is in itself extremely large measuring 1,393,000 square kilometres. By comparison the western European countries of France, Germany, Italy and UK altogether total 1,450,000 square kilometres. The task of successfully patrolling and policing the entire NW Indian Ocean is an enormous undertaking akin to 'looking for a needle in a haystack', giving an idea of the logistical challenge anti-piracy work entails.

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Armed ships, convoy running, well trained crews and extreme diligence, are just some of the ways to try and face this modern-day scourge on the high seas.

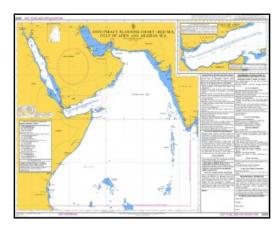


Figure 1: Map of northwest Indian Ocean source: EUNAVFOR

On the 20<sup>th</sup> June 2011, the latest official figures were over 400 held hostage in Somalia (EUNAVFOR), from some 47 ships. In addition to which should be added unknown numbers from various dhows and smaller vessels. Other estimates, such as those stated by the Danish Minister for Foreign Affairs, take the figure to over 600 captives held by Somali based pirates.

Whatever the true figure, there is no doubt of the extent to which the scourge of piracy on the Gulf of Aden, seas of the north-western Indian Ocean and waters off the horn of Africa, has had a serious and deleterious effect upon the safe passage of cargo and passenger carrying vessels. Indeed, this not only affects localised seaborne traffic, but these waters and the Gulf of Aden is in fact a bottleneck to world trade. The vast majority of Europe's and the eastern seaboard of North America's trade to and from east, south and south-east Asia passes through these waters. There are immense potential risks of severe and long lasting damage being caused to the global economy by these pirate activities.

It is with this backdrop in mind that the international powers, including the UN United Nations, EU European Union, NATO North Atlantic Treaty Organisation, and IMO International Maritime Organisation

have mustered their military forces and diplomatic efforts in order to seek to protect these internationally critical supply chains, and to keep the trade routes open.

Maritime piracy has been on the rise for years, according to the International Maritime Bureau's (IMB) Piracy Reporting Centre. But until 2008, when pirates operating off the coast of Somalia hijacked a ship full of Russian tanks and an oil supertanker, the crime drew limited international attention. By early 2009, more than a dozen countries had deployed their navies to the Gulf of Aden to counter piracy, and the United Nations passed four resolutions in 2008 on the issue. In April 2009, stakes grew higher after the U.S. Navy killed three Somali pirates, and took one captive in the rescue operation of a U.S. cargo ship captain taken hostage. By October 2009, piracy attacks had already surpassed 2008 numbers, and the use of guns had increased by 200 percent. There are a range of measures available to combat piracy, from onboard defense systems to naval deployments to preemptive strikes. Yet analysts agree the complexities of international maritime law make it difficult to prosecute pirates once they are caught. The first week of 2010 witnessed four large ships taken by Somali pirates, including the Red Ensign flagged 'Asian Glory'.

This is of great concern to any industry having to navigate through the Gulf of Aden to deliver goods by water. The International Maritime Bureau and the One Earth Foundation in 2010, estimated the economic cost of piracy on the supply chain to be between US\$7-12 billion. In addition, the Danish Ministry of Foreign Affairs quotes 'industry experts' as estimating a total cost of piracy for 2010 to be approximately US\$16 billion. What is, however, very clear, is that piracy has been increasing exponentially during the years 2007 to 2010. With the numbers of attacks and successful hijackings by pirates at sea, reportedly more than quadrupling during this 3 to 4 year period (Danish Min. Foreign Affairs). Piracy at sea hit an all-time high in the first three months of 2011, with 142 attacks worldwide (International Chamber of Commerce (ICC) International Maritime Bureau (IMB), 2011). The sharp rise was driven by a surge in piracy off the coast of Somalia, where 97 attacks were recorded in the first quarter of 2011, up from 35 in the same period last year.

