This article was downloaded by: [Heighes, Carl][informa internal users]

On: 19 July 2010

Access details: Access Details: [subscription number 755239602]

Publisher Routledge

Informa Ltd Registered in England and Wales Registered Number: 1072954 Registered office: Mortimer House, 37-

41 Mortimer Street, London W1T 3JH, UK



Journal of the Indian Ocean Region

 $Publication\ details, including\ instructions\ \bar{f}or\ authors\ and\ subscription\ information: \ http://www-intra.informaworld.com/smpp/title~content=t912502060$

Rethinking maritime security in the Indian Ocean Region

Lee Cordner^a

^a Australian National Centre for Ocean Resources and Security (ANCORS), University of Wollongong, Australia

Online publication date: 07 July 2010

To cite this Article Cordner, Lee(2010) 'Rethinking maritime security in the Indian Ocean Region', Journal of the Indian Ocean Region, 6: 1, 67-85

To link to this Article: DOI: 10.1080/19480881.2010.489671 URL: http://dx.doi.org/10.1080/19480881.2010.489671

PLEASE SCROLL DOWN FOR ARTICLE

Full terms and conditions of use: http://www-intra.informaworld.com/terms-and-conditions-of-access.pdf

This article may be used for research, teaching and private study purposes. Any substantial or systematic reproduction, re-distribution, re-selling, loan or sub-licensing, systematic supply or distribution in any form to anyone is expressly forbidden.

The publisher does not give any warranty express or implied or make any representation that the contents will be complete or accurate or up to date. The accuracy of any instructions, formulae and drug doses should be independently verified with primary sources. The publisher shall not be liable for any loss, actions, claims, proceedings, demand or costs or damages whatsoever or howsoever caused arising directly or indirectly in connection with or arising out of the use of this material.



Rethinking maritime security in the Indian Ocean Region

Lee Cordner*

Australian National Centre for Ocean Resources and Security (ANCORS), University of Wollongong, Australia

(Received 4 February 2010)

The Indian Ocean Region is moving to the centre of the global geostrategic agenda. Resource competition and energy security, environmental and economic issues exacerbated by climate change; the involvement of external powers like China, and the emergence of regional powers like India underscore a heightened need for attention to this region. Concomitantly, Indian Ocean sea lines of communication are becoming increasingly important to global and regional commerce. Related security issues largely converge in the maritime domain.

There is little history of region-wide security cooperation and a lack of regional institutions in the Indian Ocean Region. Non-conventional threats posing collective security risks to common interests present the most realisable prospects, at least initially, for the development of collective security dialogue and mechanisms. Such arrangements need to involve both regional and extra-regional powers that have interests to protect and capacities to assist. Given geography and the diverse nature of the region, maritime security offers the most compelling area for cooperation in the Indian Ocean Region. Efforts to facilitate collective security dialogue and establish maritime security cooperative mechanisms and habits need to be urgently progressed at official, non-official and operational levels.

Keywords: maritime security; sea lanes of communication; security cooperation

1. Introduction

For centuries, the Indian Ocean has been a relative backwater in international geostrategic affairs. However, this situation is quickly changing. The international community has awoken from its deep slumber of indifference; the Indian Ocean is being re-discovered, and for compelling reasons. In the past, the Indian Ocean was primarily an international through-route; it is fast becoming a major global geostrategic nexus for resource, human, economic and environmental issues. Regional and extra-regional players are being drawn to focus increasing attention on Indian Ocean security.

The Indian Ocean Region (IOR) is an area of contrasts and challenges. It is a largely disaggregated region and hosts a variety of vibrant cultures, with some of the richest and many of the poorest countries in the world. It has 56 littoral and hinterland nation-states, most of which are developing countries. The IOR is particularly notable for its lack of homogeneity and the lack of a common regional identity. Historically, it lacks a dominant power prepared to take a regional

^{*}Email: lcordner@uow.edu.au

leadership role and to be accepted as such, although India aspires to this. Convergent interests of regional and extra-regional powers are driving the requirement for improved collective IOR cooperation and action.

Rapidly evolving circumstances demand the need to rethink maritime security in the IOR. It is in the maritime domain that the interests of regional and extra-regional powers converge. In order to develop perspectives on the way ahead for Indian Ocean maritime security the implications of energy and environmental security, climate change, resource management and regional institutions need to be considered.

2. Energy security and the Indian Ocean

The world energy scene is forecast to change markedly into the near future. World energy consumption is projected to grow significantly with the most rapid growth in demand projected for states outside the Organisation for Economic Cooperation and Development (OECD). More than 80% of the increase in energy liquids consumption is projected for non-OECD Asia and the Middle East. China and India are the quickest growing non-OECD economies and are forecast to be the key world energy consumers into the future; their proportion of world energy use has greatly increased (Energy Information Administration 2009, pp. 6–8).

China and India need to sustain a rapid rate of economic growth in order to improve the quality of life for their citizens. In both countries, the aspirations of a burgeoning middle class are driving social and economic change. Chinese and Indian economic expansion is driving rising world energy demand. Even though the risks of supply pressures and costs, and damage to the environment are increased, it would be unreasonable to expect China and India to curtail economic growth in order to contain world energy use. Energy security is a global problem that must be tackled globally (IEA 2007, p. 3).

In 2009, the Global Financial Crisis (GFC) led to a downturn in energy use, carbon dioxide emissions and energy investment for the first time since 1981. While there has been a drop in demand in the OECD countries, demand in non-OECD countries, primarily China and India, continues to grow. China is forecast to overtake the US as the world's largest oil and gas importer by 2025, and India will overtake Japan to become the third largest importer by 2020 (IEA 2009).

Energy-related emissions of carbon dioxide will continue to grow along with increased reliance of consuming countries on imports of oil and gas, mainly from the Middle East and Russia. The biggest energy growth area is coal demand, forecast to increase by 73% between 2005 and 2030, with most of the increase coming from China and India. Over 90% of Chinese coal resources are located inland and China became a net coal importer in 2007 (IEA 2007, pp. 41–44). Energy demand in India is projected to more than double by 2030. Coal is India's most important fuel; its use is forecast to nearly triple between 2005 and 2030. Much of India's energy will be imported with hard coal imports projected to increase seven-fold (IEA 2007, pp. 45–46).

