

# The Future of the Pacific and its Relevance for Geo-economic Interests

## USA Club of Rome Report 2013

### Contents

#### 1) **Legal and Political Issues** (authors: Francesco Stipo, Keith Butler, Roberta Gibbs, Lockey White)

The Development of free trade agreements in the Pacific region.....	2
The Future of U.S.-China relations.....	5
Security issues.....	6
Future evolution of U.S.-China relations.....	7
Potential game changing scenarios.....	9
The Future of U.S.-Japan relations and the role of Pacific islands .....	11
Relations between Indonesia and China .....	14
Relations between Australia and Japan .....	15
Relations between China and Australia .....	16
Relations between Australia and the United States .....	17

#### 2) **Energy and Resources** (authors: Anitra Thorhaug, Andrew Oerke)

The Future of the Pacific Rim's national resources .....	20
Water .....	21
Marine ecosystem and fish .....	22
Forests and soils .....	23

Land masses .....	24
Estuaries .....	24
Arctic and Antarctic .....	25
Energy .....	26
Populations .....	27
Minerals .....	27
Solutions .....	28

3) **Religion and Health** (authors: Marian Simion, Ryan Jackson)

Religious makeup in the Pacific .....	30
Health Issues .....	33

## 1) Legal and Political Issues

### I. The Development of Free Trade Agreements in the Pacific Region

Over the past decade, the center of world's economic growth has moved away from the Atlantic to the Pacific region. The development of international trade between America and Asia has determined the countries in the Pacific region to abate its economic borders and create a free trade area in the Pacific region.

The first step has been the creation of APEC in 1986 (Asia-Pacific Economic Cooperation) a forum to promote free trade and economic cooperation in the Pacific region. When APEC was established in 1989 average trade barriers in the region stood at 16.9 percent, but had been reduced to 5.5% in 2004<sup>1</sup>. However, the Bogor Goals that called for complete trade liberalization by the year 2010 have not been achieved.

APEC first formally started discussing the concept of a Free Trade Area of the Asia-Pacific at its summit in 2006 in Vietnam. Such Area would constitute a better alternative to the bilateral free trade agreements (approximately 60)<sup>2</sup> in the Pacific region.

---

<sup>1</sup> A Mid-Term Stocktake of the Bogor Goals, APEC website, accessed May 1 2013.

<sup>2</sup> Wikipedia, <http://en.wikipedia.org/wiki/APEC>. Accessed May 8 2013.

While APEC comprises most Pacific largest economies, small Pacific islands created in 1971 the Pacific Island Forum, an organization with similar goals of APEC.

More recently, in 2005, the Trans-Pacific Strategic Economic Partnership was formed between Brunei, Chile, New Zealand and Singapore. In 2012 negotiations started to expand the TPSEP and create a Trans Pacific Partnership (TPP), a free trade agreement involving the members of the TPSEP, the United States, Australia, Canada, Peru, Malaysia, Mexico, Japan and Vietnam, which would eventually be the forerunner of a Free Trade Area of the Pacific (FTAAP)<sup>3</sup>.

The TPP, which constitutes an alternative to APEC, would counterbalance the economic influence of China in the Pacific region, eliminating import duties on goods originating from member countries. Negotiations could eventually be extended to China once its cost of labor will become similar to the other member countries.

It would also represent a unique opportunity for the United States to expand free trade with Asian countries (the U.S. already has bilateral free trade agreements with Australia, Singapore and South Korea) and Latin American countries.

In fact, the collapse of the negotiations for a free trade area of the Americas (FTAA) induced the United States, which has been the main sponsor of Pan-American free trade area, to develop bilateral economic agreements with a limited number of Latin American countries.

The cause of the end of negotiations was the polarization of interests in the American hemisphere among three main center of political and economic interest: the USA, Brazil and Venezuela<sup>4</sup>. The US entered into free trade agreements with Chile, Colombia, Peru and Panama.

Venezuela, under the leadership of Chavez, opposed the FTAA describing it as a U.S. attempt to control the economies of South American countries and developed economic cooperation with nations that shared its political ideology, such as Bolivia, Ecuador and Nicaragua.

---

<sup>3</sup> [http://sice.oas.org/Trade/CHL\\_Asia\\_e/mainAgreemt\\_e.pdf](http://sice.oas.org/Trade/CHL_Asia_e/mainAgreemt_e.pdf), accessed April 27, 2013.

<sup>4</sup> See Anitra Thorhaug, Francesco Stipo et al, The Future of the Western Hemisphere, USACOR report 2011, 117.

Brazil, which represents the second largest economy in the American hemisphere, focused its efforts in strengthening MERCOSUR, a free trade area that includes its neighboring countries Argentina, Paraguay and Uruguay.

The four countries that signed free trade agreements with the United States are located on the Pacific and they could soon join the Trans-Pacific Economic Partnership (Chile and Peru have already joined the negotiations). Other Latin American countries, such as Ecuador and Uruguay, have been increasing their trade with Asia to the point that it would be more beneficial for them to join a free trade area of the Pacific rather than maintaining their ties with other South American countries. The US-sponsored TPP overlaps part of its membership with APEC and represents the beginning of a polarization of free trade initiatives in the Pacific between China and the USA. China's response to the TPP is the creation of the Regional Comprehensive Economic Partnership, which promotes free trade between China and its main trade partners<sup>5</sup>.

Many of these partners are members of the ASEAN bloc, the Association of South-East Asian Nations, which is planning to complete its import duty integration by 2015<sup>6</sup>. In addition, ASEAN is also negotiating free trade agreements with China, Japan, South Korea, India and New Zealand<sup>7</sup>. The RCEP would strategically benefit China and economically benefit ASEAN countries.

The first element that emerges by the historical analysis of free trade agreements in the Pacific is the fragmentation of trade liberalization among different organizations. These organizations work for the same goals but cover separate geographic areas.

Initially, the outcome will be a polarization of free trade among 2 areas: the US-sponsored TPP, which could merge with the Pacific Islands Forum, and the Chinese-sponsored Regional Comprehensive Economic Partnership with the ASEAN bloc.

---

<sup>5</sup> Associated Press, April 25 2013 <http://www.ktvu.com/news/ap/top-news/china-15-other-asian-nations-to-start-trade-talks/nXXMg/>. Accessed May 9, 2013.

<sup>6</sup> Forbes, August 26 2007 <http://www.forbes.com/feeds/afx/2007/08/26/afx4054320.html>. Accessed April 27, 2013.

<sup>7</sup> ASEAN <http://www.asean.org/news>. Accessed April 4, 2013.

However, in the next 30 years, once the cost of labor will become more uniform, these areas will eventually merge into one single Free Trade Area of the Asia-Pacific that will eliminate custom duties and guarantee equality of treatment among goods originating in different Pacific countries.

Free trade agreements can boost economic growth and prosperity but, if not supported by the guarantee of minimum wages, labor laws that protect workers and human rights, and a common environmental policy, they can cause an uneven wealth distribution with long term adverse effects. It is our recommendation that free trade agreements in the Pacific are carefully planned to include these provisions.

## **II. The Future of US-China Relations**

The new leadership within People's Republic of China (PRC), under General Secretary Xi Jinping, seeks to continue the economic growth and limited domestic reforms that began under General Secretary Deng Xiaoping in the 1970s. Relations between China and the U.S. have remained stable since Xi assumed office, and he has continued the policies of his predecessor, Hu Jintao. Despite increasing nationalism, anti-Japanese, and anti-Western sentiments among many Chinese, the overall focus of the Chinese government has been to support regional stability and economic growth.<sup>8</sup> This focus has allowed China and the U.S. to come to agreement on several issues affecting the Western Pacific region, as well as to help diffuse any potential escalation of conflict between the two powers. In particular, both China and the U.S. have come to an agreement regarding efforts against terrorists, and they have intensified operational cooperation and training between the military establishments of both nations.

---

<sup>8</sup> *State of the World: Assessing China's Strategy*, George Friedman, Stratfor, <http://www.stratfor.com/weekly/state-world-assessing-chinas-strategy>, March 6, 2012.; *Annual Report to Congress: Military and Security Developments Involving the People's Republic of China 2013*, Office of the Secretary of Defense, United States Department of Defense, [http://www.defense.gov/pubs/2013\\_China\\_Report\\_FINAL.pdf](http://www.defense.gov/pubs/2013_China_Report_FINAL.pdf), 2013.

### III. Security Issues

China and the United States are directly involved with security issues regarding North Korea, the South China Sea, the Senkaku Islands, and Taiwan.<sup>9</sup> With regards to North Korea, China has acted as a willing ally to that regime in terms of economic and humanitarian assistance, but the current likelihood of the PRC getting involved with a war between North and South Korea is extremely remote, even if the United States fights for South Korea in any future conflict.