Worldwide in the first quarter of 2011, 18 vessels were hijacked, 344 crew members were taken hostage, and six were kidnapped, IMB reported. A further 45 vessels were boarded, and 45 more reported being fired upon. In the first three months of 2011, pirates murdered seven crew members and injured 34. Just two injuries were reported in the first quarter of 2006. Of the 18 ships hijacked worldwide in the first three months of the year, 15 were captured off the east coast of Somalia, in and around the Arabian Sea and one in the Gulf of Aden. In this area alone, 299 people were taken as hostage and a further six were kidnapped from their vessel.

Worldwide Incidents: (updated 30<sup>th</sup> May 2011)

Total Attacks Worldwide: 243 Total Hijackings Worldwide: 26

# Incidents Reported for Somalia:

Total Incidents: 154 Total Hijackings: 21 Total Hostages: 362

Total Killed: 7

#### Current vessels held by Somali pirates:

Vessels: 23 Hostages: 439

Table 1: Piracy and armed robbery incidents as reported to the IMB Piracy Reporting Centre in 2011.

The above piracy figures and information are taken from the International Chamber of Commerce's (ICC) International Maritime Bureau (IMB), providing a snapshot of the latest 2011 figures of pirate activity.

"We're seeing a dramatic increase in the violence and techniques used by pirates in the seas off Somalia," (Mukundan, 2011). "The overwhelming number of vessels hijacked off Somalia took place east and north east of the Gulf of Aden. The positions of some of the attackers' mother ships are known. It is vital that strong action is taken against these mother ships to prevent further hijackings." A number of countries are employing their navies to take a tough stance against piracy. In a recent show of force, commended by the IMB, the Indian navy captured 61 Somali pirates on a hijacked ship off India's west coast. 'A big shift is taking place in the rate of piracy in the Gulf of Aden, Indian Ocean and off the east coast of Africa, and that September to November 2010 saw piracy activity in the Gulf of Aden drop dramatically, while activity in the Indian Ocean and along the east coast of Africa has collectively increased nearly 60 percent - reaching an all-time high. Drum Cussac, (Dec. 2010). "Just in the last couple of weeks we have seen numerous Pirate Action Groups operating in the northern Somali Basin," David Pickard, Head of Maritime at Drum Cussac. "This means ship operators in the region may need to consider adjusting their routes and tactics accordingly".



Photo 1: A collage of pirates armed with assault rifles, rocket-propelled grenade launchers and semi-automatic pistols. Source: Wikipedia.

These various and widely ranging estimates of actual hostage numbers, goes to prove the extent of the challenge of eliciting true and accurate data and information from the broken country: Somalia.

# Literature review.

With the advent of modern day pirate activity coming so recently to Seychelles' waters, there is very little written in conventional book format. However, there is ample up to date information posted on reputable internet websites. Indeed, it is the immediacy of the challenge of piracy, and ease of access to such sources of information and recently written literature that serves to assist the seafarers in finding out ways to tackle the problem and avoid pirate 'hot spots'.

Notable internet sites include those of the IMB International Maritime Bureau, and the EUNAVFOR European Union Naval Force's ATALANTA anti-piracy taskforce which has as its mission statement: 'EU NAVFOR Somalia - Operation ATALANTA's main tasks are to escort merchant vessels carrying humanitarian aid of the 'World Food Program' (WFP) and vessels of 'African Union Mission in Somalia' (AMISOM), and to protect vulnerable ships in the Gulf of Aden and Indian Ocean and to deter and disrupt piracy. EU NAVFOR also monitors fishing activity off the coast of Somalia.'

In the Seychelles, the issue of piracy has changed the mindset of the population, and means that the President and Government the country have to focus a lot of their time and resources to personally dealing with these issues. Indeed there is an appointed Government Minister designated to deal with piracy issues: Minister Joel Morgan.

# On November 22nd, 2010:

Seychelles President James Michel, who is the Commander in Chief of the armed forces, has sent a message of congratulations to the officers of the Seychelles Coast Guard, the SCG airwing, and the Tazar unit for their successful rescue operation on Saturday.

"We are very proud of you and your bravery in rescuing the 7 Seychellois fishermen from the hands of Somali pirates. It was a targeted operation, and once again you have proved your skill and capability to defend the nation and fight against the piracy scourge," said President Michel.

"We rejoice with the families of the 7 fishermen in their freedom and thank the Seychelles Coast Guard and the Tazar unit for liberating them. We all look forward to their safe return to Mahé".