Geostrategic implications

The evolving energy situation has major geostrategic and security implications, the impact of which is most strongly evident in the Asia-Pacific, and particularly the

Indian Ocean (Rumley and Chaturvedi 2005). The IOR is a major transport route and export supply area for oil and gas from the Middle East, and coal from Australia and South Africa. High prices and a growing sense of supply scarcity have led to new tensions among the major oil importing countries in Asia and elsewhere due to concerns about access to global energy supplies. Of particular concern is 'rising energy nationalism', national competition among the importing countries over access to energy supplies and seeking to control energy transport, aggravated by 'resource nationalism' among the major exporting countries, which increases consuming countries' fears over access to supplies (Herberg 2009, pp. 131–132). The increasing level of nationalist efforts to control oil supplies, representing the 'new geopolitics of energy', was evident during the 2005 'Unocol Affair' (Klare 2008, pp. 1–8), when the United States Government intervened to ensure a US company prevailed in the takeover of another US oil company, rather than allowing a Chinese company to effectively compete.

Energy concerns in the United States, China, India, Japan, and the rest of oil-importing Asia have added new and increasing tensions to an already complex Asian strategic environment. Energy rivalries are a factor in the historic power transition occurring in Asia; featuring the regional interplay of the rise of China and India, Japan's efforts to maintain its pivotal role in the region, Russia's efforts to recapture influence in Northeast Asia, and US efforts to preserve its role in maintaining a strategic balance of power in the region. Worldwide oil market stability can only be achieved through global collaboration (Herberg 2009, p. 135). However, energy relations, like international relations more broadly, are encumbered by competition and mistrust and there is little likelihood of this situation changing. Of concern, world energy relations are primarily conducted through economic rather than strategic dialogue. Energy needs to be put on the strategic agenda (Herberg 2009, pp. 138–139), with a fundamental shift toward promoting energy cooperation, managing energy security geopolitical tensions and improving energy efficiency (Herberg 2009, p. 143).

The Indian Ocean is vital to global energy flows and therefore has a major place in the supply side of global energy security. This importance will expand considerably in future years. More than half of world oil production is transported by sea through the Indian Ocean and 36% of oil originates from the IOR (primarily the Gulf States), with the proportions set to significantly increase. More than 80% of this oil passes through the three Indian Ocean straits: Hormuz, Malacca and Bab el Mandeb. Large quantities of coal also pass through the Indian Ocean to Northeast Asia and increasingly, India.

Conflict over energy?

Within this context, some analysts suggest that 'resource wars', largely over energy, will be one of the defining characteristics of the twenty-first century (Klare 2001, p. 25). With India and other regional and extra-regional states faced with major challenges in gaining access to necessary energy resources, reliance on imports is growing. Supply chain dynamics are the key to energy. Shipping, port security and choke points are essential elements; and the IOR abounds in all three.

While there are suggestions that the Indian Ocean could become a geopolitical centre of conflict over energy and other resources, this notion has to be balanced by

powerful common interests among the dominant world powers in maintaining a stable, globalised trading world. In addition, sea lines of communication (SLOCs) are increasingly vital to regional and global trade. Security of the Indian Ocean SLOCs is a paramount concern; maritime security is central to energy security and global trade (Rumley, Chaturvedi and Taib 2007).

3. Environmental security, climate change and ocean resource management

The greatest future threat to the collective interests of IOR countries and peoples is presented by non-traditional security risks: the combined impacts of climate change, environmental degradation and ocean resource exploitation in the Indian Ocean. The Intergovernmental Panel on Climate Change (IPCC) concluded that warming of the global climate system is unequivocal with firm evidence of rising ocean temperatures and rising global average sea levels (Climate Change 2007). The December 2009 climate change summit in Copenhagen failed to produce global consensus on proposals to address the human-induced contribution to climate change. It served to expose deep schisms between the developed and the developing world. As a consequence, predicted climate change trends are unlikely to ease significantly; climate change may accelerate.

Impact of climate change in the Indian Ocean Region

Sea temperatures around the equatorial areas of the Indian Ocean are rising more quickly than elsewhere. There is an increased likelihood of significant variances in the monsoon that can create drought conditions for much of South Asia. Further, it has been assessed as likely that tropical cyclones will become more intense, with higher peak wind speeds and heavier precipitation associated with increases in tropical sea-surface temperatures. There is evidence of an increase in the proportion of very intense storms (Climate Change 2007, p. 46). The changing frequency and intensity of extreme weather events, together with sea level rise, are expected to have mostly adverse effects on natural and human systems (Climate Change 2007, p. 52). Many IOR countries are particularly vulnerable.

Asia is the most populous continent with about 3,902 million people in 2002, 61% of whom are rural with 38.5% living within 100km of the coast. The impact of climate change on human security is forecast to be immense as it will likely cause tragedy on a vast scale. Freshwater availability in much of Asia's large river basins is projected to decrease, which, along with population growth and increasing demand arising from higher standards of living, could adversely affect more than a billion people by 2050 (Cruz *et al.* 2007).

Africa is the continent most likely to be vulnerable to climate change. Among the risks faced are reductions in food security and agricultural productivity, increased water stress and increased risks to human health (Schneider *et al.* 2007). Low-lying islands, like The Maldives, will be profoundly affected as sea level rises. Inundation, storm surge, erosion and other coastal hazards will increase and threaten infrastructure, settlements and facilities and consequently the livelihood of communities (Mimura *et al.* 2007).

Coastal areas, especially the heavily populated delta regions that abound in South and Southeast Asia, will be at great risk due to increased flooding from the sea and,

in some deltas, flooding from rivers. Climate change is projected to impinge on the sustainable development of most developing coastal countries of Asia and Africa, as it magnifies pressures on natural resources and the environment related to rapid urbanisation, industrialisation, and economic development (WG II 2007, p. 13). The projected sea level rise will inundate low-lying areas, drown coastal marshes and wetlands, erode beaches, exacerbate flooding and increase the salinity of rivers, bays and aquifers. Coastal regions will also be subject to increased wind and flood damage. In addition, warming will have far-reaching implications for marine ecosystems in Asia.

Under the most conservative scenario, sea levels are forecast to rise at least 40cm by the end of the twenty-first century. This is projected to increase the annual number of people flooded in coastal populations from 13 million to 94 million. Almost 60% of the increase will occur in South Asia and about 20% in Southeast Asia. Projected sea level rise could flood millions of people living in low-lying areas of Bangladesh, Pakistan, Sri Lanka, India, Vietnam, Myanmar and Indonesia. Coastal areas around the Indian Ocean are facing an increasing range of stresses and shocks. Increased tropical cyclone destructive power combined with growing coastal populations will result in substantial increases in loss of life and damage to property (WG II 2007, pp. 484–485).

The risks posed to human and environmental coastal systems from climate change are immense. Many IOR developing countries have very little capacity to mitigate these risks. Likely outcomes include large-scale transmigration and increasingly frequent requirements for external support to provide large-scale disaster relief and humanitarian assistance, mainly around the coastal areas of the IOR. The widespread coastal devastation and loss of more than 230,000 lives caused by the 2004 Asian tsunami, followed by the 2007 and 2009 Bangladesh cyclones that killed thousands and affected millions, are harbingers.

