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Conflicts Over Natural Resources and the Environment: Economics and Security

by

Clevo Wilson and Clem Tisdell

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Conflicts over Natural Resources
and the Environment: Economics and Security

1. Introduction

The existence of natural resources has given rise to conflicts in many parts of the world (cf. Klare, 2001a,b; Homer-Dixon, 1999; Ghee and Valencia, 1990). As the World Commission on Environment and Development (1987, p.290) points out, "nations have often fought to assert or resist control over war materials, energy supplies, land, river basins, sea passages and other key environmental resources". Malaquias (2001) observes that it is "not accidental that some of the nastiest wars in Africa are being fought in countries richly endowed with natural resources". While there are no parallel cases in East and Southeast Asia to match the intensity and magnitude of the conflicts in some African countries, many conflicts that have arisen either directly or indirectly over the control and use of natural resources (cf. Tan and Boutin, 2001; Ghee and Valencia, 1990). The existence of rich natural resources in parts of countries, especially in large countries and with weak provincial administrative structures in some instances, could contribute to or even be a major cause for calls for separation or breakaway in some countries.

Frequently, social disagreements about the sharing of economic benefits of natural resources assume major significance and often exacerbate existing religious, cultural and social tensions. The security of nations may be undermined by armed conflict, internal or external, by terrorism, as well as by weakening of their economic systems thereby making nations(s) more vulnerable to attack. Geographic cultural diversity (e.g. of ethnic minorities) and geographical inequality in natural resources available within countries and in different regions/nations add to tensions. Furthermore, more economically developed regions/nations are believed to have a tendency to exploit the natural resources and environments of less developed regions and nations, especially to sustain economic growth (cf. Samaranayake, 1998). Interestingly, Singapore and Brueni, two of the smallest countries in the region spend a larger percentage of the respective countries' GDP on defense than some of the larger countries such as China, Indonesia and Malaysia (cf. The World Factbook, 2002).

Social and international tensions, disputes and conflicts arise over a range of natural resources including oil, natural gas, mining of other resources, logging of forests and exploitation of water. Conflicts have also arisen from the exploitation of marine resources. Some of the conflicts over natural resources and the environment are direct while others are far more complex, though involving natural resources.

Many countries in the East and Southeast Asian region share common borders and this inevitably leads to the sharing of certain resources, such as water. As a result, conflicts and tensions could arise in the sharing of these resources. Some of them are due to over exploitation (e.g. water and inland fisheries), building of barriers (e.g. dams) and pollution (e.g. due to agriculture). Other trans-boundary problems arise from air pollution resulting from forest fires, burning of fossil fuel and sandstorms arising from deforestation.

Similar problems exist in the sharing of marine resources in the region. All countries in the East and Southeast Asian region (except Laos and Mongolia), are bordered by the sea and their maritime borders in many instances overlap each other (cf. Valencia, 1990), especially with the declared Exclusive Economic Zones of each country. In such situations disputes arise in sharing resources. Some countries also dispute the control of maritime territories such as islands, reefs and coral cays (cf. Magno, 1997). The natural resources within the maritime areas of East and Southeast Asia are large and valuable and cover the Indian and Pacific oceans. The potential economic value of new mineral discoveries has also been mentioned (cf. Siddayao, 1977). Some of the off-shore resources include oil and natural gas. The potentially lucrative resources have led some countries to claim control using historical arguments (cf. Leifer, 1999). Apart from oil and natural gas, the East and Southeast Asian region is also rich in fisheries. Over-exploitation of fishing resources has led to a depletion of traditional fishing grounds across East and Southeast Asia and hence more and more pressure is been exerted on the resources in the South China sea where fish stocks are considered plentiful (cf. Magno, 1997). Sharing these declining trans-boundary resources results in many disputes. Moreover, poaching by vessels from within these countries is a common problem and several major stand-offs are reported each year (cf. Ganesan, 2001).

Another issue is the pollution of the seas. Because of the large area of the sea, some countries use it as a free dumping ground for dangerous wastes such as nuclear materials. An example is Russia dumping nuclear waste in the Sea of Japan (cf. Maddock, 1995). The region is also of strategic importance for commerce and military purposes, not only to the countries in the region, but also to the major super-powers outside the region.

As much as the issues involved between countries are complex, so are the conflicts within countries that are connected with the use of natural resources and the environment. Although these conflicts are as violent as those arising between nations, the nature of the conflicts is different. Terrorism and separation are some of the distinguishing features in conflicts within countries.

Asia and Southeast Asia have many minority groups. Within the region there are more than 300 ethnic groups speaking roughly 240 languages (cf. Clarke, 2001). Although conflicts among such diverse groups are well known, inequalities in benefits from natural resources exacerbate cultural and social tensions that already exist in many of these cases and can fuel calls for separation of provinces/states from the central governments. Some examples that can be cited from the region include Aceh, Iriyan Jaya and Kalimantan. Corruption by politicians and bureaucrats magnify the tensions.

Control over natural resources can also give rise to violence by those who extract them. Large-scale exploitation of resources not only displaces indigenous people, but also creates tensions in regions. Some of these countries' inhabitants grow illegal opium poppies which are a lucrative trade in the area. The money is not only used by money launderers, but is a potential and an attractive source of revenue for terrorist organizations such as Al-Qaida, Jamah Islamiah and the Moro National Liberation Front (MNLF) that are waging violent campaigns in many countries in the region (cf. Drug Policy Alliance, 2003). This is especially so when governments after September 11 are making an increased effort to cut off the conventional sources of terrorist funding such as from diaspora and money given by some governments to the political fronts/allied organisations of some terrorist organizations.