China's dispute with several countries over its claims in the South China Sea has prompted many states to welcome U.S. support and military forces in that area. The dispute between China and Japan regarding the Senkaku Islands will remain unresolved until both parties are able to negotiate effective control.<sup>10</sup> Lastly, the PRC's claim over Taiwan will also continue unresolved, yet the likelihood of any military conflict between mainland China and Taiwan is extremely low (despite the continuation of U.S. sales of arms to Taiwan). As a result, China and the United States are expected to continue their cooperation on military security issues in the near future.<sup>11</sup>

However, in the realm of cyber security, the Chinese government and military have conducted and supported direct attacks and incursions against U.S. government agencies, corporations, and citizens. These attacks have increased dramatically over time, and to such an extent that it has heightened the concern of top U.S. officials regarding the potential for subversion or damage against U.S. interests and assets.<sup>12</sup> While the Chinese government has repeatedly denied

---

<sup>9</sup> *China's Military and the U.S.-Japan Alliance in 2030: A Strategic Net Assessment*, Carnegie Endowment for International Peace, Washington, DC, 2013; <http://carnegieendowment.org/2013/05/03/china-s-military-and-u.s.-japan-alliance-in-2030-strategic-net-assessment/g1wh>; <http://breakingdefense.com/2013/05/02/unclassified-net-assessment-of-china-us-and-japan-released-by-c/>

<sup>10</sup> *The Arc of Chinese Strategy*, James Holmes, The Diplomat, <http://thediplomat.com/the-naval-diplomat/2013/03/01/the-arc-of-chinese-strategy/>, March 1, 2013.

<sup>11</sup> *United States Pacific Command Strategy*, United States Pacific Command, United States Department of Defense, <http://www.pacom.mil/about-uspacom/2013-uspacom-strategy.shtml>, 2013.

<sup>12</sup> *Cyberattacks a growing irritant in US-China ties*, Christopher Bodeen, Associated Press, <http://www.sfgate.com/news/world/article/Cyberattacks-a-growing-irritant-in-US-China-ties-4498016.php>, May 8, 2013.

involvement in these attacks, there exists substantial evidence collected by the U.S. government and private industry that suggests a widespread policy of condoning cyber-attacks and other forms of electronic intelligence gathering.<sup>13</sup>

#### **IV. Future Evolution of Sino-American Relations**

The future evolution of Sino-American relations will involve continued mutual cooperation on economic and security issues, as they pertain to the Western Pacific region. China's economic ascendancy will allow the country to expand its global influence. China seeks regional hegemony in the East Asia/Western Pacific region, as well as the ability to sway international opinion within the United Nations and other treaty-based organizations.

There still remain a few outlier scenarios that could dramatically upset the expected future evolution of Chinese-US relations:

##### **A. North Korean Regime Collapse**

A collapse of the Democratic People's Republic of Korea (DPRK), either by internal or external pressures, would produce a significant problem for the People's Republic of China. A mass exodus of refugees to China would certainly result, which would place an undue burden upon Chinese border and security organizations. Furthermore, any successor to the DPRK would need to clarify its intentions toward China, as well as establish diplomatic relations to a level sufficient as to allay any fears that the PRC may have. The collapse of the DPRK may itself require an intervention by the PRC in order to either shore up the collapsing regime, or to affect change such that any foreign interests could be countered (and thus continue North Korea's status as an ally and buffer for the PRC against South Korea, Japan, and the United States).

---

<sup>13</sup> *China Blasts Hacking Claim by Pentagon*, Keith Bradsher, The New York Times, [http://www.nytimes.com/2013/05/08/world/asia/china-criticizes-pentagon-report-on-cyberattacks.html?\\_r=0](http://www.nytimes.com/2013/05/08/world/asia/china-criticizes-pentagon-report-on-cyberattacks.html?_r=0), May 7, 2013.

## **B. Chinese Economic Decline**

There exists the possibility of a significant decline in Chinese economic growth due to several factors, which include: demographic collapse (due to the one-child policy), widening pollution that contributes to population decline, panics and other shocks against the Chinese financial system, government corruption leading to one or more collapsing asset bubbles, international trade protectionism to include retaliatory trade policies from one or more major trading partners.

## **C. Chernobyl-type Disaster**

China is seeking to build nuclear power plants over the next few decades which will generate over four hundred gigawatts of energy by 2050.<sup>14</sup> While many of these are expected to use cutting-edge and relatively safer technologies (such as pebble bed reactors), an accident similar to the 1986 Chernobyl or the 2011 Fukushima disasters could occur. Such a disaster would have similar consequences within China, including the potential for significant discontent among the population as well as possible regime changes.

## **D. Revolution or Coup D'état**

If either the interests of the People's Liberation Army and of the rising middle class conflict with the Chinese Communist Party at some point in the future, there may exist a moment where a Coup would be seriously considered by the military, in the interest of maintaining stability. Any shift in China away from a civilian to a military-led form of government would be disastrous for the region and the world. The installation of a military-led government would increase the likelihood of war in the Asia-Pacific region, as well as significantly reverse progress in Chinese economic growth since the 1970s.

## **E. Regional War**

Tensions between China and its neighbors could spiral into a limited or total war, depending on the nature and severity of the conflict. Countries that could potentially be targets of Chinese

---

<sup>14</sup> *World Nuclear Power Reactors & Uranium Requirements*, World Nuclear Association, <http://www.world-nuclear.org/info/Facts-and-Figures/World-Nuclear-Power-Reactors-and-Uranium-Requirements/>, May 3, 2013; *Nuclear Power in China*, World Nuclear Association, <http://www.world-nuclear.org/info/Country-Profiles/Countries-A-F/China--Nuclear-Power/>, April 30, 2013.

military aggression include: India, Vietnam, Nepal, The Philippines, or Japan. Countries that may support China in a regional war could include North Korea, Russia, and possibly other members of the Shanghai Cooperation Organization. As with the scenario regarding a potential PLA Coup D'état, any regional war between China and one or more of its neighbors would be both a regional and global disaster.

## **V. Potential Game Changing Scenarios**

A major source of rivalry between the US and China is the demand for energy, in particular oil and natural gas. The economic growth of China, which started when the country entered the WTO and increased the manufacturing and export of consumer products, has dramatically increased the country's demand for energy. Since China is not a major oil and natural gas producer, it has turned to foreign countries to import energy. At the same time, the United States' demand for energy has also increased, as its national production has not been able to cover the internal demand. The result is an economic rivalry between the two world's largest economies, which has been evident in different regions of the world, such as in the US support of South Sudan's independence as opposed to China's support of the government of Sudan, Chinese rapprochement with Brazil and Russia with the formation of the BRICS alliance, and Chinese opposition to sanctions on Iran in the United Nations.

One game changer will be the redistribution of global energy demand. Currently the United States is importing energy, in particular oil, from Saudi Arabia, Venezuela, Mexico and other countries in the Middle-East. The discovery of large quantities of oil and natural gas in different regions of the United States will reduce the foreign energy demand in the United States and increase the availability of energy for China, India and Japan. The short term consequence will be a reduction of the competition between the US and China for sources of energy and the increase of Chinese reliance on Middle Eastern and Latin American oil and natural gas. However, this scenario will change in the long term when renewable energy will become cost effective and replace oil as the main energy source.

Another important consideration is the trade balance between China and the United States. China has a net current account surplus in relation to the US and the rest of the world. The two elements of Chinese success in their export strategy are low labor costs and a devaluated currency. However, at least two factors may change this position in the short term:

- 1) The development of additive manufacturing, a process of making a three-dimensional solid object of virtually any shape from a digital model. This process is conducted by machines and requires minimal human labor. The development of 3d manufacturing will obliterate Chinese cost of labor advantage and reduce US imports from China while increase US export to other countries, in particular Latin American countries because these countries do not possess the technical advancement of the United States and the main factor to determine the cost of an exported product will be the cost of transportation and the U.S. is less distant than China from Latin America. The development of free trade areas in the Americas will increase US competitiveness in South America.
- 2) Changes in Chinese cost of labor. The cost of labor has been increasing in China and a recent study showed that China has currently the third highest labor cost of emerging Asia, with an average of US\$ 2,250/year versus \$1,152 of Vietnam, \$943 of India and \$401 of Myanmar.<sup>15</sup>

The combination of these two factors will slow down Chinese economic growth in the next 50 years and reduce US-China bilateral trade.

---

<sup>15</sup> China briefing, <http://www.china-briefing.com/news/2011/01/19/china-near-top-of-the-list-for-wage-overheads-in-emerging-asia.html>, accessed April 27, 2013.