Competition for resources

Another mounting factor is increasing competition for resources due to continued growth and prosperity globally. Technological advances are enabling expanded marine activities such as energy development, resource extraction, and other commercial activity in and under the oceans, the impacts of which are yet to be significantly seen in the Indian Ocean. These developments offer opportunities for growth along with potential sources of competition and conflict over access to natural resources. Changing climate patterns, combined with booming populations, will sharpen competition for scarce food, water and energy resources in many parts of the world, particularly Africa and the Middle East. Population and infrastructure problems in developing countries will be exacerbated and the limited capacity to adapt and cope will be exceeded (Australian Government 2009a, pp. 30–31).

Fish

One key resource – fish – presents Indian Ocean resource management issues that pose significant food security concerns, both regionally and globally (Rumley, Chaturvedi and Sakhuja 2009). The importance of fisheries is set to increase

markedly in the Asia Pacific/Indian Ocean Region due to population increases and economic growth in China, India and other Asian countries.

Globally, fish stocks are under significant stress with conservative estimates indicating 87% of marine fish stocks in crisis or fully exploited (FAO 2007). The incidence of Illegal, Unreported and Unregulated (IUU) fishing is predicted to increase as fish stocks in traditional fishing areas are exhausted and fishers are forced to move in to deeper and more distant ocean areas. Many Indian Ocean countries rely upon near-shore fisheries for their protein needs and therefore have national concerns with fish stocks management. Progressively, local fisheries are being dispossessed by rich states catching fish such as tuna to meet wealthy international markets. The implications of largely uncontrolled plundering of marine resources are most starkly demonstrated by the lawlessness situation off the Horn of Africa. Wilful manipulation of Exclusive Economic Zones (EEZs) has facilitated the plundering of fish stocks, with underdeveloped states unwittingly complicit in some cases, while receiving minimal compensation. Many IOR countries have little or no capability, and in some cases willingness, to police their oceanic areas of responsibility for either resource or environmental transgressions.

Water

Fresh water resources are also of vital strategic importance in the IOR. The major Asian river systems largely rise in the Tibetan Plateau. The Indus, the Ganges – with its major tributary the Tsangpo-Brahmaputra – the Irrawaddy and the Salween Rivers flow into the Indian Ocean and the Mekong, Yangtze and Yellow Rivers flow into the Pacific Ocean. There are water agreements in place between some coriparian states (for example, India and Pakistan). However, affected parties often express little faith in the utility and credibility of asymmetric co-riparian agreements and there are ongoing accusations of water abuse. For example, China is alleged to be pursuing 'major inter-basin and inter-river water transfer projects on the Tibetan plateau, which threatens to diminish international river flows into India and other co-riparian states' (Chellaney 2009).

The fresh water situation is exacerbated by climate change predictions that could see glacial melting in the Tibetan Plateau combined with increased precipitation in some years that could cause major flooding. The length and severity of droughts is also likely to increase, and when combined with sea level rise, this will boost salinity levels in affected river deltas. Protagonists like China and India are likely to experience significant water shortages in the future due to climate change and population and industrial growth.

Apart from the potential for major humanitarian crises, some analysts suggest that water disagreements are likely to intensify and could lead to armed conflict, with the prospect of Asian 'water wars' (Chellaney 2008) being raised. Either case will pose significant maritime security implications.

Geostrategic implications

Climate change, environmental degradation and resource scarcity will have profound geostrategic implications in the Indian Ocean Region. The effects transcend borders and will be felt predominantly in coastal areas and into the maritime domain. There

is a need to look beyond immediate, traditional security issues and prepare to deal with major resource and environmental management and related human security issues in the medium to longer-term. Many IOR states are especially vulnerable and have very little capacity to mitigate, adapt and respond to these major commonly held challenges. These human, resource and environmental security challenges have significant maritime security dimensions. They will require cooperative regional responses and collective global action utilising resources that may well need to come largely from powers external to the IOR.

4. The India-China factor

A crucial maritime security question for the IOR is: what are the implications for Indian Ocean security of states like India, and others, like China, whose relative economic and military strength are increasing? China is forecast to be the strongest Asian military power, and by a considerable margin. Its military modernisation will increasingly include power projection capabilities. The Chinese Navy is on the path to becoming a blue water force. Notably, there is renewed interest in an aircraft carrier program, nuclear-powered submarines and ballistic/cruise missile projects along with ongoing attempts to establish a strategic position in the IOR. The pace, scope and structure of China's military modernisation is giving its neighbours cause for concern (Australian Government 2009a, p. 34).

India is becoming more important strategically due to its expanding economy and greater external engagement. India is expected to soon overtake Japan as the third largest global economy. Like China, India is primarily pursuing internal development while also seeking recognition as a major power with expanding global interests. India has embarked upon a program to modernise its armed forces and to maintain a credible nuclear arsenal. India has sought to justify the need for enhanced maritime security based upon a long coastline facing the Arabian Sea on the West, the Bay of Bengal to the east and the vast Indian Ocean in the South (Indian Government 2009, pp. 8–9).

India's ambitions to become a significant regional power that will challenge both China and the United States have been reflected in its 'Look East' policy. Progressive and multifaceted integration with South East Asia is being pursued, according to India, 'to create the conditions for long-term economic growth, interdependence and prosperity in Asia'. India also has a stated aim of 'building a new architecture of stability and peace in the region' (Indian Government 2009, p. 3). India's maritime military strategy is underpinned on 'the freedom to use the seas for our national purposes, under all circumstances' and to ensure good order at sea (Indian Government 2007, pp. iii–v). Understandably, India asserts that 'whatever happens in the IOR can affect our national security and is of interest to us' (Indian Government 2007, p. 49).

Added to the India-China relationship is the situation in Pakistan. The dire if distant prospect of miscalculation between India and Pakistan leading to conflict remains. Pakistan's future is of particular concern; it also possesses nuclear weapons, and however unwillingly, provides a haven for Islamist terrorist networks; and there is some risk of a radical Islamist capture of the state (Australian Government 2009a, p. 36).

China's statement in the 2008 Chinese National Defence White Paper that it will never seek hegemony or engage in military expansion now or in the future, no matter how developed it becomes, has been noted in official Indian documents. India also noted a double-digit growth in Chinese defence expenditures over the previous 20 years, which has led to significant modernisation of its defence forces (Indian Government 2009, pp. 5–6). China's stated objectives of developing strategic missile and space-based assets and of rapidly enhancing its navy to conduct operations in distant waters, as well as upgrading infrastructure and operational capabilities in border areas with India, inevitably has an effect on how India perceives its security environment. Indian defence policy states that China's defence modernisation needs to be monitored along with its military assistance and cooperation with Pakistan and other countries (Indian Government 2009, pp. 5–6).