Apart from the varied geography of the region, some countries have adopted diametrically opposing constitutions and economic systems. For instance there are military regimes (e.g. Myanmar), communism (e.g. North Korea), a form of monarchy (Brunei), partial democracies (e.g. Singapore) and elected governments (e.g. Japan, Taiwan). The economic systems vary from centrally planned (e.g. North Korea) to fully market-based capitalist economies (e.g. Singapore and Taiwan). The religions range from countries/provinces that are intensely Islamic (e.g. Aceh) to Christians (e.g. East Timor, most parts of the Philippines) to tribal beliefs and faiths (e.g. Irian Jaya). These systems combined with the presence of some large countries sharing resources (both land and marine) with other countries, and the presence of a large number of ethnic groups is bound to result in conflicts in the utilization of resources, both between and within countries. In such situations some groups, often the stronger and the dominant, normally prevail.

Although many conflicts can be identified as being directly or indirectly linked to the control and use of resources, other conflicts appear to overshadow resource-linked conflicts in the region, such as terrorism and the events of September 11. Furthermore, the tensions between China and Taiwan from time to time, the ongoing dispute in the Korean peninsular, events in Burma have been some of the major issues in the recent past. Resource-related conflicts have taken a back seat, though there is the potential for them to become a major destabilizing force in the region. However, this is not to say such conflicts are unimportant. Conflicts arising from the control of resources and their use could destabilize a country or countries or even the entire region as a whole. Such conflicts could also slow down the economic growth of the region and increase unemployment. These events could in turn have a domino effect in the countries concerned and the region and create unrest. Such conflicts and unrest could create a refugee crisis (as discussed in Chapter 7) in neighbouring countries such as Australia and increase the magnitude of the violence in the countries where such conflicts have arisen.

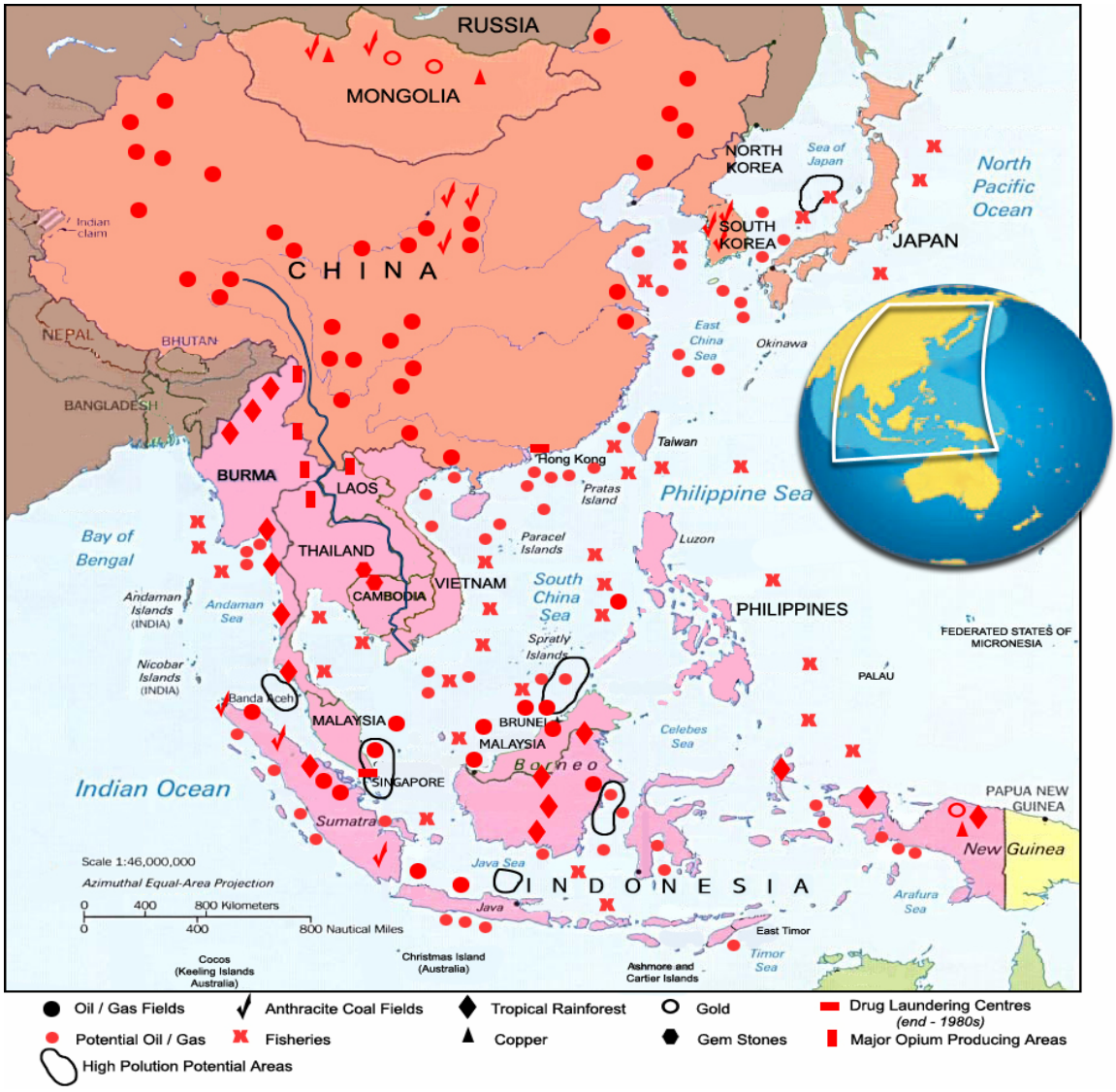
This chapter discusses the security issues and conflicts (both external and internal) over natural resources and the environment in East and Southeast Asia. The first section briefly discusses the resources of the region. A map locates some of the natural resources discussed. The second section deals with the conflicts related to the