## VI. The Future of U.S.-Japan Relations and the Role of Pacific Islands

The security of the Pacific Ocean generally rests on the shoulders of the US military.<sup>16</sup> In cooperation with 22 Pacific Island Countries and Territories (PICTs) and 30 Pacific Rim countries, the US generally provides support for maritime trade.<sup>17</sup> Five trillion dollars of commerce rides on the Pacific sea lanes each year, and thus the US role of providing security in this region has far-reaching global benefits.<sup>18</sup> The PICTs together *govern* approximately one third of the Pacific but do not generally defend it.<sup>19</sup> Instead of one large multilateral security treaty like NATO, the US has bilateral mutual defense treaties with Japan, Philippines, Australia, New Zealand, and South Korea, defends several current and former US territories in the region, and cooperates closely with regional law enforcement.<sup>20</sup> NATO expansion in the Pacific region would strengthen cooperation among democratic countries which are not located in the North Atlantic and incorporate bilateral mutual defense treaties with the United States into a multilateral defense organization. China would respond with another defense military organization which could stem from the Shanghai Cooperation Organization polarizing military alliances in the Pacific.

In the beginning of 2013 the “Pacific Pivot” became a focus of international news as North Korea threatened to launch nuclear missiles against US interests in the Pacific and the US responded by deploying additional missile defense units in Guam and Japan. While actually

---

<sup>16</sup> US Pacific Command (USPACOM), headquartered in Honolulu, Hawaii is generally responsible for peace and stability (i.e. defense) of the Pacific.

<sup>17</sup> IUCN Oceania July 2010, Economic Value of the Pacific Ocean to Pacific Island Countries and Territories by Henrike Seidel & Padma N. Lal p. 7

<sup>18</sup> USPACOM chief Admiral Samuel Locklear, Pacific Island Forum, Cook Islands, 2012.

<sup>19</sup> Of the other Pacific nations, only Australia, New Zealand, and Papua New Guinea, Tonga & Fiji have their own regional defense forces.

<sup>20</sup> For example, Samoa has signed a bilateral Shiprider Agreement with the US that allows Samoan law enforcement officials access to US Coast Guard vessels; the Japan-U.S. relationship in the field of security is based upon the Japan-U.S. Security Treaty originally signed in 1951. See: <http://www.us.emb-japan.go.jp/english/html/japanus/japanusoverview2009.htm>.

planned in 2012, the Pacific Pivot is a strategy of US military build-up in the Pacific, which, while designed to ensure regional peace (and provide a counterbalance to increasing Chinese influence), is a source of both comfort and concern for Japan and the PICTs.

While no multilateral treaty-based *security* organization exists in the Pacific, other multilateral treaty-based organizations help to govern the Pacific region. These include: the Secretariat of the African, Caribbean and Pacific Group of States (ACP)<sup>21</sup>, the Association of Southeast Asian Nations (ASEAN), the Forum Fisheries Agency (FFA)<sup>22</sup>, the Pacific Islands Forum (PIF), the Pacific Community (PC)<sup>23</sup>, the Western and Central Pacific Fisheries Commission (WCPFC)<sup>24</sup> and the Pacific Regional Environment Programme (SPREP)<sup>25</sup>. Much of these treaty organizations have overlapping mandates that work together to support sustainable development that benefits Pacific Island people while ensuring ongoing environmental abundance and peace. By far the most developed law-making organizations in the Pacific are those dealing with the Pacific fisheries, especial tuna, which work in close cooperation with the international community and the United States to monitor fishing fleets and vessels and to generally provide for maritime law enforcement.

---

<sup>21</sup> ACP: created by the Georgetown Agreement in 1975; composed of 79 member states, all but Cuba have signed the "ACP-EC Partnership Agreement" with the European Union. ACP's objectives include sustainable development, integration into the global economy, poverty reduction, fairness, peace freedom and democracy.

<sup>22</sup> The FFA, with the objective to strengthen national capacity and regional solidarity, was established to help countries sustainably manage their fishery resources that fall within their 200 mile Exclusive Economic Zones (EEZs), and help with the administration of fisheries agreements. .

<sup>23</sup> PC: created by the Canberra Agreement in 1947 by Australia, France, New Zealand and the US to restore stability after WWII, assist the founders in administering their dependent territories, and to benefit the people of the Pacific

<sup>24</sup> The WCPFC addresses problems in managing tuna and related stocks of the western and central Pacific Ocean throughout their range, and particularly on the high seas. By adopting a range of conservation and management measures, WCPFC seeks to provide management arrangements for key tuna stocks, while also protecting other species caught in association with those stocks, including by catch species. This has not been a smooth process, with strong disagreements between FFA members and distant-water fishing nations regarding the jurisdiction of WCPFC over exclusive economic zones (EEZs) and archipelagic waters.

<sup>25</sup> PREP: Established in 1993 by the "Agreement Establishing the South Pacific Regional Environment Programme" with the objective of protecting the region's environment focusing on climate change, biodiversity and ecosystem management, waste management and pollution control, and environmental monitoring and governance.

The future of the Pacific as it relates to Japan, US, and the PICTs is dominated by strong recognition of their interdependence and their need for close cooperation, which creates significant positive feedbacks and benefits. For example, close cooperation with security issues serves the environment by helping with regional fisheries surveillance and law enforcement; it also serves trade by protecting shipping lanes, and serves society by helping to prevent PICTs from becoming criminal safe havens. Close cooperation on ocean management likewise serves the economy by ensuring fisheries stocks don't crash, serves society by preventing or mitigating sea level increases, and serves security by monitoring what is actually going on in the vast expanse of the Pacific. Just as the Pacific Ocean is one big ecosystem, completely interconnected and indivisible, so are the US, Japan, and the PICTs, and the environment, the economy, and society of the people of the Pacific.

Japan is a major foreign source of financing of the U.S. national debt and will likely remain so for the foreseeable future. Japan is also a significant source of direct investment in the United States, and the United States is the origin of much of the foreign investment in Japan. In other words, if the US does well, Japan will likely do well, and vice versa. However, with China's increased economic influence in both countries, the relative significance of Japan and the United States as each other's economic partner has diminished. By specifically adding the PICTs to Japanese and US trade and development priorities, the Japan-US alliance can be further strengthened.<sup>26</sup> The key element to strengthen the political relationship between the two countries relies upon two factors:

- a) The future production of nuclear energy in Japan;
- b) U.S. ability to supply Japan with Liquefied Natural Gas.

After a tsunami hit Japan in 2011 severely damaging Japan's nuclear reactors, nuclear energy production was halted in the country. However, Japanese authorities have consistently declared their intention to continue production of nuclear energy<sup>27</sup>. Nuclear energy in Japan has a dual

---

<sup>26</sup> Source: U.S. Department of the Treasury, "Japanese holdings of U.S. Treasury securities underscore the debtor/creditor link between the United States and Japan," p.8, found at: <http://www.ustreas.gov/tic/>

<sup>27</sup> Reuters, May 11 2013, <http://in.reuters.com/article/2013/05/10/liberaldemocrats-nuclearreactors-nikkei-idINDEE9490ER20130510> Accessed May 13, 2013.

importance: economic, since Japan does not extract oil and natural gas, and strategic, because Japan, a signer of the nuclear nonproliferation treaty, with at least 4.7 tons of reactor-grade plutonium reserves, is a quasi-nuclear armament country, which means that it would be able to build 700 nuclear warheads in less than one year<sup>28</sup>.

Japanese demand for energy could be covered in part by U.S. export of natural gas. However, natural gas trading remains primarily isolated within the producing regions and lacks the infrastructure to be a true global commodity. Natural gas maritime shipping takes place in liquid form, because Liquefied Natural Gas has volume that is much smaller of its original volume in compressed form. Liquefaction and transport require special treatments and are highly capital intensive.<sup>29</sup> Morgan Stanley has estimated that North American Liquefied Natural Gas (LNG) export capacity may exceed 10% of the current US daily production by 2015<sup>30</sup>. The increased supply of LNG would reduce the prices of both LNG and oil in the global markets, but increase them in the domestic U.S. market. On one side, it would improve U.S. balance of payments, on the other it would risk to create inflation<sup>31</sup>. The U.S. administration shall carefully consider these implications in formulating its energy policy. For Japan, which is an energy importing country, natural gas would constitute cleaner energy than coal, oil and nuclear energy. Furthermore, the raising role of China in geo-economic interests will strengthen strategic cooperation between US and Japan.

---

<sup>28</sup> [http://en.wikipedia.org/wiki/Japanese\\_nuclear\\_weapon\\_program#De\\_facto\\_nuclear\\_state](http://en.wikipedia.org/wiki/Japanese_nuclear_weapon_program#De_facto_nuclear_state) Accessed May 13, 2013.