India's relations with China are noted to be 'cooperative at present but there is a competitive rivalry in trade and power projection' (Rai 2009). India remains suspicious of Chinese intentions. While China claims that it seeks access to bases only for securing energy supplies, India perceives the Chinese presence in the IOR as part of a policy to strategically encircle India. Chinese efforts to build or enhance strategic influence in Sri Lanka, Mauritius and Seychelles, for example, have been viewed with concern in India. Notably, China has emerged as the biggest aid donor to Sri Lanka, reported to be worth almost \$US1 billion (Kumar 2009).

India-China: a security dilemma

There are differing views on the potential implications of Chinese naval expansion and its impact in the Indian Ocean. Other states are facing a quandary over China's growing capabilities and stated intent: capabilities need to be hedged against, as intent can change quickly. China has major interests in the flow of trade and a right to protect and enhance its legitimate interests in the IOR that will generate apprehensions, particularly in India, about Chinese intentions. A potentially dangerous security dilemma is developing between the two Asian great powers (Pant 2009). This is likely to be played out, in large part, in the maritime domain.

5. Further maritime security considerations

The resource, human, economic and environmental security imperatives for the IOR already outlined extensively converge in the oceanic context. In many respects, the maritime, marine and oceans aspects of the Indian Ocean are the focus of the collective and overlapping interests of the littoral states and the external powers. It is at sea that the need exists to address common interests that are compelling and for the most part non-controversial, like preserving maritime trade flows and responding to natural disasters resulting from climate change. Dealing with commonly held security challenges in the maritime domain presents opportunities to forge frameworks for strategic dialogue that can provide the basis to address more contentious issues.

The broader geostrategic context

The broader and evolving global geostrategic context must be considered when attempting to devise a coherent perspective on a way ahead for associated IOR maritime security. The uniqueness of the IOR geostrategic situation has been described as:

more than just a geographic feature, the Indian Ocean is also an idea. It combines the centrality of Islam with global energy politics and the rise of India and China to reveal a multilayered, multipolar world.... As the competition between India and China suggests, the Indian Ocean is where global struggles will play out in the twenty-first century. Like a microcosm of the world at large, the greater Indian Ocean is developing into an area of ferociously guarded sovereignty... The Indians and the Chinese will enter into a dynamic great-power rivalry in these waters with their shared economic interests as major trading partners locking them in to an uncomfortable embrace. (Kaplan 2009)

Major shifts in strategic power relativities and an increasingly multipolar global order are being driven by changing patterns of economic power and political influence. The range of possible strategic futures is wide, which invokes considerable uncertainty and therefore the need for a security risk management approach. Conflicts in the Indian Ocean, as elsewhere, are increasingly characterised by weak or corrupt governments, growing dissatisfaction among the disenfranchised, religious extremism, ethnic nationalism, and changing demographics. Proliferation of weapons technology and information has increased the capacity of nation-states and transnational actors to challenge maritime access, evade accountability for attacks, and manipulate public perception. Even more worrisome, efforts to acquire nuclear and other weapons of mass destruction (WMD) are growing among states and non-state antagonists (United States Government 2007).

Maritime factors are dominant

Much of the IOR continues to be unstable, being beset with frequent conflict and natural disasters. For example, the IOR is the de facto home of global Islamist terrorism and the possibility of maritime terrorism remains a major security concern for the future. The region has been the arena for a large number of post-Cold War internal and external conflicts. Piracy, arms dealing, human and drug trafficking proliferate in the IOR, particularly in the Horn of Africa and Southeast Asia. There are many failed or failing states and 70% of the world's natural disasters occur in the IOR. Instabilities in the Persian Gulf, West Asia and the African regions have previously spilled over into the maritime domain (Indian Government 2007, pp. iii-v). It is neither possible nor desirable to think of Indian Ocean security in compartmentalised terms (Roy 2009). The Indian Ocean must be viewed holistically and in the context of a global economic, environmental and geostrategic situation that is tightly interconnected. Within this globalised circumstance, sea transport is the central component of a modern just-in-time supply chain system that relies on unfettered transit through increasingly congested littoral regions. Ninety per cent of world trade is transported by sea and the highest tonnages of goods pass through the Indian Ocean with almost 100,000 ships transiting annually. This includes two-thirds of the world's oil shipments, one-third of bulk cargo and half the world's container

shipments. The value of two-way international trade that transits IOR sea lanes is almost a trillion US dollars per annum (Indian Government 2007, pp. 45–46).

Undoubtedly, the Indian Ocean will have far greater strategic significance over the coming decades. It will become an increasingly important global trading thoroughfare and is likely to host a larger military (particularly naval) presence. A number of major naval powers are beginning to compete for strategic advantage in this crucial maritime region (Australian Government 2009a, pp. 36–37).

Putting piracy off the Horn of Africa into perspective

Much recent public attention has been focussed upon piracy off the Horn of Africa. The situation, although worrisome, is relatively minor in global geostrategic terms. Piracy off Somalia and in the Gulf of Aden has a negative impact on the use of the Suez Canal, a major world trade route that connects the Mediterranean Sea and the Atlantic Ocean with the Red and Arabian Seas, the Persian Gulf and the Indian Ocean. A 12–13 day detour around the Cape of Good Hope is required to avoid piracy hot spots. Insurance premiums for voyages through the Gulf of Aden have increased tenfold and transport costs have increased significantly (Mitropoulos 2009). In many ways, the Somalia piracy crisis is symptomatic of a beleaguered and failed state, and it is suggestive of even greater and more complex problems that will likely confront parts of the IOR in coming decades.

In terms of regional cooperation, there are some positives to arise from the Somalia piracy situation. The Djibouti Code of Conduct – an attempt to establish a Regional Co-operation Agreement on Combating Piracy and Armed Robbery against ships in Asia (RECAAP) type agreement to combat piracy among East African and Middle Eastern littoral states – seeks to build cooperative responses to a common problem among disparate regional parties. However, unlike the RECAAP case, the Djibouti parties have very limited indigenous capacity to deal with security at sea, and maritime cooperation is generally low.

Naval forces from many countries, including those not normally deployed for out of local area operations, like China, Japan and Malaysia, have joined in piracy suppression missions alongside India, Russia and the Western naval powers. Cooperation is very close among some navies involved and at best fragmented with others. However, a precedent for cooperative action to address a common problem has been established, which could be built upon when more challenging collective maritime security circumstances arise.

Common interests converge in the maritime domain

No one state has the necessary resources to provide for safety and security throughout the entire maritime domain. Expanded cooperation among maritime forces of multiple states requires improved interoperability among multinational partners possessing varying levels of technology. The Global Maritime Partnership initiative, proposed by the United States Navy, is intended to serve as a catalyst for increased international interoperability in support of cooperative maritime security (United States Government 2007). However, moving from an aspirational goal to a realisable goal will take considerable time, patience, and the application of resources,

particularly in many areas of the IOR where the problems are large and local maritime security assets are scarce.