use and control of natural resources in the region. The nature and the magnitude of the conflicts between and within countries are dealt with. The third section discusses the responses and possible remedial action for these conflicts and the fourth section concludes the chapter.

2. Major natural resources of the region

Asia is the largest of the Earth's seven continents. East and Southeast Asia account for a significant proportion of it and have the largest population in the Asian region with China's population being the largest and Indonesia having the fourth largest population in the world after the break-up of the old Soviet Union (Barnes, 1995). East Asia includes six countries [(China, including Honkong), Taiwan, Mongolia, North and South Korea and Japan] and Southeast Asia includes 11 countries which are Myanmar (formerly Burma), Thailand, Cambodia, Laos, Vietnam, Malaysia, Singapore, Indonesia, Brunei, the Philippines and East Timor. These countries are shown in Figure 1.

Figure 1: Map showing countries of East and Southeast Asia and the location of major resources of the region



Source: The map of the region has been adapted from The Taiwan Documents Project (2003). The location of resources has been taken from the following sources: Off-shore oil and gas – various sources: Valencia (1990, p.100); Harrison, 1977, p. 49-56). On-shore oil and gas – various sources: Barnes (1995, p.172); Bartke (1977, p.15); Harrison (1977, p. 48). Fisheries - Valencia (1990, p. 112, 131). Oil pollution and tank discharges – Valencia (1990, p. 123). Tropical rainforests - Kurian (1992). Coalfields - Kurian (1992); Barnes (1995, p. 172). Gold and copper - Kurian (1992). Major opium producing areas and drug laundering centers – end 1980s (Kidron and Segal, 1991, p.86).
Note: Location of marked resources in the region are only approximate.

As can be seen from Figure 1, some of the countries such as China and Mongolia are geographically extremely large while countries such as Singapore and Brunei are very small. Most countries in the East and Southeast share land borders with one or more countries with the exception of Taiwan and Japan (East Asia) and the Philippines (Southeast Asia). Some countries such as Indonesia and the Philippines are made up of several hundred islands and all countries have access to the oceans with overlapping maritime boundaries. The southwestern side of Southeast Asia is surrounded by the Indian Ocean and the northwest side is surrounded by the Pacific Ocean.

This region is rich in many mineral and energy resources, especially petroleum, natural gas, coal, tin, bauxite, gold, silver, uranium, copper, lead and zinc (cf. Mbendi, 2001; Ghee and Valencia, 1990). For instance, the largest concentration of petroleum and natural gas in the region occurs in China, Brunei, Indonesia and Malaysia (cf. Kurian, 1992; Siddayao, 1980; Harrison, 1977). Although none of the countries in East or Southeast Asia fall into the category of the worlds top ten net exporters of energy (Kidron and Segal, 1991) Brunei, Indonesia and Malaysia are major net exporters of oil and gas in the region (cf. The World Factbook, 2003). Furthermore, significant offshore oil and gas reserves have been discovered off the coasts of Indonesia, Brunei, Malaysia and China (cf. Barnes, 1995; Siddayao, 1980; Harrison, 1977) since major off-shore oil exploration began in the region in the 1960s. Many more reserves could be discovered in the future as technology and economic factors aid such exploration (cf. Siddayao, 1980; Bartke, 1977). For the major oil and gas producing countries in the region (such as Indonesia, Brunei and Malaysia), petroleum has become a major source of domestic revenue as well as foreign exchange earnings (cf. The World Factbook, 2003; Siddayao, 1980). For example, Brunei obtains as much as 90% for its revenues from oil and natural gas exports (cf. The World Factbook, 2003; Siddayao, 1980). China also has large reserves of coal, especially in the northern province of Shaanxi, which contains approximately 30% of China's proven reserves (Mbendi, 2001). Malaysia is well known for its large tin deposits and Indonesia is rich in bauxite (cf. Tadem, 1990). The southeast Asian region is also rich in gemstones, mainly in sapphires and rubies (Mbendi, 2001).

Furthermore, the region produces some of the worlds most important renewable natural resources such as natural rubber, palm-oil, copra and other coconut products. For example, the Philippines, Brunei, Indonesia Thailand, Malaysia and Singapore account for 82 percent of the world's production of natural rubber, 70 percent of copra and other coconut products and 56 percent of palm oil (cf. Tadem, 1990).