<sup>29</sup> From <http://www.brighthubengineering.com/power-plants/40017-lng-cng-and-lpg-what-is-the-difference/> Accessed May 13 2013.

<sup>30</sup> Seeking Alpha, June 6 2011, <http://seekingalpha.com/article/273436-lng-export-a-u-s-natural-gas-game-changer> Accessed May 13 2013.

<sup>31</sup> James Bradbury, May 8 2013, <http://insights.wri.org/news/2013/05/us-natural-gas-exports-friend-or-foe>. Accessed May 13 2013.

## **VII. Relations between Indonesia and China**

The relationship between Indonesia and China is centuries old, however the present Chinese regime was not officially recognized until 1957. In 1967, after the replacement of the Sukarno administration by the Suharto government, diplomatic relations were suspended and not resumed until 1990. China is currently one of Indonesia's main trading partners. The Association of South East Asian Nations is China's fourth largest trading partner. Indonesians, however, are hostile to the flood of expensive products entering Indonesia from China.

Increasing concern over conflict over the South China Sea is now exacerbating tensions between the two nations, however. Although Indonesia is not one of the six claimants to the rights in the islands, sea and seabed resources, hostile conflict in the area poses a threat to Indonesia and potentially to its shipping routes. The six claimants to the Sea are China, Malaysia, Brunei, Philippines, Vietnam and Taiwan. In an attempt to meliorate relations, Indonesia has hosted forums for discussion in which the Chinese delegation has participated, but not formalized any solutions to conflict. As well, China has indicated its potential claims to regions close to the Natuna Islands, which are in Indonesian territory and hold potential oil deposits.

Despite these potential conflicts, China and Indonesia have strengthened their military ties, expanding their joint military exercises. In January 2013, the Indonesian Deputy Defense Minister, Sjafrie Sjamsoeddin met with the Chinese Defense Minister in Beijing and agreed to closer ties that will expand exercises and training relevant to the Sukhoi Su-27 jet fighter and as well, other technological and educational exchanges. This is seen as a counter balance to increased presence by the United States in the area. Notwithstanding the improvement in the relations between Indonesia and China, Indonesia remains a close ally of the United States in South East Asia and its strategic importance is destined to increase. In fact, its competitive cost of labor, abundance of natural resources and proximity to both India and China give Indonesia a geo strategic advantage that will benefit the country in the next future. It is in the interests of the United States to nurture its relationship with Indonesia through direct aid and a bilateral or multilateral free trade agreement (such as Indonesia joining the TPP).

## **VIII. Relations between Australia and Japan**

Given the fact that Japan and Australia were enemies in World War II and that combatant casualties on both sides were high, it is to the credit of both nations that since the close of the War in 1945, relations between the two nations have dramatically improved. The Commerce Treaty of 1957 laid the groundwork for this reorientation of the two nations. Japan is a purchaser of Australian resources and a provider of well-made manufactured goods. Japanese and Australians have invested in each other's economies and financial markets.

Currently, Japan and Australia are negotiating a bilateral free trade agreement. In 2010, Japan created a new Basic Policy on Comprehensive Economic Partnerships in which they looked towards more comprehensive economic inter-relationships with its Asian Pacific neighbors through trade in basic commodities like food, and exchange of services, as well as facilitated investment in basic industries and energy. The goal of the two nations is to liberalize trade between them, lowering trade barriers and tariffs, opening investment to bring about a more efficient allocation of resources, to create jobs, elevate living standards, encourage sustainable growth, and allow resources, goods, and employment to move more easily between the two nations. Despite the recent fiftieth anniversary of the Australia Japan Joint Business Conference on October 8-9, 2012 in Sidney, three matters in controversy in the negotiations of the Japan Australia bilateral free trade agreement remain the provisions for investor-state arbitration, the protection of intellectual properties and agricultural market access.

On April 2013, as mentioned above, President Obama announced the inclusion of Japan in the TPP negotiations.

## **IX. Relations between China and Australia**

In contrast to the Australia-Japan Joint Business Conferences mentioned above, the Australia China Business Conference is disjointed, with the conferences held in Australia being compromised by the Chinese counterparts in China who organize independent conferences and

have the effect of discouraging businesses in China that might be interested in doing business in Australia.

A number of agreements between China and Australia define certain aspects of their inter-relationship. For example, the Agreement Between the Government of Australia and the Government of the People's Republic of China for Cooperation in the Peaceful Uses of Nuclear Energy, which details and regulates the transfer of nuclear material ostensibly for peaceful purposes, subject to the Treaty on the Non-Proliferation of Nuclear Weapons, London, Moscow and Washington D.C. on July 1, 1968, and the Agreement Between the Government of Australia and the Government of the People's Republic of China on the Transfer of Nuclear Material, regulate the transfer of nuclear material and technology between Australia and China. There is speculation that such transfers of technology and materials could be derailed into direct or indirect military usage or exported to nations like Iran that pose threats in other regions of the world.

Currently Australia and China are negotiating a bi-lateral trade agreement. In view of fact that over the last two decades, China has become Australia's largest trading partner, such an agreement is vital to both nations. The goals of such an agreement are to reduce or remove tariff and non-tariff barriers on certain bilateral goods, reduce service regulatory barriers, and encourage mutual investment. After eighteen rounds, negotiations are stalled on the issue of access to China's markets for Australian goods and services and potential questions involving intellectual property protection.

## **X. Relations between Australia and the United States**

Both the United States and Australia are members of the projected Trans-Pacific Partnership Free Trade Agreement, above. The Australia-United Free Trade Agreement (AUSFTA), which took effect on January 1, 2005, encourages Australian access to the markets of the United States and promotes exchange of goods, services and investment and increases the flexibility and mobility of businesses as well as mollifies the regulatory provisions between the two nations.

The Australia, New Zealand, United State Security Treaty (ANZUS), entered into force on April twenty-ninth, 1952, and establishes the basis for a military alliance among Australia, New Zealand and the United States. Although there has been some disagreement between New Zealand and the United States regarding the presence of U.S. nuclear powered or nuclear weapons ships in New Zealand waters, the treaty between the United States and Australia remains unimpeded. Although the treaty does not create a unified defense system on the model of NATO, Australia and the United States conduct joint military exercises and some fifty percent of Australian military equipment derives from the United States. Since then the alliance has cooperated in multiple armed events including the Korean War, the Vietnam War, the Gulf War, and to a limited extent in the Iraq War, and in the ongoing “War on Terror.”

## Bibliography

\* Trade Flows between Australia and China, An opportunity for a free trade agreement, Daniel McDonald, Roneel Nair, Gil Rodriguez and Benjamin Buetre, the Australian Bureau of Agricultural and Resource Economics; 49<sup>th</sup> Annual Conference of the Australian Agricultural and Resource Economics Society Coffs Harbor, New South Wales, 9-11 February 2005.

\*Text “Agreement Between the Government of Australia and the Government of the People’s Republic of China for Cooperation in the Peaceful Uses of Nuclear Energy”; Australian Government Department of Foreign Affairs and Trade.

\*“Trans-Pacific Partnership (TPP): Bad News for Brazil and China?” World Outline April 6, 2013; Tamara Santos

\* The Australian-Indonesian Security agreement-Issues and Implications; Research Paper 25 1995-96; Gary Brown, Frank Frost and Stephen Sherlock Foreign affairs, Defence and Trade Group, Parliament of Australia.

\* Australia and Japan-Enduring Partners in the Asia Pacific: Address by the Hon. Tim Fisher MO, Deputy Prime Minister, Leader of the National Party, Minister for Trade, to the Japan-Australia commerce Agreement 40<sup>th</sup> Anniversary Seminar, Sydney, 14 July 1997

\* Australian-Japan Free Trade Agreement negotiations; Australian Government Department of Foreign Affairs and Trade

\* Does Australia Have a Constitution? Part I: Powers—A Constitution Without Constitutionalism; Kenneth R. Mayer, Howard H. Schweber; UCLA Pacific Basin Law Journal Vol:25:228

\* Choosing Ahead of Time? Australia, New Zealand and the US-China Contest in Asia; Robert Ayson; Contemporary Southeast Asia Vol. 34, No. 3 (2012) pp. 338-64