The piracy incident took place on Friday in the Seychelles exclusive economic zone. The vessel "Faith," a 33-foot fishing vessel, was hijacked by Somali pirates and was detected approximately 240 nautical miles north of Mahé by three surveillance planes.

The Seychelles People's Defense Forces maritime surveillance aircraft, in a joint operation with the EUNAVFOR Luxembourg maritime patrol and reconnaissance aircraft, as well as the French E3F aircraft, detected the boat and the presence of pirates onboard.

The Somali pirates had taken hostage of 7 Seychellois crew members who had been fishing for sea cucumbers in the area.

The pirates headed northwest towards Somalia, and the Seychelles Coast Guard intercepted the boat halfway between Somalia and Seychelles. The hostages were rescued and the pirates were arrested.

Figure 2. President Michel's message to released hostages. Source: STB Seychelles Tourist Board.

There is another sinister side to the whole piracy debate, and that is the role of western businesses and nations in to some extent creating the conditions for Somali coastal dwellers to be pushed into such activity.

Johann Hari wrote in the Independent Newspaper, January 2009: 'You are being lied to about pirates' Some are clearly just gangsters. But others are trying to stop illegal dumping and trawling. In 1991, the government of Somalia collapsed. Its nine million people have been teetering on starvation ever since – and the ugliest forces in the Western world have seen this as a great opportunity to steal the country's food supply and dump our nuclear waste in their seas. Yes: nuclear waste. As soon as the government was gone, mysterious European ships started appearing off the coast of Somalia, dumping vast barrels into the ocean. The coastal population began to sicken. At first they suffered strange rashes, nausea and malformed babies. Then, after the 2005 tsunami, hundreds of the dumped and leaking barrels washed up on shore. People began to suffer from radiation sickness, and more than 300 died'.



Photo 2: US Navy boarding party. Source: Newscom/Photoshot

'At the same time, other European ships have been looting Somalia's seas of their greatest resource: seafood. We have destroyed our own fish stocks by overexploitation – and now we have moved on to theirs. More than \$300m-worth of tuna, shrimp, and lobster are being stolen every year by illegal trawlers. The local fishermen are now starving. Mohammed Hussein, a fisherman in the town of Marka 100km

south of Mogadishu, told Reuters: "If nothing is done, there soon won't be much fish left in our coastal waters." This is the context in which the "pirates" have emerged. Somalian fishermen took speedboats to try to dissuade the dumpers and trawlers, or at least levy a "tax" on them. They call themselves the Volunteer Coastguard of Somalia – and ordinary Somalis agree. The independent Somalian news site WardheerNews found 70 per cent "strongly supported the piracy as a form of national defence".

# Description of the challenge.

The waters of the Seychelles Indian Ocean archipelagos have historically been associated with ideal sea conditions, out of range from the more southerly cyclone-belt which affects Mauritius and Madagascar. The sailors and seamen that navigate the 115 islands that make up the Seychelles Islands, have however in recent years had to adjust to a totally different set of nautical challenges following the advent of piracy in Seychelles EEZ Economic Exclusion Zone.

The extent of the challenge is beyond that of shipowners and seafarers, and has been rightly seen by the international community as one which has potential to seriously affect trade flows around the world. As well as trade flows, the pirate activity emanating from Somalia also has the potential to seriously jeopardise fuel shipments from the Persian Gulf oil producing countries. These are fuel shipments which have to pass directly through the epicentre of pirate attacks occurring in the Gulf of Aden. Large tankers carrying oil and other flammable chemicals are particularly vulnerable to firearm attack. Indeed, 60 percent of the world's crude oil moves by ship (Hanson, 2010). "Three big tankers of over 100,000 tonnes deadweight have been hijacked off the Horn of Africa this year (2011). Of a total of 97 vessels attacked in the region, 37 were tankers and of these, 20 had a deadweight of more than 100,000 tonnes." Captain Mukundan, ICC IMB.



Photo 3: Large tankers carrying oil are particularly vulnerable to firearm attacks. Source: IMB.