Apart from these resources, Southeast Asia contains significant tropical rainforests valuable for timber and medicinal plants (cf. Tadem, 1990). Three countries in the region, namely the Philippines, Indonesia and Malaysia accounted for approximately 66 percent of worldwide exports of hardwoods in the past (Tadem, 1990). However, tropical deforestation has been widespread in the region in the last few decades, especially in the Philippines and Indonesia (cf. Dauvergne, 2001; Homer-Dixon, 1999). The region is also watered by many major rivers of the world such as the Mekong which is shared by six countries (cf. Richardson, 2002). The fresh water rivers such as the Mekong, Yellow and Yangtze provide water to large tracts of agricultural land and is used for inland transport and are important for fisheries. The seas surrounding these countries, apart from being rich in oil and natural gas and other mineral reserves is rich in fisheries. For example, Thailand and the Philippines are major tuna exporters (cf. Tadem, 1990).

Natural resources play a significant role in the economic growth of these countries (cf. The World Factbook, 2003; Siddayao, 1980). In the case of countries such as Indonesia provinces rich in natural resources contribute significantly to the national economy. Furthermore, because of the close proximity of some countries to each other (e.g. common borders), some resources such as river water and other transboundary resources such as fisheries have to be shared. Some countries are less endowed with natural resources and hence there is a dependence on renewable resources such as water by neighbouring countries. A good example is Singapore's dependence on Malaysian freshwater. On the other hand, some countries such as Brunei, although small, are rich in natural resources such as oil and natural gas.

In the next section, we discuss some of the conflicts or issues that have the potential to lead to larger conflicts or create tensions in the East and Southeast Asian region.

Since conflicts that arise between countries and within countries have their distinguishing features we discuss these issues separately under different subheadings.

3. Economic contributions to conflicts arising from the use of natural resources and the environment

Many conflicts have taken place in this region in the post Second World War period. These have been, both within and between nations. Most of the conflicts between nations have been territorial disputes while the internal conflicts have been due to diverse issues ranging from the large geography of some countries, differences in political ideology, the existence of various ethnic communities, both majority and minority, distinct religions, languages and because of the inequality in the economic distribution of resources. Some of the major post War II conflicts between countries include: the war between the two Koreas, Vietnam war, the invasion of Tibet by China, the conflict between China and India and China and Taiwan. Some of the well known conflicts within countries include the civil wars or separatist conflicts in Cambodia, Burma, the Philippines and Indonesia.

It is not possible to discuss all these conflicts and the underlying issues, but in keeping with the theme of the chapter we examine only some of the conflicts that are directly or indirectly attributable to the use of or the existence of natural resources and the environment, both within and between countries. In the case of conflicts within countries, the distinguishing features in most cases is the inequality in the re-distribution of wealth created from natural resources and in the case of conflicts between countries, the striking feature in most instances is usually conflicts arising over the control of resources. From the present conflicts, it can be seen that conflicts within countries are far more common than conflicts between countries. In certain cases, tensions have been ongoing for decades, if not for centuries, and resource arguments can be traced back to Malthus (Reuveny, 2002).

The economic distributional aspects of natural resource conflicts may assume major significance and exacerbate cultural, religious, political and social tensions that already exist in many of these cases. This could be between countries as well as within countries. In certain cases, it could be the sole reason for conflicts. Such conflicts within countries also erode some ‘people’s support of institutions leading to

internal turmoil, which can, in turn, weaken the economy and promote more conflict' (Reuveny, 2002). East and Southeast Asia, with a rich resource base, as discussed in Section two, and with diverse cultures, clans, languages, religious beliefs, diametrically opposing economic systems, political ideologies and systems of governance is no exception to conflicts and terrorism arising from the economic distributional aspects of natural resources.

4. Inter-country conflicts

Given the large size of the region with many of the countries sharing common borders, both land and marine, sharing resources is a complex activity and in such cases conflicts are inevitable between neighbours and rivals. It is likely in many cases the larger countries and those that are more economically affluent and dominant are likely to have access to resources more than smaller countries that are also economically weak. Furthermore, weaker countries depend on larger countries for their economic survival, trade and security. In such cases many disputes go unnoticed, although internal tensions may prevail. Despite the dominance of some large countries, many conflicts have been reported between large and weaker nations as well as between smaller nations. With a large wealth of transboundary resources in the region, conflicts are likely to prevail in the future.

One of the recurring and sensitive resource related issues in the East and Southeast Asian region involves the territorial dispute over a collection of more than 200 islands, atolls, reefs and shoals in the South China sea (see Figure 1) which are claimed in whole or part by six countries of the region, namely China, Taiwan, Vietnam, Malaysia, Brunei and the Philippines (cf. Magno, 1997). Part of the arguments for claims is based on the definition of the Exclusive Economic Zone which in some parts of the region overlap each other. As a result the issues have become complicated and disputes commonplace. While some of the claims over this territory is based on the Exclusive Economic Zone (for e.g. Brunei) others have been based on historical grounds (cf. Leifer 1999). Although at present the natural resources of the disputed zone has been called by some authors (cf. Leifer, 1999) as comprising of little more than concentrations of bird droppings and shelters for fisherman, it is potentially rich in oil and natural gas deposits apart from the rich marine resources (cf. Valencia, 1990; Siddayao, 1980). The area is also strategically

an important sea lane for commercial ships as well as for the security of big trading and maritime powers like the United States and Japan (Mango, 1997). There has been tension between several countries in the region over the islands, mainly involving China and sporadic military action has taken place since the 1950s (cf. Magno, 1997). For example, China and Vietnam fought a short battle in the Paracels in 1974 and in 1995 China stationed armed vessels in the Philippine-claimed Mischief/Panganiban reef. Many other disputes have been recorded over this large collection of islands (cf. Magno, 1997) and many more unresolved maritime boundary claims to areas with high petroleum potential remain (Valencia, 2001). Conflicts could potentially arise from disagreements over property rights in the course of development of the resources (Siddayao, 1980).