- \* You Don't Always Get What You Pay For: No Bill of Rights for Australia; James Allan; New Zealand Universities Law Review, Vol.24, pp. 179; Dec 2010
- \* The Executive Power of the Commonwealth of Australia: Section 61 of the Commonwealth Constitution, 'Nationhood' and the Future of the Prerogative; Peter Gerangelos; Oxford University Law Journal; pp. 97
- \* Australia, Issues in National Politics; Malcolm Mackerras; European Law Journal of Political Research 45: 1035-1041, 2006
- \* Politics of a Different Kind: Chinese Immigration Litigation in the Post White Australian Era, Jia Gao; Cosmopolitan Civil Societies Journal. Vol. 3 No. 1. 2011
- \* Fusion: The Party System We Had to Have? Charles Richardson; Policy Vol. 25 No. 1 Autumn 2009
- \* Hollow Avowals of Human Rights Protection—Time for an Australian Bill of Rights?; Julie Cassidy; Deakin Law Review Vol. 13 No. 2 pp. 131; 2008
- \* Neoliberalism and the Decline of Democratic Governance in Australia: A Problem of Institutional Design?; Ian Marsh; Political Studies: 2005 Vol. 53 22-42
- \* Selecting Leaders in Democracies (Indirectly); Don Alexander; Social Alternatives Vol. 26 No. 4, 2007 pp. 22
- \* Approaching Islam and Politics from political economy: a comparative study of Indonesia and Malaysia; Vedi R. Hadiz, Khoo Boo Teik; The Pacific Review, Vol. 24 No. 4 Sept 2011 pp. 463-485
- \* The Islamic Legal System in Malaysia; Farid S. Shuaib; Pacific Rim Law & Policy Journal Vol. 21 No. 1;
- \* Seeking Redress in the Courts: Indigenous Land Rights and Judicial Decisions in Malaysia; Robert Aiken, Colin H. Leigh; Modern Asian Studies 45, 4 (2011) pp.825-875 Cambridge University Press 2011
- \* Electoral authoritarianism in Malaysia: trajectory shift; William Case; The Pacific Review Vol. 22 No 3 July 2009: 311- 333
- \* Crises of Identity in PAS and Beyond: Islam and Politics in Post 8 March Malaysia; Kikue Hamayotsu; The Round Table Vol. 99, No. 407, 163—175, April 2010
- \* Restructuring Federal State Relations in Malaysia: From Centralised to Co-operative Federalism?; Francis Kok Wah Loh; The Round Table Vol. 99, No. 407, 131-140 April 2010
- \* Islamization in Malaysia: processes and dynamics; Jason P. Abbott, Sophie Gregorios-Pippas; Contemporary Politics Vol. 16, No. 2. June 2010, 135-151
- \* Constitutional Narratives: Constitutional Adjudication on the Religious Clauses in Australia and Malaysia; Carolyn Evans; Emory International Law Review Vol. 23 pp.437
- \* Religious Freedom in Malaysia's "Islamic State"?: Comparisons with the Islamic State of Medina; Syed Mohammed Ad'Ha Aljunied; Journal of Muslim Minority Affairs, Vol. 31, No 1, March 2011
- \* Twin Coalition Politics in Malaysia since 2008: A Path Dependent Framing and Analysis; Johan Saravanamuttu; Contemporary Southeast Asia Vol. 34, No. 1 (2012), pp. 101-27

## **2) Energy and Resources**

### **I. The Future of the Pacific Rim's Natural Resources**

A sustainable Future for the natural resources of the 42 Pacific rim nations depends heavily on how these nations decide choose to steward their resources. From before the dawn of civilization the citizens of the Asian nations have drawn copiously on their resources and now they have become heavily dependent on these resources, although the natural resources are clearly dwindling non-sustainably: Critical biological resources include fisheries and forests, water and soil resources, as well as a wide variety of mineral resources.

Perhaps energy will become sustainable since nations will be forced to use their ocean and wind energies and methane hydrates, but their conventional fossil fuels: wood, charcoal, oil, gas and coal are in decline. Much development activity of the last two centuries built infrastructure and industrialization in many of the Pacific temperate-zone nations, while large portions of their total population (which portion has recently been rapidly growing in the last half century) remained agricultural. Japan, Taiwan, and South Korea are the exceptions with highly urbanized populations as are Mexico, the USA and Canada. Both activities of industrialization and food production are accelerating leading to massive water contamination and to soil loss, which is coupled not only to agricultural practices but to massive deforestation.

Water in many areas in Asia suddenly is in inadequate supply for competing uses, particularly in East Asia with China being the most water deficient of the Asian mainland. For much of the Western Hemisphere's population water has not yet become inadequate with the exception in desert areas of several nations. Population is far less dense per km square than in Asia. Western Hemispheric water ratios per capita are far in excess of Asia, although during the next half century, this will change on the Pacific Rim in latitudes not receiving copious Pacific monsoons and trade rains (e.g. Mexico and Peru). The Pacific Ocean, the vastest feature of Earth from outer space, has appeared so infinite to the Pacific Rim peoples for many millennia that few

attempted to steward its resources, but now it is shrinking rapidly. As a great surprise at the end of the 2nd Millennium, it appeared to have limits, because it is being degraded at accelerating rates, and depleted of its massive natural resources within only a few decades.

The rapid fisheries depletion due to the factory ships are the "Canary in the Mine" for apparent lack of stewardship, lack of restoration, lack of judicious usage, and lack of regional and national concern to marshal the fish resources. We need look only to the North Atlantic or its adjacent seas such as the Baltic and Black Sea to see natural limits to usage, reached in smaller bodies of water.

## II. Water

The Pacific contains 622 million cubic km water, which is a major portion of the earth's total water and about double that of the Atlantic<sup>32</sup>. Water cycling from evaporation of the Pacific Ocean is critical not only for the nations rimming the Pacific, but the Pacific Ocean water oscillates weather patterns creating precipitation in the Atlantic and Indian Ocean also. For example, the Central Pacific ocean temperature cyclic oscillations named "El Nino and La Nina" control rainfall and storms in the Atlantic<sup>33</sup>. Also many Atlantic nations such as Brazil and the Caribbean Antilles weather patterns vary with these oscillations<sup>34</sup>. Evaporation from the Central Pacific affects the storms and snowfall in the central Indian Ocean's Himalayas. Since water was formed prior to the origin of the earth in outer space and is a conservative factor for the planet, this Pacific water is a highly important component of life on earth.

---

<sup>32</sup> Sverdrup, H. M.W. Johnson, R. H Fleming 1970. *The Oceans: Their Physics, Chemistry and General Biology*. Prentice Hall. NY, NY. 1057 pp.

<sup>33</sup> Beamish, R.J.1993. Climate and Exceptional Fish Production off the West Coast of North America. *Can.Fish.Aquat.Sci* 50:2270-2291.

<sup>34</sup> Nicolson, N. and D.McCollum 2006. *Chemical Cycles and the Global Environment*. (Revised edition of R.M. Garrels, F. T. McKensie, Cynthia Hunt). Ohio State University press.

The accelerating usage of water in the next 50 years is far more serious a matter which in Central America will double, in South and North America increase by 165% (157 to 258 and from 560 to 903)<sup>35</sup>, in China is accelerating greatly as in South Korea. This may prove to be of extreme difficulty for China, already facing rapidly desertification, with large land spaces containing vast deserts (the Gobi, Taklamanton, and 9 others). Water is critical for both agriculture and human consumption, and must be marshaled in terms of industry so that precipitation is contained and recycled rather than running off into the oceans. The dumping of polluting materials into water is a highly unwise use of rivers and estuaries.

### **III. Marine Ecosystems and Fish**

The Pacific marine biological ecosystems are the largest ecosystems in the world covering 33% of the earth's surface covering 165.2 million km<sup>2</sup>. The degradation of all northern hemisphere and southwestern sub-basins of the Pacific Ocean is acute. Several of the 23 seas such as the Sea of Japan and the Yellow Sea as well as the South China Sea, are also acutely degraded as are the most polluted, the Black Sea and the Arabian Sea. The FAO indicates that there are only two sustainable fisheries in the world primarily in the south east Pacific—Chile/Peru and around the corner where Antarctic-Pacific waters flow to Argentina/Uruguay<sup>36</sup>. Prof. Daniel Pauley reaffirms this with detailed catch statistics of artisanal and other small fisher folk asserting the Pacific Ocean will be depleted of present fish stock in 50 years and that the past decades we are fishing "down the food chain"<sup>37</sup>. At the interface of the marine and terrestrial

---

<sup>35</sup> Thorhaug, A., A.Oerke, Francesco Stipo, N. Nicolson, R. Gibbs, D. Raphael. 2011. Future of the Western Hemisphere. GCEEF. Press. Miami, Fl. 235pp.

<sup>36</sup> Garcia, S and R.J.R. Grainger. 2005. Gloom and Doom? The future of mariculture and capture fisheries. *Philos Trans R Soc Lond B Biol Sci.* 2005 29; 360(1453): 21–46.

