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Climate Change, Migration and a Security Framework for the U.S. Asia-Pacific Rebalance

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As the United States pivots its security focus to the Pacific, it is beginning to recognize that the impacts of climate change present a growing range of security challenges. In his 2013 Posture hearing before the House Armed Services Committee, the Commander of the U.S. Pacific Command (PACOM), Admiral Samuel J. Locklear III, said:

> While the Indo-Asia-Pacific today is at relative peace, I am concerned by a number of security challenges that have the possibility to impact the security environment. Examples include: Climate change – where increasingly severe weather patterns and rising sea levels along with inevitable earthquakes and tsunamis / super typhoons and massive flooding will threaten populations.[1]

As they consider a range of security concerns caused by climate change, PACOM planners must prepare for climate-induced migration on an unprecedented scale. In Bangladesh alone, the government is anticipating the forced displacement of millions of citizens currently living in low-lying areas, without climate change mitigation.[2]

In analyzing the security concerns associated with climate-induced migration in Asia, planners must determine whether migration is a threat, a successful means of adaptation, or both. In 2001 the Intergovernmental Panel on Climate Change (IPCC) indicated that "…increases in the frequency and intensity of severe weather systems as a consequence of climate change can trigger mass migration… Land loss in coastal areas resulting from inundation from sea level rise as a result of climate change is likely to lead to increased displacement of resident populations... ". It further warned that "…perceptions of regional/national identity, language/cultural differences, and fears of unemployment may contribute to increased hostilities between immigrants and nationals in years

to come."[3] In 2014, the IPCC adopted a more positive approach: "Forced migration can result from adaptation options such as construction of dams, but the negative outcomes could be allayed by putting proper safeguards in place. Managed retreat of coastal communities is a suggested option to address projected sea level rise."[4] It is accommodating this duality of migration that presents security planners a noteworthy challenge.

While migration can be an acceptable and often beneficial response to a changing environment, security experts warn that mass migration has serious security risks. Mass migration can overrun existing social systems; result in exploitation of migrants; and in the extreme, result in conflict as cultures clash or nations take actions to forcibly prevent entry or settlement of refugees. As part of its rebalance and establishing a new security posture in Asia, the United States must work closely with partner nations and take a proactive approach to finding acceptable solutions to inevitable climate change induced migration.

Although climate-induced migration will likely occur across Asia, we chose to focus on South and Southeast Asia. This area was selected because of its vulnerabilities to the predicted effects of climate and its expanding ties to the United States. We recognize that South and Southeast Asia are vast areas comprised of diverse ecosystems, economies, and cultures, and any attempt to characterize it as a single body or even as a common population does a disservice to the unique cultural, national, religious, and governance systems that compose the region. Nonetheless, for the purposes of this essay, we define "South and Southeast Asia" as a designation of Asian countries that stretch along the southern coast of the Asian continent from India to Vietnam and the island nations that stretch from Tahiti in the east to the Maldives in the west.

Sea level rise as a Driver of Migration in South and Southeast Asia

Even if the world takes immediate action to reduce greenhouse gas emissions, climatologists predict the temperature of the earth will increase by a minimum of one to two degrees Celsius over the next 50 to 80 years.[5] Increases in the earth's temperature and the resultant climate change will raise ocean temperatures, accelerate glacial melting, and change precipitation patterns. The rise in ocean temperature and melting of glaciers will cause a predicted rise in sea level of between 17 and 29 inches by the end of the century.[6] Without adaptation, this rise will likely cause a sizeable loss of land along the coasts of Asia and saltwater intrusion into low-lying coastal areas and deltas.[7]

In South and Southeast Asia, sea level rise and increased storm intensity will threaten the low-lying coastal areas and small islands, especially the Maldives, Kiribati, and Fiji.[8] In many areas of South and Southeast Asia the rise in local relative sea level will be greater than the global average because the major deltas in the region, like the Mekong Delta in Vietnam and the Ganges–Brahmaputra Delta that makes up much of the coast of Bangladesh, are sinking as the result of natural geological progression.[9]

U.S. service members help clean after a Thailand flooding. November 2011. Flickr / USNavy

The main impacts of relative sea level rise include: repeated or persistent flooding of homes and agricultural lands; flooding of critical infrastructure; and salinity ingress causing the rivers, deltas and aquifers in the coastal belt to become brackish or saline. The introduction of brackish or saline conditions can be accelerated by reduced river flows and lowered aquifers caused by climate change induced variations in precipitation, such as lower rain falls, droughts, and the installation of dams and increased fresh water demands by expanding populations. These conditions can already be seen in both the Mekong and the Ganges–Brahmaputra .[10]