Because of the large potential for oil and gas discoveries and the rich marine resources in the South China Sea the disputes are likely to be around and even get bigger depending on the value of the resources. It is most likely that China will play a dominant role and if smaller states confront such moves, it could lead to a larger conflict. Until now, no serious challenge has been forthcoming and hence the conflict has gone mostly unnoticed though the claim over some issues is a contentious one, in the countries involved. The disputes have strained relations between some countries and this could limit cooperation, especially economic, and stifle economic growth in the regions. There is also a possibility that outside superpowers may get involved given its strategic location for commercial and military purposes.

Apart from the off-shore oil and gas conflicts and the strategic importance of the seas to some countries, the sharing of transboundary resources between countries is a major issue and from time to time many conflicts have been reported. All countries, except Laos and Mongolia (land locked), engage in traditional fishing in the region and it is an important economic activity where generous incentives have been provided by the respective governments to operate in the areas (cf. Magno, 1997). However, in many parts of the region over-fishing has severely depleted fishing stocks, except in the South China Sea and as a result many countries compete for the fish stocks in the region often straying into neighbouring countries' territorial waters. Such disputes are frequent and in certain instances they flare into bigger conflicts (cf. Ganesan, 2001).

Another resource issue that could lead to an armed conflict between nations is that of the control and use of water resources in the region. Sharing of the Mekong river which supports one of the biggest inland fisheries between six countries (see Figure 1) is an issue that has already led to much discussions between the countries involved. Mekong is not only an important river for fisheries with an annual income of $ US1.4 billion, but is also an important source of water for agriculture, tourism, hydroelectricity, transport and freshwater fisheries. Millions of people along this stretch of the river depend on the Mekong for their livelihood. Any unequal distribution of this resource or polluting the river could trigger a major conflict (cf. Richardson, 2002). Excessive use of water by one or more nations could create water shortages in downstream countries as well as affect agriculture (through a shortage of water and through salt water intrusion), the recreational use of the river and the water available for generation of electricity. The health of many thousands, if not millions of downstream inhabitants could be affected if water is polluted. There is already concern in Vietnam that Thailand is drawing excessive amounts of water during the dry season thus increasing the intrusion of salt water from the sea into the Mekong delta region of southern Vietnam which is its main rice growing area (cf. Maddock, 1995). However, this dispute has been resolved by the intervention of UNDP and the signing of the Mekong agreement in 1995 (Goh, 2001).

Another water conflict involves Singapore and Malaysia. Singapore, because of its size and being located at the end of the Malay peninsular is dependent on Malaysia for half of its water needs. The supply of water to Singapore is guaranteed by two agreements signed in 1961 and 1962 (cf. Long, 2001). However, if there is an abrogation of the agreements then there is the potential for armed conflict between Singapore and Malaysia. At present, such a conflict is unlikely but as water becomes scarce, especially during dry periods and when the demand for water increases it could become an even more valuable commodity. Reduced water supply has the potential to slow down Singapore's economic growth. Hence, it is important that friendly relations prevail between the two nations.

The close proximity of many countries in the region sharing common borders and the sea results in several negative externalities arising from the use of natural resources. Furthermore, illegal use of territory and/or resources could also occur. This has the

potential to lead to conflicts if appropriate action is not taken or compensation provided to affected parties. Maddock (1995) notes that Japan and South Korea have raised concerns because the Sea of Japan is used by Russia to dump low-level nuclear waste. Nuclear waste can not only affect the health of the people but could pollute valuable fishery resources, as well as affect the recreational use of the sea. Siddayao (1980) has also pointed out to the potential problem of pollution arising from off-shore oil fields which could affect recreational as well as wildlife and the fisheries sector. There is also considerable oil pollution from ship discharges (cf. Valencia, 1990) due to the region (see Figure 1) being an important international shipping lane. The pollution no doubt could affect the rich fishing and prawn grounds of the region (see Figure 1).

Air pollution affecting neighbouring countries is another major issue in the region. For instance, half of measured sulfur dioxide depositions in Japan are believed to originate from China and to a lesser extent from South Korea (cf. Maddock, 1995). Forest fires in Indonesia in 1997 was responsible for the regions worst smoke haze which affected Malaysia, Singapore, Brunei and Southern Thailand and the economic damage was estimated to be very high (Steele, 2003). There was much pressure exerted on Indonesia by the neighbouring countries to combat the fire. This is another example of transboundry environmental problems that arise because of the close proximity of the countries in the region.

5. Intra-country conflicts

Conflicts over resources within countries, too, can lead to calls for separation from the central government, especially when there is economic inequality in the distribution of resources. This is especially so when the countries are large and have weak central governments relative to local power structures (cf. Duncan and Chand, 2002). The existence of a multitude of ethnic minorities with diverse languages and religious beliefs fuel such separatist issues. Corruption by politicians and bureaucrats aggravate the problems even further. Many conflicts have arisen in the region over the central governments reluctance or failure to pass on the benefits to the provinces. As a result there is the danger of armed conflict destabilizing governments and/or provinces/states breaking away from the centre. The breakaway mentality springs from the notion that such a breakaway could self-finance separation because of the

potential revenues that could be generated from natural resources in addition to other issues.