<sup>37</sup> Pauley, D.V,S.Guenett-Christensen,T.J.Pitcher, R.U Sumalia, C.J. Walter, R. Watson, an D. Zeller 2002. Toward Sustainability in World Fisheries. *Nature* 418:689-695.

worlds is the estuaries, which is the earth's richest area of productivity, but which have systematically had their natural resources depleted over the last century by a combination of development of sewers, ports, channels, effluents from industry and infrastructures including channels, and causeways and landfill. The Black Sea is a particular example with 7 nations plus and large rivers, (Danube, Volga, and others) draining substances from many other nations, which are from highly industrialized. Black Sea fishing is at very low ebb.

The policy decisions to be made, challenges, and solutions including restoration of the services of wetlands, sea grasses, coral reefs, and fisheries will be discussed in a renewing of the vitality of the oceans. The role of economics of the eco-services lost by degradation and the cost-effectiveness of ROI restoring the near shore resources is central to the societal decisions. The technology being new, needs to be distributed throughout newly industrializing nations so that they each may choose policies to restore their valuable resources including large amounts of carbon sequestered, fisheries habitat, sediment stabilization and oxygen production including enhanced biodiversity.

#### **IV. Forests and Soils**

Forests originally covered most of the nations of the Pacific, adding oxygen, soil stabilization, habitat, and biodiversity throughout the Pacific region: tropical, boreal and temperate, mainland and Island archipelagoes<sup>38</sup>. Due to massive logging for development and traditionally for fuel, plus clearing for agriculture, forests have been removed and large soil erosion is accelerating throughout the Pacific basin to pollute estuaries degrading habitat critical to fish nurseries. Some of the tropical forests were hundreds of years old.

Some temperate Pacific rainforests in Washington and Oregon were thousands of years old. Development which replaced them was frequently agricultural, urbanization, or lessor soil

---

<sup>38</sup> FAO, 2005. Forestry, deforestation maps of South America, Pacific, and Asian Nations. Rome, Italy.

retaining vegetation. Due to the frequent and severe precipitation and wind events, massive runoff of soil occurred once deforestation was done, with loss of soil carbon, soil nutrients for other vegetation and agriculture in particular.

Water was no longer retained and stored at the same intensity in the upper layers of soil. At the same moment as more fish protein nutrition is needed for expanding populations, upland lack of soil retention kills the fisheries, by polluting the estuaries, the nursery for the fisheries with turbidity and creating too low a light for fisheries habitat plants to flourish. Southeast Asia and China are prime examples of this.

## **V. Land Masses**

The Tethys Sea covered most of the earth for hundreds of millions of years while all the continents were attached and there was no Atlantic or Indian Ocean or the seas. Since this early predecessor, the Pacific Ocean is shrinking and will continue to shrink for millions of years. The pollutants that the land masses allow to cycle into the seas through river, rainfall, and effluents, create huge problems in the most productive areas of the seas, the estuaries.

## **VI. Estuaries**

The estuaries are the most productive point of the earth where the nutrients and fresh water of the land meets the nutrients and salt water of the sea so that generally a double flora and fauna occur here coupling high productivity and intense biodiversity occurs. Frequently, the more ancient and more bio diverse Pacific flora and fauna contain double to six-fold the number of species than the Atlantic analogues. Mankind has been drawn to estuaries over millennia obtain food, water, and simple local transportation throughout recorded history. We are reaching

limits of sustainability on the Pacific estuaries including the ones most recently developed in the Western Hemisphere such as Santiago de Chile, Lima, Guayaquil, Seattle, and Los Angeles.

The estuaries of many Asian areas have been highly modified and no longer provide the eco-services that even a half century ago they were able to provide such as fish nurseries, near-shore fishing for impoverished villagers and marine mammal and turtle habitat. The differences among the Asian mainland estuaries and the island nations' estuaries is particularly telling that the Island nation's estuaries still function moderately well, although the northern Asian mainland estuaries are highly damaged.

## VII. Arctic and Antarctic

The least polluted areas of the Pacific, due partly to the large volume of the slow deep circulation of the Pacific (which brings up water from pre-industrial times to the surface) are the waters of the Antarctic and the Arctic<sup>39</sup>. Due to ice and glacial melt in the arctic predicted passages are opening among the Arctic<sup>40</sup> and Antarctic and will allow vessel traffic and more exploitation of resources previously under ice to occur within the next 50 years.

The Antarctic has its largest expanse of shoreline within the Pacific Oceans, whereas the Arctic is separated by several shallow passages at the Bering Straits, but receives a net inflow from the Pacific.

---

<sup>39</sup> Wyrski, K. (1961). "The thermohaline circulation in relation to the general circulation in the oceans". *Deep Sea Research (1953)* 8: 39–45

<sup>40</sup> Arctic Council Report 2012

## VIII. Energy

Resources of fossil energy lies as presently explored in the North Pacific, especially near the Arctic. Russian fossil energy deposits are enormous as are the deposits of Alaska, Iceland, Norway, and Canada. Potentials lie in China, the East and South China Seas, Indonesia and Ecuador. Methane hydrates are in large abundance in the North Pacific, also potentially in offshore areas. Coal resources are found in Russia, in China, in Canada, in the USA. Theories have pushed forward that melting of ice in the Arctic will unleash a great deal of energy transport between Pacific and the Atlantic. Other energies sources which will be exploited here are gas and oil, ocean thermal, wind, current and wave.

The mineral potential in the Arctic will be enormous about 10-12% of the world's total. Resources of fossil energy lies as presently explored in the North Pacific, especially near the Arctic. Russian fossil energy deposits are enormous as are the deposits of Alaska, Iceland, Norway, and Canada. Potentials lie in China, the East and South China Seas, Indonesia and Ecuador. Methane hydrates are in large abundance in the North Pacific, also potentially in offshore areas. Coal resources are found in Russia, in China, in Canada, in the USA. Theories have pushed forward that melting of ice in the Arctic will unleash a great deal of energy transport between Pacific and the Atlantic. Other energies sources which will be exploited here are gas and oil, ocean thermal, wind, current and wave. The mineral potential in the Arctic will be enormous about 10-12% of the world's total.

Energy demand will increase within the nations in North America from 16 billion barrels of fossil fuel to 22 billion barrels in S. America from 1.5 to 6 and Central America from 0.1 billion barrels to 0.4. In China, in Japan, in S. Korea, and in Indonesia energy demand will double at minimum.

## **IX. Populations**

Some of the populations such as the total of Central American nations growing from 36 to 78 million and the total of South American nations increasing from 350 to 522 in the next 45 years will push the limits of resources in their Pacific bordering nations<sup>41</sup>. Other nations have come to equilibrium such as Japan or South Korea. Wherein China is predicted to expand vigorously from 1.2 billion, Philippines from 93 to 154 million, Indonesia from 243,000 to over 300,000 million and various other nations such as Russia will move people from Atlantic-oriented cities to their Arctic and Pacific coasts. Especially rapidly growing areas will be Arctic Russia<sup>42</sup> (Ryan et al.2012), expanding the pacific population several hundred times. Alaska and parts of Pacific Rim Canada, and the South American Pacific nations of Peru and Chile as well as all of Central America will also expand rapidly. Many segments from these populations especially in China and the Southern Hemisphere have the majority of citizens living below the UN Poverty levels.

## **X. Minerals**

A series of great mineral expanses are found in Pacific nations due to the “Ring of Fire” which volcanic activity has geologically recently brought minerals to the surface, cooling into veins of mineable ore. Manganese nodules, sand and gravel, rare earth metals, placer are the chief present minerals found among iron copper, nickel titanium, cobalt, as well as trace metals<sup>43</sup>

---

<sup>41</sup> Thorhaug, Oerke, Stipo et al. 2011.

<sup>42</sup> Jackson, R.C., M. Simion, J.M. Gray, and A.O. Oerke. 2012. Social and Population Futures in “The Future of the Arctic”. Cadmus 5, pages 42-52.

<sup>43</sup> Thomson, P. 2013. Sustainable Exploitation of the Pacific Ocean’s Minerals and Resources. United Nations Chronicle.4/23/13.

In the Atlantic, Greenland is an example of easily accessible minerals. In the Pacific, examples are Russia, Chile and Peru as are Canadian areas near the “Rockies”.

## **XI. Solutions**

The public policies of environmental conservation put into place post World War II and specifically in 1972 are not sustaining the Pacific Rim resources. The United Nations for some period has been inadequate to keep harmful effluents, overfishing (nations and the UN do not even keep statistics on small and artisanal fisheries<sup>44</sup>, and extractive operations functioning for the common good in the Pacific global commons. What progress is being made by the Law of the Sea in terms of enforcement of its specific agreements? What stewardship is the UN demanding of those whose fair share is not of concern to their national commercial entities operating in the Pacific water such as Russian, Chinese, Japanese, and Portuguese factory fishing ships?. Does China deserve to extract from the Pacific a proportion equal to its population percentage of the earth’s population? Or is china simply one of almost 200 nations and thus should be able to maximally extract one-two hundredth of the fish?<sup>45</sup> Or is it to extract as much as it is physically able to extract since there is little policy enforcement? Is the IMO operating according to its agreements in the Pacific? Indeed who is policing the UN regulations and treaties in the middle Pacific? Who is enforcing the treaties in the 200 mile limits of the small island nations? Who stands to lose the most resources? Unfortunately, it is probably the many small Pacific nations with limited ability to enforce or police the piracy on their national patrimony.