The strategic objectives of the majority of extra-regional countries are broadly coincident with those of regional states. Many of the concerns, such as the stability of poorly governed states, the fight against fundamentalism and terrorism, the safety of SLOCs and the prevention of WMD proliferation, are common interests of regional and extra-regional powers. Most extra-regional navies that can be deployed into the IOR possess modern capabilities, are able to provide good situational awareness and have an ability to significantly influence operations. Although, as has been demonstrated in the Somalia piracy situation, they are unable to provide the high levels of maritime domain awareness and response asset availability required across the vastness of the domain to effectively suppress a relatively low-level threat.

The increasing requirement to focus strategic attention on the Indian Ocean, particularly maritime security, is now being reflected in the official strategic policy documents of IOR countries. The 2009 Australian Defence White Paper, for example, notes that 'Over the period to 2030, the Indian Ocean will join the Pacific Ocean in terms of its centrality to our maritime strategy and defence planning' (Australian Government 2009a, pp. 36–37). It goes on to state: 'More than ever before, short of war, Australian defence planning will have to contemplate . . . operatoperating in the Indian Ocean Region, including with regional partners with whom we share similar strategic interests' (Australian Government 2009a, pp. 51–52).

Notably, a November 2009 bilateral agreement between Australia and India, designed to enhance security cooperation, lists maritime and aviation security as a major area of focus (Australian Government 2009b). Realisation of the need to look increasingly toward the Indian Ocean, moving from an 'exclusively Pacific bias' in the case of Australia (Pezzullo 2009, p. 6), is now being finally recognised by regional defence planners.

6. IOR institutions

Both regional states and extra-regional powers largely perceive the IOR as an incongruent collection of sub-regions; for example, the Gulf States, South Asia, Eastern and Southern Africa, Southeast Asia and Australia. Region-wide institutions are lacking. The Indian Ocean Rim-Association for Regional Cooperation (IOR-ARC) (IOR-ARC 2009a) has the broadest IOR membership. It includes a wide array of Indian Ocean rim states and aims to facilitate and promote economic, scientific and cultural cooperation; it does not address strategic issues (IOR-ARC 2009a). The IOR-ARC membership includes 18 IOR states with some notable omissions; some extra-regional powers are dialogue partners but notably not the United States. While the IOR-ARC charter does not extend to security issues, piracy off Somalia was discussed at the June 2009 meeting in Yemen as a mutual issue of concern to maritime trade (IOR-ARC 2009b). The IOR-ARC is not perceived as being particularly effective and some member states, notably India, would like to see reform that would include a broader charter of activities.

The ASEAN Regional Forum (ARF) (ARF 2009), with its focus on political and security issues of common interest and concern, includes South Asian and eastern Indian Ocean states but does not include western Indian Ocean states. Other institutions like the South Asian Association for Regional Cooperation (SAARC

2009), Southern African Development Community (SADC 2009) and the Gulf Cooperation Council (GCC 2009) have limited, sub-regionally based membership and generally do not address security issues. The Track 2 forum, Council for Security Cooperation in the Asia Pacific (CSCAP) (CSCAP 2009), provides a non-governmental process for dialogue on security issues in the Asia Pacific. Membership includes India, Indonesia and Australia and some other Indian Ocean countries but does not extend to Pakistan or other IOR countries in the western Indian Ocean or the Middle East. Significant powers external to the IOR – China, the United States, Japan and Europe – are included in CSCAP.

The proposal by Australian Prime Minister Kevin Rudd, to establish an Asia Pacific Community (APC), is also of interest. APC is reported to likely comprise the 21 members of the Asia Pacific Economic Community (APEC) (APEC 2009), with the addition of India (Franklin 2008). According to Rudd's envoy for this proposal: 'the world's centre of strategic weight... In the 21st century it will move to the Asia Pacific region'. This presents an imperative to create an effective overarching regional architecture to 'engender...a stronger sense of the need for a region-wide will to work and plan cooperatively'. The proposed APC would nurture dialogue among leaders on economic, cultural, strategic and security matters (Woolcott 2009). While the APC is proposed to include India, East Asian and ASEAN states, the focus is predominantly directed toward the Pacific, with the inclusion of Russia, the United States, and some South American countries. Unlike the ARF, it appears that IOR states like Pakistan, Bangladesh and Sri Lanka may not be included nor East African and Middle Eastern states. APC therefore appears unlikely to fulfil a growing requirement for an IOR-wide forum in which convergent Indian Ocean security, economic and environmental issues can be considered in a collectively inclusive medium.

The apportionment of United States Unified Commands exemplifies difficulties external powers have with deriving a coherent strategic view of and approach toward the IOR, and is indicative of the lower priority afforded to oceanic security aspects of the region. The geographic boundaries of three largely land-based commands – US Africa Command, US Central Command and US Pacific Command – converge in the northwest Indian Ocean at a point southwest of India (United States Government 2009). Conversely, the French maritime commander, Alindien, operates from a command ship; his responsibilities encompass the entire Indian Ocean and extend into the Southern Ocean (Alindien 2009). This command has been in place since 1973 and supports geographically widespread French interests in the Indian and Southern Oceans.

Beneath the level of IOR international political institutions there have been some developments aimed at promoting regional security dialogue and a regional security identity, primarily at an operational level. One example of an attempt to improve operational level maritime security cooperation was the launch of the South Asia Regional Port Security Cooperative (SARPSCO) (SARPSCO 2010) in May 2008. SARPSCO brings together nine South Asian states, including India and Pakistan, to cooperate in maritime trade and port security.

The principal initiative has been the establishment by India of the Indian Ocean Naval Symposium (IONS) (IONS 2009). Modelled along the lines of the Western Pacific Naval Symposium (WPNS) (WPNS 2009), IONS first met in India on 15 February 2008 with the objective of promoting maritime cooperation at Chief of

Navy or equivalent level. India invited 31 IOR countries to participate with 27 countries sending representatives. Notably, extra-regional powers with significant interests in Indian Ocean maritime security, like the United States, China, Japan and the United Kingdom, were not invited. This circumstance is indicative of the reluctance of some IOR powers to recognise the interests of and promote the need for constructive engagement in maritime security with key external powers, and has significant strategic implications. Both IOR and external powers have significant and legitimate interests to protect in the Indian Ocean and therefore considerable interests in maritime security. This needs to be accommodated in regional security dialogue arrangements.