A current example is the fossil fuel rich province of Aceh on the northern tip of Sumatra (see Figure 1) which is also strategically located on the northern tip of the island of Sumatra between the Indian ocean and the Straits of Malacca. Aceh is one of the resource rich provinces of Indonesia which supports the Indonesian economy from the use of its resources (cf. Sulistiyanto, 2001). The unequal distribution of revenues has fuelled the separation issue in Aceh which has become a major conflict in recent times. Since the discovery of large deposits of oil and natural gas Aceh has been the fastest growing province in Indonesia in the mid-1970s until the 1980s (Sulistiyanto, 2001) which according to Ricklefs (1993) contributed as much as US $2 and US $3 billion annually to the Indonesian economy. Aceh was in fact the fourth largest contributor to Indonesia's economy after the resource rich provinces of Riau, West Papua and East Kalimantan (Ricklefs, 1993). Despite the large transfer of wealth from Aceh to the Indonesian economy, the Achenese themselves did not benefit from its own resources (cf. Robinson, 1998). For example, according to Ali (1999) Aceh received only around US $82 annually from the central government for its economic development and very few Acehnese have been employed by the mining companies (Ali, 1999). Despite its rich mineral resources Aceh remains one of the under-developed provinces of Indonesia (cf. Sulistiyanto, 2001).

High unemployment and low economic growth can also contribute to armed conflict and terrorism. The economic issues together with political, religious and the historical events of Aceh have deteriorated Aceh's relationship with the Indonesian government and given increased impetus to the Free Aceh Movement resulting in increased armed conflict and violence. The unequal distribution of economic resources has added weight to the call by the Free Aceh Movement to revert back to an independent state, similar to what existed before the occupation of Aceh by the Dutch in 1873. The large mineral resources give credence to the belief that even a small country like Aceh can be as prosperous as the rich kingdom of Brunei (Sulistiyanto, 2001).

The current armed conflict is not only a burden to the Indonesian economy, but is also weakening the economic systems and destabilizing other provinces in Indonesia and

has implications for neighbouring countries. Other resource rich provinces of Indonesia which generate substantial sums of revenue for the Indonesian economy could turn violent if resources are not more equally distributed by the central government. East Kalimantan and Irian Jaya for many years have been seeking a larger share of resources from the Indonesian central government because of the huge inequality that exists in the distribution of revenues (cf. Sulistiyanto, 2001). For example, it has been estimated that East Kalimantan contributes as much as Rp 70 trillion each year to the Indonesian economy but receives only Rp. 6.7 trillion a year in return (Jakarta Post, 2001). Such unequal re-distribution of revenues alone is sufficient for calls for separation which turns into violent conflicts as is the case with Aceh. Already the secessionists movements have been strongest in Aceh and Irian Jaya (cf. Aspinall and Berger, 2001).

The existence of a large population of diverse ethnic groups in one country and its neighbours could result in conflicts and terrorism over control of resource and use. Natural resources could be the dominant or significant factor in such disputes, although in many cases the conflicts are far more complex. The East and Southeast Asian countries comprise of more than 300 ethnic groups speaking roughly 240 languages and half of the population of over 200 million belong to ethnic minorities or indigenous peoples (Clarke, 2001). In such situations the control or attempts to control the use of resources by a few dominant ethnic groups could not only lead to an unequal distribution of resources, but also lead to armed resistance and conflict from minority groups. There are many instances in this region where conflicts have arisen over the use of resources. Such conflicts have the potential to spread to other regions and destabilize governments and possibly even regions.

In the Philippines, for example, large-scale mechanized mining activities of companies, often involving open cut mines have affected the small-scale manual gold, copper and other mineral mining activities of indigenous peoples such as Igorots (Broad and Cavanagh, 1993). This led to political unrest and conflict because large-scale mechanized mining has not only affected the livelihoods of indigenous people, but has also destroyed their natural environments and their traditional lands. Furthermore, in a move to accelerate economic growth and increase export earnings, the Philippines government in the mid-1990s on the advice of the World Bank passed

an act that liberalized mining operations in the country. This legislation has created large mining opportunities for open cut bauxite mining to multinational companies such as Rio Tinto Zinc (RTZ). This has already created tensions among indigenous people, such as the Subanen, living in Mindanao's Zamboanga peninsula (Clarke, 2001). There are instances where dissatisfaction of local owners in the sharing of natural resources and the destruction of the environment have intensified the struggle of terrorist/separatist organizations in some countries. For example, Bougainville Copper Pty Ltd mainly ceased mining because of the activities of the Bougainville Revolutionary Army which had its origins of dissatisfactions local landowners in the sharing of incomes and the extent of environmental damage caused by the mining (Tisdell, 1997).