Short-term political gains appear on all sides to overshadow longer-term stewardship of the Pacific resource. Giant nations are concerned with security the Pacific distances have

---

<sup>44</sup> Pauley ad Sukuyama, *ibid.*, 2004.

<sup>45</sup> Pearson, 2001. China caught out as Report shows net fall in fish. *Nature* 414, 477-482.

historically provided now shortened by modern technology. Many nations watch the resources dwindle and become non-sustainable, creating no replacement activity: Soil, fish, forests, and fresh water. Massive restoration and anticipatory planning throughout all nations including the southern hemispheric nations for keeping specific Pacific resources sustainable is a beginning to the solutions for this region. Each nation from little Nauru and Palau to massive Russia is suddenly experiencing loss in the closing decades of the second millennium and first decades of the third millennium, so perhaps many are at a turning point for a new operational model for resources. The model should include not only micro-credit but definitely microenterprise<sup>46</sup>.

Helping lift people from poverty will help sustain resources, since extreme poverty around the Pacific is creating large resource losses in the region. Solutions can and are available to those nations acting rapidly and expertly to sustain critical resources from soil and clean water to fisheries and minerals. Biodiversity and richness of the Pacific commons along with the eco-services the commons provides are to be stewarded rather than squandered in the next several decades.

### **3) Religion and Health**

#### **I. Religion**

If religious faith can be defined as the human sentiment of trust destined to be the antidote to fear, organized religion is faith organized into political institutions that generate and promote doctrines about the world and life, as well as ethical standards and forms of worship. Religion is a natural instinct inherently designed to prevent social disintegration, and as such, it prompts humanity into building structures of power for physical and emotional security. Therefore, religion has and will continue to play a crucial role regarding what is held in private and what is

---

<sup>46</sup> Oerke, A.H. 2012. Microcredit/ Microenterprise: Past, Present, and Future. Pp 21-35. In A. Thorhaug, Jane Pratt, ed. The Future of Microcredit. USA Club of Rome, by GCEE Press. (in Press).

shared in common. As the contemporary world subscribes to an increased prominence of religion in the public life, the Pacific area will also be affected by religion on issues of identity and economics. The public role of religion in the future of the Pacific area will become visible in social relations and government policies. As organized religions regroup humanity into transnational communities by lines of belief rather than language and common origin -- as it was the case with nationalism -- religious identity will not only influence government policies and national loyalties, but will also affect the cultural and economic life of various communities due to migration.

## **II. Religious Makeup of the Pacific: Restrictions, Hostilities and Migration**

Due to an increased global interest in religion, which commenced in the early 1970s,<sup>47</sup> numerous secular states took various steps deemed to restrict its influence in the political life. According to the findings of a report issued by The Pew Forum on Religion and Public Life, today, one-third of the world's population experiences a rising restriction on religion. Restrictions on religious beliefs and practices rose between mid-2006 and mid-2009 in 23 of the world's 198 countries (12%), decreased in 12 countries (6%) and remained essentially unchanged in 163 countries (82%). Nevertheless, because several countries with increasing restrictions on religion are very populous nearly a third (32%) of the world's total population of 6.9 billion – live in countries where either government restrictions on religion or social hostilities involving religion rose substantially over the three-year period studied. Only about 1% of the world's population lives in countries where government restrictions or social hostilities declined."<sup>48</sup>

---

<sup>47</sup> Marian Gh. Simion with David Little and Mihnea Motoc. 2011. *Religion and Political Conflict: From Dialectics to Cross-Domain Charting*. Presses Interationales Polytechnique: Montreal, pp.10-14

<sup>48</sup> Brian J. Grim, et. al. 2011. *Rising Restrictions on Religion: One-third of the world's population experiences an increase*. The Pew Research Center: Washington, DC, 2011, p.9

In general, hostilities against religion are triggered by the competition for resources and identity clashes, which take place either at the intra- and/or interstate level. For example, according to Human Rights Watch, in China, despite a constitutional guarantee of freedom of religion, the Chinese government restricts religious practices to officially approved mosques, churches, temples, and monasteries. The government also audits the activities, employee details, and financial records of religious bodies. Religious personnel appointments, religious publications, and seminary applications are subject to government review. Unregistered spiritual groups such as Protestant 'house churches' are deemed unlawful and the government subjects their members to fines and prosecution. The government classifies Falun Gong—a meditation-focused spiritual group banned since July 1999—as an 'an evil cult' and arrests, harasses, and intimidates its members.<sup>49</sup> *The Global Restrictions on Religion* study published in 2009 reported that at the global level, restrictions on religion are placed by governments and by private actors. When asking a question such as "was there harassment or intimidation of religious groups by any level of government," 137 countries answered 'yes', while only 61 answered 'no'. Conversely, when asking: "Was there harassment or intimidation of religious groups by individuals or groups in society?" 139 countries answered 'yes' and 59 'no'.<sup>50</sup> The two major religions (Islam and Hinduism) are dominant in the countries which display a very high level of government restrictions and social hostilities involving religion, while being also among the most populous regions of the world. Most of these countries will arguably have a strong impact over future of the Pacific. Therefore, in light of Michael Brecher's "crisis escalation model," conflict is more likely to escalate between adversaries with capability, regime pairs, internal instability, particularly when geographic distances are relatively small.<sup>51</sup> Furthermore, restrictions imposed by private actors and by the governments are located in the most populous countries. Thus, considering restrictions, high population density, birth rate, and religious homogeneity of each society, a potential future conflict can escalate between India, Pakistan and China, which will have a strong economic impact over the Pacific region. Therefore, it is easy to

---

<sup>49</sup> <http://www.hrw.org/world-report/2013/country-chapters/china> [Accessed: May 2013]

<sup>50</sup> Brian J. Grim. 2010. "The Outlook on Religious Freedom in 2010" in *BTI Magazine* 10.1 (Fall 2010): 12-17

<sup>51</sup> Michael Brecher. 1996. "Crisis Escalation: Model and Findings." in *International Political Science Review/ Revue internationale de science politique*, vol.17, No.2 (1996): 215-230 [here 221]

anticipate how these statistic indicators will point to the likely locations for future theaters of religious hostilities, having organized religions as direct and indirect participants.

Economic migration affects also the religious landscape of the Pacific not only due to the religious identity of the immigrant, but more so because religious organizations are often established in the destination country through an internal mission developed by each organized religions. The Asia-Pacific region is the largest source of migrants in the world (214 million), while North America, Europe, Australia the largest destination. Counting all the persons who had been living for one year or longer in a country other than the one in which he or she was born, the largest single share of international migrants (214 million) has come from the Asia-Pacific region. China is also the fourth largest source of migrants (8.4 million), with over one million Buddhists, about two million belonging to other religions, and over four million who are religiously unaffiliated.<sup>52</sup> According to a Pew-Templeton Global Religious Future Project, the United States has been a leading destination for immigration. The United States is the world's top destination for Christians (74% of all foreign-born people living in the United States); of Buddhists (coming mainly from Vietnam), and for people with no religious affiliation (including many from China). The United States is also the world's second-leading destination for Hindu migrants, after India, and for Jewish migrants, after Israel. As for Muslim migrants, the United States ranks just seventh as a destination, behind Saudi Arabia, Russia, Germany, France, Jordan and Pakistan.<sup>53</sup> For example, while about half of the Buddhists usually move into countries in that same region, large numbers have moved to North America, as well as to Europe. In the Pacific region, the top sources of Buddhist migrants are China (1,270,000), Japan (390,000) and South Korea (210,000); moving into the United States (1,730,00), Hong Kong (370,000), Australia (340,000), Canada (290,000) and Japan (240,000)<sup>54</sup>. The religious future of the Pacific will also be affected by the global makeup of religious growth and diversity. Based on statistical

---

<sup>52</sup> Phillip Connor, et al. 2012. *Faith on the Move: The Religious Affiliation of International Migrants*. Pew Research Center's Forum on Religion and Public Life: Washington, DC 2012, pp. 14-15

<sup>53</sup> *Ibid.*, p.16

<sup>54</sup> *Ibid.*, p. 40

projections published by the *Atlas of Global Christianity*,<sup>55</sup> over the next 40 years, Muslims are expected to increase significantly from 22.4% to 27.1% as a share of the global population; Christians will see a slight increase as well from 33.2% to 35.0%. Agnostics share will decrease noticeably, while other religions will see smaller changes (mostly declines), if any, in their global percentage. Therefore, considering the outlook on religious freedom along with the forecasted birth rate, and growth of religion's influence in the public life for the next 40 years, religion becomes even more relevant to public policy.