7. Which way ahead for IOR maritime security?

Devising a way ahead for IOR maritime security, while addressing the challenges of the 'Asian century' in an atmosphere of competition and distrust, is not going to be easy. The lack of maritime domain surveillance, intelligence and enforcement capabilities and capacity among IOR states is a major problem. Regional cooperative mechanisms are at best fragmented and incomplete. In some quarters, there is suspicion toward and a related lack of willingness to engage with external powers. Emerging human and environmental security concerns combined with common interests in maritime trade and the need for ocean-based resources suggest that the maritime domain offers the most likely prospect for progress to be made.

Regional and extra-regional responsibilities

At a 2009 IOR maritime security conference in Australia (Cordner 2009) some IOR representatives suggested that the responsibility for Indian Ocean maritime security should rest primarily with regional states. It was proposed that Indian Ocean states should be able to implement maritime security without interference from external powers. While much of the Indian Ocean has been encompassed within the EEZs, territorial seas or the archipelagic areas of regional states, much of the ocean remains part of the global commons; and states maintain the right of freedom to transit most areas under national jurisdiction. However, many regional states lack capacity and resources; they are unable to effectively manage and protect their maritime zones and have little capacity to contribute to broader common security. Many external powers have significant and legitimate interests in the Indian Ocean, and they have the capacity to assist in providing maritime security to protect their own and others interests. Consequently, external powers must be involved in IOR security arrangements.

A classic dilemma of regionalism versus globalism is presented here. The seeds for IOR maritime security cooperation and collaboration lie, in part, in dealing with this dilemma. One Indian strategic commentator observed: 'the Indian navy in concert with the JMSDF [Japanese Maritime Self Defense Force] and the US navy should act as regional naval powers to ensure maritime stability' (Roy 2009). The challenge is to construct regional security arrangements that will provide enduring and flexible mechanisms to facilitate principally maritime security cooperation in order to protect expanding and major common interests.

Maritime security cooperation - developing a workable solution

Common interests in non-military maritime security concerns offer the greatest scope, at least initially, for states to cooperate and work collectively than more contentious security matters. Medium to longer-term common security interests, like environmental concerns and sea level rise, that have the potential to present deep crises, are not being adequately addressed. The mechanisms to effect collective regional and extra-regional action are lacking. Developing the tools for and the habits of effective maritime security cooperation in an incremental fashion would appear to offer the most viable way ahead. The need to respond to the devastation wrecked by the Asian tsunami and the Horn of Africa piracy situation, for example, has helped to support the requirement for cooperative action. Progress is likely to be slow unless and until compelling requirements arise that provide the catalyst to developing collective approaches to dealing with major regional crises. Regrettably, progress may occur too late to prevent or provide adequate responses to massive human and environmental tragedies.

Cooperation needs to occur at a number of levels, including political and operational, and in a range of forums. The challenge is to devise arrangements that respect the sensitivities of regional and extra-regional powers and allow common, overlapping and special interests to be aired in cooperative dialogue. If cooperative arrangements are too broad and encompass too many parties they tend to become cumbersome, struggle for relevance and lack the ability to focus upon and differentiate, often complicated, local issues. The United Nations, with its many agencies and global membership, tends to be tested in this regard.

On the other hand, arrangements need to be inclusive of those parties who have genuine interests at stake, including potential protagonists. In particular, parties who are able to contribute real capability to deal with maritime security issues need to be incorporated. External powers that have the ability and the motivation to provide resources need to have a voice along with regional powers.

Who should pay for maritime security in the IOR remains a problematic issue that has no easy answers. The maintenance of sovereignty is clearly a fundamental responsibility of a nation-state. However, as we have observed, many issues transcend national boundaries and many IOR developing countries are unable to discharge their sovereign responsibilities. The stability of maritime regimes in the high seas and environmental issues engender common responsibilities for adjacent coastal states and user states. On the basis of these principles, a cost-sharing regime could be developed through regional and extra-regional forums, based on use and capacity.

Existing regional institutions do not adequately encompass IOR countries and extra-regional powers. There is little history of such cooperation and dialogue in the IOR. Existing arrangements are fragmented, are mainly sub-regional, and often do not address strategic and security matters. The development of cooperative arrangements takes time, energy and leadership, usually generated by compelling circumstances to address common interests. Certainly, this has been the experience in Europe and the Asia-Pacific where common economic interests and threat perceptions have provided the catalyst for advancements in cooperative arrangements over several decades.

The time is fast approaching for the IOR states, along with the major external powers, to take constructive steps toward creating regional strategic and security

architectures. As outlined in this paper, such arrangements could initially be focussed on commonly held and mainly non-controversial issues such as climate change, the environment, ocean resource management and freedom of navigation. Developing effective maritime security arrangements offers the most likely area for the genesis of IOR cooperation needed to deal with commonly held threats and to mitigate commonly perceived risks.

Indian Ocean maritime security should be collective in character and based upon the acceptance of shared responsibility among regional and extra-regional powers. Sensitivities need to be respected and the interests of many parties need to be carefully balanced. Grandiose and overarching schemes of IOR maritime security cooperation are the least feasible. IOR economic cooperative organisations, for example, have not really contributed a great deal to date.

Proposed maritime security cooperation initiatives

Suggested initiatives to move IOR security forward, with a primary focus on maritime security cooperation into the future, are outlined below. Firstly, it is suggested that a Track 1 entity be created for Indian Ocean strategic and maritime security dialogue at the inter-governmental level. The major thrust of this forum would be to promote regional security cooperation. This forum would form a parallel political level group to IONS and be tasked with addressing wider maritime security policy matters. It could include major working groups that bring together regional and extra-regional countries to consider issues like capacity and confidence building, and policy development.

Such a proposal would need appropriate dynamic leadership. Initially a core group, perhaps comprising India, Australia and South Africa, as significant powers at the three extremities of the IOR (the 'Indian Ocean Triangle'), could caucus to develop a concept proposal. Other significant powers like the ASEAN states, particularly Indonesia, key Middle Eastern states like Saudi Arabia and Iran, South Asian states like Pakistan and Sri Lanka, and African states like Kenya could be brought in. Other IOR states, including small island states, could also be included. The major external powers could also be brought in, perhaps as dialogue partners. They would include the United States, China, Japan, France (also an IOR state), Russia, and Britain as a minimum, and perhaps the European Union and South Korea. One option may be a revitalised IOR-ARC, with expanded membership and an expanded charter to include strategic and security matters. Alternatively, a completely new entity may offer a fresh start.