In Indonesia, too, indigenous people and minorities in certain provinces have been affected as a result of resource exploitation. A good example is the effects of timber merchants (e.g. Javanese business interests and transmigrants) harvesting tropical forests in Kalimantan. Illegal logging is a highly organized crime in many parts of Southeast Asia. Not only are such logging practices unsustainable, but such operations are also blamed for forest fires that create serious air pollution in parts of Southeast Asia (Dauvergne, 2001). Indigenous people of Kalimantan, as a result, have had to move further deep into the mountains of Central Borneo (Clarke, 2001). Often, these timber merchants run mafia-like operations against the indigenous people involving threats and violence (Four Corners, 2002). In central Kalimantan, Indonesia "kidnapping, bribery and stand over tactics are simply ways of doing business" (Four Corners, 2002). It is estimated that 70% of all logging taking place in Indonesia is illegal (Four Corners, 2002) and that it is run by highly organized timber mafias with good political connections to the ruling parties. The tactics use by the timber mafias are similar to those used in the drug trade dealings. They deal ruthlessly with anyone standing in their way.

There is also evidence to show that natural resources of various forms have been used to finance brutal regimes. For example, Pol Pot's Khemer Rouge were known to have done lucrative timber and gem deals with corrupt Thai military officials in order to finance their regime in the late 1970s (Garella, 1998). Furthermore opium poppy could be an attractive source of funding for terror organizations in the region since

Southeast Asia is one of the major producers of opium poppy in the world. The poppy growing areas in Southeast Asia are mainly in parts of highland Burma, Laos and to a lesser extent in Vietnam, Thailand and China. The 'Golden Triangle' consists of areas in some of these countries. Although in Southeast Asia the extent of violence and drug operations is unlike that of Columbia and Peru where separatist/terrorist groups impose taxes on illicit drug producers to finance their operations, in Southeast Asia, too, violence is used by the illicit drug operators. Hong Kong and Singapore have been identified as drug-money laundering centres and all producer centres (see Figure 1) are important secondary markets (Kidron and Segal, 1991). The UN estimates that the global illicit drug trade is worth as much as US $ 400 billion annually and it is a potential and actual source of revenue to terrorist groups (Drug Policy Around the World, 2003). It is possible that some terrorist/separatist oraganizations in Southeast Asia already use drugs to finance their operations. More recently there has been accusations by Australia that North Korea is involved with smuggling drugs to western countries, including Australia to finance the development of nuclear weapons (cf. Kerin, 2003).

Furthermore, there are instances where the security of a nation or a region could be affected due to environmental degradation and East and Southeast Asia are no exception. The Human Development Report (1994) of the United Nations identifies Burma as one of the countries in the region affected by environmental degradation. Homer-Dixon (1999) also mentions that land degradation and ecological marginalisation have led to conflicts in the Southeast Asian region, and cites the Philippines as an example. Homer-Dixon (1999, p.153) citing Roque and Garcia (1993) and other authors he states that "The country's upland insurgency - which peaked in the 1980s and still included regular guerrilla assaults on military stations in the mid 1990s - was motivated by the relative deprivation of landless agricultural labourers and poor farmers displaced into remote hills where they tried to eke a living from the failing land …..".

As much as the natural resources of a country, amongst other causes, could lead to arguments of certain provinces to break away from the centre, there is also the danger of such independent states placing much reliance on such reserves. A good example is East Timor. Amongst other reasons, the decision of East Timor to separate from

Indonesia was based on the projected oil and gas reserves in the Timor sea which was not only an issue with Indonesia, but also one of the reasons for the tense relationship between Australia and Indonesia (DuBois, 2000). The Timor Gap oil and natural resources will no doubt play an important role in the economy of the independent state, but there is the danger of over reliance especially if the oil and gas is found to be less than originally estimated. In such cases, East Timor can face problems similar to those faced by PNG when its Panguna copper mine was shut down in 1989 (cf. Oxfam, 2000). It has been pointed out by Oxfam that in such a case East Timor would have been much better off being a province of Indonesia. Hence, falling revenue and low economic growth and unemployment could create unrest in the country. Such a situation could force people to move to parts of Indonesia for employment or as refugees. This could lead to border tensions between the two countries.

6. Responses and possible remedial action

The conflicts arising from resource use are complex partly because of the large geographical size of the region which comprises of several diametrically opposed political and economic systems. The politics of regional cooperation is also intricate (cf. Tick, 2001). Sharing of resources in such situations among the largest population in the world combined with the presence of large ethnic groups and historical disputes is bent with problems. Some conflicts in such situations become intractable. Furthermore, in the region there are a multitude of resource-linked conflicts at any given time and they spark off violence from time to time. Hence it is difficult to discuss responses and remedial action for each conflict since it appears that conflicts need specific responses for specific problems and in some instances they are time specific. However, an overview of some of the responses could be suggested as a starting point towards minimizing or resolving some of these conflicts.

Because most resource conflicts in the region are linked with other issues, any solutions to a problem(s) should also take into account all aspects of the issues involved. In many cases it is likely that when one issue is resolved the other related conflicts may also subdue in intensity.