## The lure of piracy.

There is increasingly a recognition that the problem of piracy emanating from Somalia will not begin to recede, until the state of Somalia becomes one that can effectively govern and control its own territory and people. Somalia is one of the world's failed states, Hanson (2011), it is a desperately poor country and the lure of lucrative sums to be accumulate through piracy is hard to resist. It is estimated that a successful hijacking can net an ordinary pirate US\$ 35,000 to US \$ 50,000 or even more. When this is compared with the average GDP (Gross Domestic Product) PPP (Purchasing Power Parity) of Somalis, this shows the tremendous opportunities for very lucrative income from engaging in piracy. The IMF and World Bank do not quote such figures for Somalia, and the country does not appear on their listings of international GDP figures. The CIA (US Government's Central Intelligence Agency), does however give a figure of US\$ 600 for Somalis. For comparison, Seychelles is US\$ 22,000 and United Kingdom US\$ 35,000. In terms of the ransoms being sought by pirates, these now average around US\$ 4 to 5 million, and it is estimated that as many as 2,000 pirates operate from Somalia (Miller, 2011).

To add to the misery of Somalia's people is the fact that a severe and on-going drought is now affecting the country, the worst for decades. Some parts of the Horn of Africa have been hit by the worst drought in 60 years, the UN says. (BBC June, 2011).



Photo 4: Somali refugees in Kenya. Source IRCS.

Table 2, shows the recent listing of ships and crews held by Somali pirates and kept captive in Somalia:

NAVFOR * Somalia *			Pirated vessels updated 20 June 2011	
No. on map	Name	Flag	Pirated	Crew
1	MV ICEBERG 1	Panama	29 March 2010	24
2	FV JIH CHUN TSAI NO 68	Taiwan	30 March 2010	4
5	FV PRANTALAY 12	Thailand	18 April 2010	24
10	MV OLIP G	Malta	08 September 2010	18
15	MV POLAR	Panama	30 October 2010	24
19	MV ALBEDO	Malaysia	25 November 2010	23
21	MV MSC PANAMA	Liberia	10 December 2010	23
23	MV ORNA	Panama	20 December 2010	19
25	FV SHIUH FU NO 1	Taiwan	25 December 2010	26
28	MV BLIDA	Algerian	01 January 2011	27
30	MV EAGLE	Cyprus	07 January 2011	24
31	HOANG SON SUN	Mongolia	19 January 2011 (reported)	24
34	MV SAVINA CAYLYN	Italy	8 February 2011	22
36	MV SININ	Malta	12 February 2011	23
37	FV ALFARDOUS	Yemen	13 February 2011	8
38	MV DOVER	Panama	28 February 2011	20
42	MV ROSALIA D'AMATO	Italy	21 April 2011	21
43	MV GEMINI	Singaporian	30 April 2011	25

Table 2: List of pirated vessels, 20 June 2011. Source: EUNAVFOR.

# Examples of three ships held in Somalia.

**SHIUH FU NO.1** During the morning of 25 December 2010, the Taiwanese owned fishing vessel 'FV Shiuh Fu No 1' reported being under pirate attack, approximately 120 nautical miles off the North-East tip of the island of Madagascar in the Indian Ocean. The vessel, which has a crew of 26 consisting of Taiwanese, Chinese and Vietnamese nationals, was operating off the North-East corner of the island when it reported being chased by a skiff. Communications were then lost. The conditions of the crew or the vessel are not known. She was still held by Somali pirates in June 2011.

**MV ORNA** At midday on 20 December 2010, the MV ORNA was pirated in the Indian Ocean, approximately 400 nautical miles North East of the Seychelles. With pirates firing small arms and rocket propelled grenades. She was boarded by at least 4 pirates. Still held by Somali pirates in June 2011.

**MV BELUGA NOMINATION** On the afternoon of 22 January 2011, was attacked by a skiff, with suspected pirates on board. Small arms were used during the attack, which took place 390 nautical miles north of the Seychelles whilst on passage to Port Victoria in the Seychelles at the time of the attack.



Figure 3: Year 2006.



Figure 4: Year 2008.

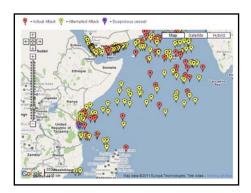


Figure 5: Year 2010

Figures 3 to 5: Escalating pirate attacks north-west Indian Ocean. Source: IMO.