Secondly, it is suggested that a Track 2 forum be created in addition to deal with Indian Ocean maritime security dialogue and analysis. This could commence with a similar core membership as that proposed for Track 1, expanding to include leading academics and former officials from as many IOR states as possible plus representatives from the major external powers. This forum could operate in a similar way to the Maritime Security Group of CSCAP. Major roles would include identifying and developing issues for Track 1 consideration along with progressing dialogue about and the study and analysis of controversial and sensitive issues. The Track 2 entity would need to be adequately resourced by the participating states to enable it to operate effectively. Establishment of a Track 2 entity could precede the

Track 1 forum and be initially tasked with developing proposals for the Track 1 framework.

Thirdly, IONS currently in its infancy could be broadened in membership to include the leaders of regional and extra-regional powers maritime enforcement organisations with interests in and capacity to contribute to Indian Ocean maritime security. IONS should continue to work at an operational and technical level. The expanded IONS could encompass and promote cooperation among maritime and oceans security-related agencies – for example, navies, coast guards, maritime law enforcement organisations, ports and shipping security organisations (to include regional anti-piracy organisations, for example), and marine science. There may be benefits in promoting an organisational approach to operational maritime cooperation at the regional and sub regional level.

The suggestions as outlined above would require leadership and political will to progress. Initially, a small core multinational Track 2 team could be charged to further develop ideas and to propose practical implementation options for consideration at Track 1 level.

8. Conclusion

The IOR is exhibiting renewed vibrancy as some regional powers economies and capabilities expand, notably India, and regional strategic issues grow in importance. Significantly, the IOR has become the focus of increasing great power attention in recent times. The emergence of China as a global power, perceived to be in strategic competition with India in the IOR, has heightened strategic interest and tensions. Piracy and natural disasters have contributed to increased international interest. However, much more compelling medium to long-term security issues are generated by resource, climate change and environmental concerns, along with prospects of competing strategic spheres of influence.

The IOR is characterised by insecurity and instability, particularly in some subregions. The region plays a vital role in world energy supply and global maritime trade. Regional ocean resources are becoming increasingly important. Foreign powers have numerous interests and there is evidence of expanding regional power projection capabilities. Rapid economic and population growth are of driving importance. Non-traditional security issues presenting unconventional security challenges are a significant concern in to the future. Environmental security and climate change security need to be integrated into national security thinking in the same way as energy security has been. Circumstances in dysfunctional and failed states will provide fertile grounds for extremism and terrorism, and law and order issues like piracy and insurgencies. Water and energy geopolitics will complicate the IOR security environment.

There is a compelling imperative to initiate IOR-wide maritime security cooperation. The maritime domain is the area where many collective interests and security concerns converge. It is also the area where cooperative security habits can be developed while addressing mainly non-controversial, mutual issues. Both regional and extra-regional powers with interests in the Indian Ocean and the capacity to assist need to be included in security dialogue and cooperative arrangements at political, non-official and operational levels. The creation of an IOR Track 1 forum and a Track 2 forum plus IONS, expanded to include regional

and extra-regional maritime forces, is suggested here. Work should commence immediately to progress these proposals.

References

- Alindien (2009), The French Admiral Commanding the Indian Ocean Maritime Zone. Available at http://www.netmarine.net/bat/pr/marne/alindien.htm, accessed 3 December.
- Asia Pacific Economic Community (APEC) (2009), Available at http://www.apec.org/apec/member_economies.html, accessed 11 December 2009.
- ASEAN Regional Forum (ARF) (2009), Available at http://www.aseanregionalforum.org/, accessed 2 December.
- Australian Government (2009a), *Defending Australia in the Asia Pacific Century: Force 2030*, Defence White Paper 2009. Available at www.defence.gov.au, accessed 9 December 2009.
- Australian Government (2009b), 'India-Australia Joint Declaration on Security Cooperation', Media Release 12 November 2009, New Delhi. Available at http://www.pm.gov.au/node/6324. accessed 9 December 2009.
- Chellaney, B. (2008), 'Averting Asian water wars', The Asia-Pacific Journal: Japan Focus, 5 October 2008. Available at http://www.japanfocus.org/-Brahma-Chellaney/2916, accessed 17 December 2009.
- Chellaney, B. (2009), 'View: Sino-Indian water divide', *Daily Times* (Pakistan), 4 August. Available at http://www.dailytimes.com.pk/default.asp?page=2009%5C08%5C04%5Cs tory_4-8-2009_pg3_3, accessed 17 December 2009.
- Climate Change 2007: Synthesis Report (2007), Fourth Assessment Report of the Intergovernmental Panel on Climate Change. Available at http://www.ipcc.ch/pdf/assessment-report/ar4/syr/ar4_syr.pdf, accessed 4 December 2009.
- Cordner, L.G. ed., (2009), *Proceedings from Indian Ocean Maritime Security Symposium (IOMSS)*, Australian National Centre for Ocean Resources and Security (ANCORS), University of Wollongong, Australia, held at Australian Defence College, Canberra, 15–17 April 2009. Available at http://www.ancors.uow.edu.au/, accessed 14 December 2009.
- Council for Security Cooperation in the Asia Pacific (CSCAP) (2009), Available at http://www.cscap.org/, accessed 4 December 2009.
- Cruz, R.V., Harasawa, H., Lal, M., Wu, S., Anokhin, Y., Punsalmaa, B., Honda, Y., Jafari, M., Li, C. and Huu Ninh, N. (2007), 'Asia. Climate Change 2007: Impacts, Adaptation and Vulnerability'. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change, in M.L. Parry, O.F. Canziani, J.P. Palutikof, P.J. van der Linden and C.E. Hanson, eds. Cambridge: Cambridge University Press, pp. 469–506. Available at http://www.ipcc.ch/pdf/assessment-report/ar4/wg2/ar4-wg2-chapter10.pdf, accessed 4 December 2009.
- Energy Information Administration (2009), *International Energy Outlook (IEO) 2009*, May 2009, Office of Integrated Analysis and Forecasting, US Department of Energy, Washington, DC. Available at www.eia.doe.gov/oiaf/ieo/index.html, accessed 2 December 2009.
- Food and Agriculture Organization (FAO) of the United Nations (2007), Fisheries and Aquaculture Department, Rome 2007, *The State of World Fisheries and Aquaculture 2006*. Available at http://www.fao.org/docrep/009/A0699e/A0699e00.htm, accessed 7 December 2009.
- Franklin, M. (2008), 'Kevin Rudd to drive Asian union', *The Australian*, 5 June. Available at http://www.theaustralian.com.au/news/rudd-to-drive-asian-union/story-e6frg6no-11111165 42913, accessed 11 December 2009.
- Gulf Cooperation Council (GCC) (2009) Available at http://www.gccsg.org/eng/index.php, accessed 2 December 2009.
- Herberg, M. (2009) 'Energy Security in the Asia-Pacific Region and Policy for the New U.S. Administration', in Asia Foundation, 2008 America's Role in Asia: Asian and American Views; Recommendations for U.S. policy from both sides of the Pacific, pp. 131–143. Available at http://asiafoundation.org/publications/pdf/327, accessed 9 December 2009.