In the case of inter-country conflicts Association of Southeast Asian nations (ASEAN) is a good starting point as the ASEAN declaration states that " the association represents the collective will of the nations of Southeast Asia to bind themselves together in friendship and cooperation and through joint efforts and sacrifices, secure for their peoples and for posterity the blessings of peace, freedom and prosperity". All countries in Southeast Asia (except East Timor which participates only as an invited guest) are members of ASEAN and ASEAN have close links with countries in East Asia particularly China, Japan and the Republic of Korea (ASEAN Secretariat, 2003). Such an organization could address disputes and tensions that arise more effectively than international organizations such as the United Nations, although it too could play a role especially the UN Conventions such as the Law of the Sea. The convention provides a legal framework for rational management of marine resources such as those in the South China sea. Since ASEAN also involves dealing with economic issues it is an incentive for member countries to cooperate in settling disputes when they arise. Furthermore, under the United Nations convention on the Law of the Non-Navigational uses of International Watercourses (DOC A/51869, 11 April 1997) countries could utilize rivers, lakes and similar resources in an equitable and reasonable manner (Haftendorn, 2000). In the event of a dispute, countries have recourse to international law rather than engage in war. Countries also could use the 1992 Convention on the Protection and use of Transboundary Watercourses and International Lakes (the Helsinki Convention) to resolve disputes. Haftendorn (2000) also refers to several other international organizations in addition to the International Court of Justice that could help resolve disputes between countries.

Another organization is the Asia Pacific Economic Corporation (APEC) which involves a wide range of countries in Asia including the East and South East Asian countries. The regional organization, especially those with economic benefits could act as a disincentive for countries to pursue acts of aggression towards their neighbours. Economic incentives could also act a disincentive for countries to engage in military action. For example China's most favoured nation status granted by US in many ways restricts its military actions in the region.

Interestingly, all countries in the region either have large or sophisticated military forces and their military expenditures are high (cf. The World Factbook, 2002). The military capability of a country may act as a deterrent for countries engaging in resource disputes. The presence of superpowers and their military assistance may also preempt military conflicts.

It is likely because of increasing evidence of illegal drugs financing terrorism that there will be pressure exerted on opium producing countries to take action to combat the growing of illegal opium poppy in the region and outside. In the case of any action being taken it is necessary to provide alternative sources of income to people, who are already engaged in such cultivation. Since the events of September 11 governments have pursued or made to pursue a more active role in combating terrorism. In doing so some countries have taken advantage in suppressing conflicts that are linked to natural resources and minorities in their traditional lands. A recent example that could be cited is Aceh.

In the case of intra-country conflicts many resource conflicts are only an extension of a wider and historical conflict. It usually involves ethnic groups. In such cases multilateral economic and political arrangements could reduce the magnitude of the conflicts. In many cases the demands are based on the implementation of such measures. In other cases appropriate devolution structures may help restore some degree of security in the region, although the provision of such devolution creates its own problems and conflicts and destabilization by those who oppose such moves including the military of some countries.

7. Conclusions

East and Southeast Asia cover a vast area of the continent and is particularly rich in renewable and non-renewable resources compared to the rest of Asia. Some countries in the region are major producers of raw materials for industrial production. The region also has one of the world's largest populations and comprises of hundreds of ethnic groups with many conflicting religious beliefs. The countries in the region pursue diametrically opposing constitutions and economic systems. Because of the geography of the region, many countries have to share land borders and trans-boundary resources such as water and fisheries. All countries except Laos and

Mongolia have access to the resources of the sea which is determined by Exclusive Economic Zones. Because of the narrowness of the sea in some areas (e.g. South China sea) and cluster of countries competing for the sea resources, the Exclusive Economic Zones often overlap each other. Hence, sharing of resources in the region often becomes complex and disputes/tensions over resource control and use are inevitable. Natural-resource related conflicts/tensions are not uncommon and they exacerbate cultural, religious and social tensions that already exist in many of the countries in the region. The conflicts that arise are between and within countries. Terrorism and separation are some of the distinguishing features in conflicts within countries which in many cases is linked to economic distributional aspects of natural resources.

Although many resource-related conflicts/tensions have arisen in the region in the past and continues to date, they have in most cases taken a back seat compared to other non-resource related conflicts and tensions such as the dispute in the Koreas, tensions between China and Taiwan, weapons of mass destruction, regional terrorism and events of September 11.

Nevertheless, resources in the region, especially the potentially large oil and gas reserves in the East and South China sea, combined with other issues such as historical disputes, ideological differences, rivalry and the presence of large ethnic groups could destabilize the region if conflicts flare up. Because resource linked conflicts are often related to each other and are complex in nature, any solution or management of issues should consider the root causes of the conflicts/tensions. In many cases solving one issue will diminish other related conflicts.

Regional organizations such as ASEAN, APEC and international organizations especially UN conventions such as the Law of the Sea could contribute to a certain degree in managing or diffusing conflicts between countries. In the case of resource-related conflicts within countries, it is even more complex because of the multitude of issues involved. In many cases, some issues may be intractable, at least in the short term and it is best that they are managed to keep the magnitude of the conflict(s) to a minimum. In some instances, multilateral economic and political arrangements and

appropriate federal devolution structures could help restore some degree of security in the region.

Finally, it is important that conflicts arising from resource control and use are managed well because given other tensions that prevail (e.g. as religious, cultural and ethnic) minor conflicts could easily flare into larger conflicts engulfing the entire region. Although many of the resource-related conflicts are low in intensity or in some cases, isolated incidents compared to resource related conflicts in some countries in Africa, the vast resources shown in Figure 1 have the potential to create larger conflicts and destabilize the region. In such instances, it often does not take too long for conflicts to turn the region into a situation like Yugoslavia that threatened the stability of Europe. The implications are not only for the region, but also for the rest of Asia and Australasia because of the potential for a refugee problem and other problems that could arise due to the close proximity of neighbouring countries.

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