### **III. Health**

The Pacific Region is surrounded by some of the wealthiest (by nominal GDP: United States, China, Japan<sup>1,2</sup>) and most populous countries<sup>1,2</sup> on Earth as well as some of the smallest islands and economies. Poverty, malnutrition, infectious disease and natural disaster will continue to affect much of this region over the next few decades. Health spending in the region as a percent of GDP ranges from a low of around 2.5% for Indonesia to a high of 18.9% for the Marshall Islands<sup>1</sup>, the actual dollar amounts per capita can be as low as \$85, which may as well be \$0 for all the benefit it provides for the people. Access to medical care varies significantly in the region with the wealthy countries like Japan having around 2.1 doctors per 1,000 people while Papua New Guinea has fewer than 0.05 physicians per 1,000 people, compared to the 1.8 per 1,000 in China, 2.4 per 1,000 people in the United States (considered a “doctor shortage”) or as many as 4 per 1,000 in some of the European countries<sup>4</sup>. Unfortunately, the countries with the fewest physicians also have the fewest nurses and hospitals and hospital beds per 1,000 people with only 0.6 hospital beds per 1,000 people in Indonesia and 1.3 per 1,000 people in Kiribati, compared to 3.0 per 1,000 in the US (behind China’s 3.8 per 1,000) and 13.7 hospital beds per 1,000 people in Japan.

---

<sup>55</sup> Brian J. Grim 2009. "Religious Freedom" pp.36-37 in Johnson, Todd M., Kenneth R. Ross. (Eds.) *The Atlas of Global Christianity*. Edinburgh University Press: Edinburgh, UK.

Over the past decade, the Pacific has been affected by some of the most devastating natural disasters imaginable. Massive earthquakes and their tsunamis, typhoons, flooding and volcanic eruptions occur more often in the Pacific region than nearly anywhere else in the world and have significant impact on the physical and mental health in the region. Some models suggest that the typhoons and flooding in the region may increase over the next century<sup>3</sup> so any preparations that can be made now may help to minimize the impact of those disasters. Investment in infrastructure, disaster training, technology and healthcare may significantly decrease the deaths from natural disasters.

The developing nations of the Pacific have higher than average rates of tuberculosis, malaria, dengue, sexually transmitted infections (including HIV) and other infectious diseases<sup>4</sup>. Over the next decade, we may see the development of more effective treatments, vaccines and other methods of reducing the incidence and prevalence of these diseases but there will likely be some drug-resistant strains arising in the region. The Pacific region may also be affected by new strains of influenza, like H7N9, so epidemiologists should keep a close watch on any flu outbreaks in the region.

Access to clean drinking water will continue to be a problem in some areas and should be given a higher priority as it is a significant factor in reducing infection and improving quality of life. When we discuss drinking water, many fail to recognize the fact that 45% of the world's population still does not have the luxury of piped water in their homes and 11% have no access to treated water at all<sup>5</sup>. Oceania as a region has some of the worst access to drinking water in the world (only Sub-Saharan Africa is worse) with only 25% of the population having piped water in their homes in 2011- a decrease from 1990 numbers- with 32% relying exclusively on surface water for all of their needs<sup>5</sup>. If we combine this with the sanitation data for Oceania, we get a more alarming picture since only 40% have access to toilets with proper sewer systems and the other 60 percent either defecate openly or “use facilities that do not meet minimum standards of hygiene (unimproved sanitation facilities)”<sup>5</sup>, there is reason to be concerned about the transmission of disease through fecal contamination of the water. Besides the fecal contaminants in the water supply, there will likely be an increase in chemical contaminants in the water in coming decades, especially in the industrialized countries and their neighbors but also in some of

the more isolated areas due to the trend toward increased chemical production and use in developing countries<sup>7</sup>.

As some of the less-developed countries in the Pacific become more industrialized, we may see a shift from indoor air pollution to more outdoor air pollution due to the decreased use of solid fuels for cooking and increasing numbers of factories and cars. Air pollution is closely linked to chronic obstructive pulmonary disease (COPD- including chronic bronchitis), pneumonia, lung cancer and other cancers<sup>8</sup>. Currently, there are an estimated 360,000 deaths each year in the Western Pacific due to outdoor pollution and 500,000 deaths each year due to indoor pollution<sup>8</sup> with a likely switch between the two in coming years. A recent report estimates that more than 1.2 million people die prematurely each year due to the air pollution in China alone<sup>10</sup>. The particulates in air pollution usually cause the most harm to health<sup>8,9</sup> so the use of more efficient burning technologies and particulate capture technologies should reduce the illness and deaths from pollution in the short term as we work toward cleaner future technologies.

Besides natural disasters, contaminants and infectious disease, we should also look at the rising prevalence of diabetes mellitus in the Pacific region. A report by the World Health Organization suggests that the number of people diagnosed with diabetes in the Western Pacific will more than double between 2005 and 2030 from about 35 million to 71 million<sup>6</sup>. The likely causes of the increased prevalence of diabetes mellitus include diet, lifestyle and genetics so interventions focused on education and exercise may help reduce the prevalence. Diabetes mellitus affects the whole body and can often lead to death so anything that can be done to prevent it would be of great benefit.

While the future health problems of the Pacific Region are nearly as diverse as the region itself, we can focus on some key points which have broad benefits across multiple areas of concern. Increasing funding for and emphasis on education would be the greatest single benefit to the region as long as those educational programs include nutrition, hygiene, safe drinking water and other public health topics.

Some of the health problems could also be reduced by increasing access to healthier foods and more water purification. Vaccination programs can reduce some of the spread of infectious diseases and we may see vaccines developed for tuberculosis, dengue, malaria and even HIV in

the coming years. Increased access to health education and medical professionals in the remote, underserved areas can be attained through video conferencing technologies.

We cannot see the future but the most likely problems are continuations of the current ones so we can have an idea of how we can act now to try to change our future.

- 1) The World Factbook 2013-14. Washington, DC: Central Intelligence Agency, 2013.  
<https://www.cia.gov/library/publications/the-world-factbook/index.html>
- 2) United Nations Nominal GDP statistics 2010  
<http://unstats.un.org/unsd/snaama/dnltransfer.asp?fID=2>
- 3) Global Warming and Hurricanes: An Overview of Current Research Results. Geophysical Fluid Dynamics Laboratory/NOAA Sept. 3, 2008  
<http://www.gfdl.noaa.gov/global-warming-and-hurricanes>
- 4) World health statistics 2013. World Health Organization  
[http://www.who.int/gho/publications/world\\_health\\_statistics/EN\\_WHS2013\\_Full.pdf](http://www.who.int/gho/publications/world_health_statistics/EN_WHS2013_Full.pdf)
- 5) Progress on Sanitation and Drinking Water: 2013 Update, World Health Organization and UNICEF, 2013  
[http://apps.who.int/iris/bitstream/10665/81245/1/9789241505390\\_eng.pdf](http://apps.who.int/iris/bitstream/10665/81245/1/9789241505390_eng.pdf)
- 6) Plan of Action (2006-2010) for the Western Pacific Declaration on Diabetes: From Evidence to Action. International Diabetes Federation Western Pacific Regional Office, World Health Organization, 2010  
[http://www2.wpro.who.int/wpdd/downloads/WPDD\\_PoA\\_2010.pdf](http://www2.wpro.who.int/wpdd/downloads/WPDD_PoA_2010.pdf)
- 7) Global Chemicals Outlook: Towards Sound Management of Chemicals, United Nations Environment Programme, 2012  
[http://unep.org/hazardoussubstances/Portals/9/Mainstreaming/GCO/GCO\\_SynthesisReport\\_UNEP.pdf](http://unep.org/hazardoussubstances/Portals/9/Mainstreaming/GCO/GCO_SynthesisReport_UNEP.pdf)
- 8) Indoor air pollution and health factsheet, World Health Organization, 2011  
<http://www.who.int/mediacentre/factsheets/fs292/en/index.html>
- 9) Fast facts about particulate matter, Environmental Protection Agency  
<http://www.epa.gov/pm/fastfacts.html>
- 10) Global Burden of Disease Study 2010, The Lancet, 13 Dec 2012  
Published Dec 13, 2012 <http://www.thelancet.com/themed/global-burden-of-disease>

© Copyright 2013 - USACOR