The British couple Rachel and Paul Chandler are probably the two most well known individuals to have been held hostage by Somali pirates. They were taken in Seychelles waters on 22nd October 2009, and released after 388 days captivity. Nov. 2010.



Photo 5: Rachel and Paul Chandler upon release. Source: Savethechandlers.com

### Research work.

Incorporating descriptive research, the extent of this paradigm shift in the nature of sea-going supply chain management in Seychelles' waters has been investigated, with the further application of deductive research methods. The twenty leading supply chain operators serving Port Victoria, Seychelles were surveyed, in order to gauge the extent to which pirate activity is having a marked effect upon their supply chains serving the Seychelles economy.

Questionnaires were circulated in order to elicit a set of key data that could be analysed, and then further used as information to inform the research question in more depth.

How have the key logistical functions such as transportation, warehousing, materials handling and order processing been affected by the increase in pirate activity?

What have been the most common difficulties in your supply chain management?

To what extent is pirate activity having a marked effect upon your supply chains serving the Seychelles economy?

To what extent have your annual freight expenses/costs increased since the beginning of the pirate attacks?

What has been the financial effect of pirate activity to your organisation?

The extent to which the organisation's ability to satisfy its customers in terms of time, dependability and convenience has been effected.

What strategies are you using to keep up with the rapid pace of change in pirate activities.

What are your future plans with regard to the supply chains serving Seychelles.

Table 3: Questions posed within the research questionnaire.

Being better informed with information gleaned from the results of the questionnaires and qualitative feedback received, the research then moved on to a focussed set of interviews with key industry decision makers. Principals from leading leading organisations affected by piracy were contacted, and a series of face to face guided interviews took place. These included executives from shipping companies, import agencies, fishing fleet operators, government officials and yacht company owners.

It emerged that the shipping companies are nowadays only experiencing minimal disruption to their supply chains, and that the situation has improved markedly from that which they were facing during 2008 and early 2009. Indeed, when asked how their key logistics functions were being affected by pirate activity, they responded that it was either 'still the same' or that it had been affected 'slightly'. A key feature of this improvement was due to the fact that some of the legal issues had been resolved over the period of time that has passed since piracy really became an issue in Seychelles waters i.e. 2008. At that stage, the ship owners and operators felt extremely vulnerable, and there was a feeling that Governments and the international community were not doing nearly enough to help them. They felt that they were very much alone. Indeed, when warships from the international community were seen to be merely releasing pirates following capture, as was reported at the time of the Royal Navy, French and Spanish navies, then the shipowners and operators really felt at risk in continuing passage through or near to Seychelles waters and within the EUNAVFOR decreed area of risk, i.e. Suez to the north, 10 degrees south and 78 degrees east.

#### Results/analysis.

Whilst much has been written concerning the recent phenomenon of piracy off the Horn of Africa, there is a dearth of data and/or information relating to the actual costs to logistics and supply chain operators in the region, and especially to SIDS small island developing states such as Seychelles which depend wholly upon the sea for their surface-borne logistics supply chain linkages. This research, which is on-going, aims to measure the impact of such pirate activity upon logistics costs. The majority of respondents stated that their key logistical functions: transportation, warehousing, materials handling and order processing

had been affected by advent of pirate activity. With fishing industry respondents indicating that their supply chain management operations had been affected substantially.

Interviews provided further substantiating evidence of the dramatic effect that piracy has had on the fishing industry SCM in particular. With the French fleet having halved its presence in Seychelles' waters since 2009, when it sent ships to west African tuna fishing grounds in the Gulf of Guinea. Relocating from Port Victoria in Seychelles to Abidjan Ivory Coast. Indeed, a key part of this decision to move a proportion of the fleet, was due to the length of time it took for various authorities to agree upon the right responses to take towards piracy. This hesitancy to act decisively created unsafe conditions for seafarers, and for the ship owners property namely the tuna fishing trawlers. Tuna fishing food chains from Seychelles, lead directly to supply of John West, Petit Navire and Mareblu brands in UK, France and Italy respectively.