Indian Government (2007), Freedom to Use the Seas: India's Maritime Military Strategy, Integrated Headquarters Ministry of Defence (Navy), New Delhi, India, 2007. Available at http://www.indiannavy.nic.in/maritime strat.pdf, accessed 8 December 2009.

- Indian Government (2009), Annual Report 2008–09, Ministry of Defence. Available at http://mod.nic.in/reports/welcome.html, accessed 4 December 2009.
- Indian Ocean Naval Symposium (IONS) (2009), Available at http://www.indiannavy.nic.in/ ion.htm, accessed 3 December 2009.
- Indian Ocean Rim-Association for Regional Cooperation (IOR-ARC) (2009a), Charter. Available at http://www.iornet.com/iorarc/charter.htm, accessed 2 December.
- Indian Ocean Rim-Association for Regional Cooperation (IOR-ARC) (2009b), 'News summary of proceedings of the 9th meeting held in Yemen 22–27 June 2009'. Available at http://www.sabanews.net/en/news187693.htm, accessed 1 December 2009.
- International Energy Agency (IEA) (2007), World Energy Outlook 2007: China and India Insights. Available at http://www.iea.org/, accessed 4 December 2009.
- International Energy Agency (IEA) (2009), World Energy Outlook 2009: Executive Summary. Available at http://www.iea.org/, accessed 4 December 2009.
- Kaplan, R.D. (2009), 'Centre Stage in the twenty-first century: power plays in the Indian Ocean', *Foreign Affairs*, Vol. 88, no. 2, pp. 16–32.
- Klare, M.T. (2001), Resource Wars: The New Landscape of Global Conflict. New York: Metropolitan/Owl Book, Henry Holt and Company.
- Klare, M.T. (2008), Rising Powers, Shrinking Planet: The New Geopolitics of Energy. New York: Metropolitan/Owl Book, Henry Holt and Company.
- Kumar, A. (2009), 'China's island strategy in the Indian Ocean: breaching India's sphere of influence', Observer Research Foundation India. Available at http://www.observerindia.com/ cms/export/orfonline/modules/analysis/attachments/influence_1253251335478.pdf, accessed 8 December 2009.
- Mimura, N., Nurse, L., McLean, R.F., Agard, J., Briguglio, L., Lefale, P., Payet, R. and Sem, G. (2007), 'Small islands. Climate Change 2007: impacts, adaptation and vulnerability'. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change, in M.L. Parry, O.F. Canziani, J.P. Palutikof, P.J. van der Linden and C.E. Hanson, eds. Cambridge: Cambridge University Press, pp. 687–716. Available at http://www.ipcc.ch/pdf/assessment-report/ar4/wg2/ar4-wg2-chapter16.pdf, accessed 4 December 2009.
- Mitropoulos, E.E. (2009), 'Secretary-General, International Maritime Organization, Opening Address', Djibouti, 26 January, Sub-regional meeting to conclude agreements on maritime security, piracy and armed robbery against ships for States from the Western Indian Ocean, Gulf of Aden and Red Sea areas. Available at http://www.imo.org/, accessed 9 December 2009.
- Pant, H.V. (2009), 'Indian Ocean: ruling the waves', *International Relations Security Network*. Available at http://www.isn.ethz.ch/isn/Current-Affairs/Security-Watch/Detail/?ots591 = 4888CAA0-B3DB-1461-98B9-E20E7B9C13D4&lng=en&id=103847, accessed 4 December 2009.
- Pezzullo, M. (2009), 'Seapower and Australian defence strategy', *Headmark: Journal of the Australian Naval Institute*, no. 134, December 2009, pp. 5–11.
- Rai, R. (2009), 'Maritime security: Indian and American perspectives', *Report of the Institute of Peace and Conflict Studies*, seminar held on 30 April 2009. Available at http://www.ipcs.org/, accessed 8 December 2009.
- Roy, M. (2009), 'Maritime security in South West Asia', *Society for Indian Ocean Studies*. Available at http://www.iips.org/Roy-paper.pdf, accessed 4 December 2009.
- Rumley, D. and Chaturvedi, S. eds., (2005), *Energy Security and the Indian Ocean Region*. New Delhi: South Asian Publishers.
- Rumley, D., Chaturvedi, S. and Taib, M. (2007), *The Security of Sea Lanes of Communication in the Indian Ocean Region*. Kuala Lumpur: MIMA.
- Rumley, D., Chaturvedi, S. and Sakhuja, V. J. eds., (2009), Fisheries Exploitation in the Indian Ocean: Threats and Opportunities. Singapore: ISEAS.
- Schneider, S.H., Semenov, S., Patwardhan, A., Burton, I., Magadza, C.H.D., Oppenheimer, M., Pittock, A.B., Rahman, A., Smith, J.B., Suarez, A. and Yamin, F. (2007), 'Assessing key

- vulnerabilities and the risk from climate change', in M.L. Parry, O.F. Canziani, J.P. Palutikof, P.J. van der Linden and C.E. Hanson, eds. *Climate Change 2007: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change.* Cambridge: Cambridge University Press, pp. 779–810. Available at http://www.ipcc.ch/pdf/assessment-report/ar4/wg2/ar4-wg2-chapter19.pdf, accessed 4 December 2009.
- South Asian Association for Regional Cooperation (SAARC) (2009), Available at http://www.saarc-sec.org/, accessed 2 December 2009.
- South Asia Regional Port Security Cooperative (SARPSCO) (2010), Available at http://www.saarpsco.sc, accessed 28 May 2010.
- Southern African Development Community (SADC) (2009), Available at http://www.sadc.int/, accessed 2 December 2009.
- United States Government (2007), A Cooperative Strategy for 21st Century Seapower, October 2007. Available at http://www.navy.mil/maritime/MaritimeStrategy.pdf, accessed 8 December 2009.
- United States Government (2009), *United States Unified Commands*. Available at http://www.defenselink.mil/specials/unifiedcommand/, accessed 3 December 2009.
- Western Pacific Naval Symposium (WPNS) (2009), Available at http://www1.apan-info.net/Default.aspx?alias = www1.apan-info.net/wpns, accessed 3 December 2009.
- Woolcott, R. (2009), 'Towards an Asia Pacific Community', *The Asialink Essays*, November, no. 9. Available at www.asialink.unimelb.edu.au, accessed 9 December 2009.
- Working Group (WG) II (2007) 'Summary for Policymakers', Fourth Assessment Report of the Intergovernmental Panel on Climate Change 2007. Available at http://www.ipcc.ch/pdf/ assessment-report/ar4/wg2/ar4-wg2-spm.pdf, accessed 4 December 2009.