General cargo operators have seen some delivery times extended, with ships from Suez and middle east taking more circuitous east to south-easterly passage in order to try and avoid contact with pirates. This has led to increased fuel costs, which of course eventually end up being passed on to the consumer.

There has however, been a substantial improvement since prior to early 2010. It was mid 2010 when agreement was reached under international maritime and Seychelles laws, for the provision of on-board military and security personnel protection for vessels. French vessels now carry approximately 5 military personnel on-board each fishing ship operating in Seychelles waters. Whilst the Spanish owned fishing fleet which comprises Spanish flagged and Seychelles flagged vessels, are allowed to employ armed security personnel with the Spanish flagged having to specifically employ Spanish security companies. Whilst the opportunity to protect vessels and seafarers has been appreciated, the additional costs for such security is not. Indeed, it is stated that an average tuna fishing vessel catches around €uro 5 million worth of tuna per annum, and they now have to factor in the cost of security which is costing around €uro 500,000, i.e. approximately 10 percent of turnover. Fortunately, the cost of tuna has risen strongly in international markets in the past couple of years, and so this has enabled the fishing fleet operators to absorb these security costs. But if the market were to become less lucrative, then it is possible that both the remaining French and Spanish fleets might migrate elsewhere.

Conversely there has been an upsurge in military naval vessels and their personnel visiting Port Victoria. Including ships from both the EUNAVFOR and US anti-piracy fleets, as well as Chinese, Indian and Russian ships. EUNAVFOR and US sailors spend welcome cash whilst ashore, and figures are estimated at around US\$ 200 per person per day ashore. Fuel bunkering of these naval ships by Seypec Seychelles Petroleum Company, has brought in good revenues for Seychelles. With an average USS vessel taking around 300 to 400 tonnes of fuel, this means some US\$ 400,000 in revenue per ship when they fuel in Seychelles. Most other navies take on less fuel at around US\$ 200,000. Whilst this is welcome income, it does not replace that lost due to far fewer cruise ships visiting due to fear of pirates. Overall loss of revenue is some 10 to 20 percent, in bunker charges.

#### Conclusions.

Currently, in a call for immediate action on piracy, the International Chamber of Commerce (ICC) has urged governments to take action against the increasing number of pirate attacks occurring off the Somali coast. The Call for Action was launched at the annual International Transport Forum taking place in Leipzig, Germany from 25-27 May 2011, with over 20 CEOs from key shipping and trading companies endorsing the ICC Call for Action on Piracy. 'The past year has witnessed an escalation in both violence and the number of attacks on ships and their crew. Despite measures taken by the United Nations Security Council and the presence of naval units in the area of the Gulf of Aden, pirates continue to strike. More and more shipowners have had to resort to using private security firms to protect their seafarers and ships' (ICC, 2011) 'there is no sign, despite all the efforts taken by navies and their vessels that this problem is being brought under control'. Indeed, there are fears that the pirates are upping their game, with new more sophisticated tactics. Such as the use of hijacked ocean going vessels being used as motherships, thus enabling attacks to be carried out much further afield from the Somali coast.

Other initiatives include a call to create an internationally administered coast guard for Somalia, run by the African Union or the United Nations. "Navies are not designed for dealing with criminals, they are designed for fighting wars," he says. "In the absence of a police force inside Somalia, this might be the most effective way of doing it." Such a project would present tremendous challenges, however, from finding qualified individuals within Somalia to determining when and how to hand over such a body to the Somalian government. Murphy suggests the coast guard could be funded by the shipping industry "under UN mandate as a more honorable cost of doing business than ransom." (Chatham House, 2011)

Our research into effects of piracy on supply chains has thrown up other interesting areas for further investigation, some of which have little direct relevance to logistics and/or supply chain management. Our research has begun to show the extent to which the fishing industry has been hit by piracy, and the knock-on effect of the laying-off of stevedores, i.e. casually employed dockside labourers of whom there were around 450 in number. The fact that fishing fleets have reduced their fleet sizes means that less casual labour is employed, and this decrease in income to many families has resulted in considerable financial and social distress to low income families. Our research team is currently undertaking a project for the SDD Social Development Department of Seychelles, and we will investigate this piracy related social deprivation issue further during the course of the project.

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