Rising sea level impact on land, food, and fresh water in South and Southeast Asia will likely affect tens of millions of people who currently live and work in the low-lying areas. In some areas, where in place adaptation is not possible or ineffective, the people of South and Southeast Asia will be forced to migrate because their homes will become uninhabitable or their livelihoods destroyed by the rising sea, or because they will suffer from severe fresh water shortages as rivers, delta and estuaries become brackish and aquifers saline. In other areas, where possible and affordable, the people of South and Southeast Asia affected by sea level rise will adapt to the changing environment in place, either through government or community adaptation.

One such attempt at adaptation is in Bangladesh, where over 7,500 km of the coast is now protected from the sea and storms by 4 to 5 meter high dykes, forming polders where people can live and

work. However, as climate change causes the rain and cyclone intensity to increase and the sea water level rises, these polders will be more prone to flooding and water removal will become more challenging and more expensive. The government of Bangladesh already assesses that these earthen barriers are in urgent need or repair and in their current conditions will not protect the land or population from storm surge or future climate change.[11] And, it is not just farmland which is threatened by the rising sea. The 2014 IPCC report finds that Asia has most of the top 20 cities for population and asset exposure from coastal flooding – many of which are in South and Southeast Asia including Kolkata, Mumbai, Dhaka, Ho Chi Minh City, Bangkok, Rangoon, and Hai Phòng. [12]

When in place adaptation is not possible or the adaption ineffective, the people of South and Southeast Asia affected by sea level rise will migrate.

Migration as an Adaptation or a Security Risk

Since the beginning of civilization, populations have migrated in response to environmental stresses and for better opportunities. Decisions to migrate are influenced by a combination of drivers and constraints that may be political, economic, environmental, sociocultural, or demographic.

In Southeast and South Asia, as in the rest of the world, successful migration is a function of the potential migrant's social capital, financial ability to migrate, and social networks. In both intra-Asia migration and cross-continent migration scenarios, family and social networks are influential in providing necessary economic support and in helping to determine the choice of destination. Self-forming social networks of migrants become embedded and grow in host nations or communities. The social networks often have unique or different cultures, may compete for limited resources or employment, and are often perceived as threats to the host communities. The clash of cultures is often the source of conflict.[13]

One of the most notable examples of migration in South Asia that has led to conflict is the large-scale migration of environmentally displaced Muslim Bangladeshis into Hindu-dominant India, beginning in the 1970s. The state of Assam in India was the first to experience conflict associated with a large population of illegal Bangladeshis, exacerbating tension over Indians of Bengali origin already living there. For over twenty years, the influx of Bangladeshis resulted in local governmental instability, sustained civil disobedience campaigns and ethnic violence throughout Assam.[14] As recently as 2014, India's Army Chief Bikram Singh spoke of this migration as being a threat to Indian national security.[15] Narendra Modi, when campaigning to be India's next prime minister, threatened deportation of illegal Bangladeshis in West Bengal: "You can write it down. … these Bangladeshis better be prepared with their bags packed."[16]

In amplification of the conflict manifested in India, the IPCC notes that "perceptions of regional/national identity, language/cultural differences, and fears of unemployment may contribute to increased hostilities between immigrants and nationals." Moreover, there is the threat of exploitation of migrants, trafficking, empowering of illegitimate governments, health and safety concerns in refugee camps or urban slums, and even national level disputes over immigrants.[17]

Climate-Induced Migration and the Security Framework

While migration cannot be ruled a certainty in South and Southeast Asia, PACOM security experts must prudently explore a range of plausible migration scenarios and their associated security threats. However, planning for "migration" in broad terms is insufficient for both the security community and policy planners. There exists a range of migration including: temporary, short, cyclic, or permanent movements of people; voluntary in response to changes and pressures in surroundings over time, or involuntary as a result of environment displacement; legal, illegal or irregular, whereby a migrant changes status from illegal to legal, or vice versa. Each of these forms of migration holds its own security risks.

A model, in the form of a security framework, can provide clarity and a mechanism to compare varying security threats. Such a framework will help advance the security dialogue and aid PACOM policy planners in evaluating climate-induced migration in South and Southeast Asia.

Goff, Zarin and Goodman developed a migration framework to explore the security implications of climate-induced migration of Africans into Europe.[18] This framework can be applied equally as well to explore climate-induced migration in South and Southeast Asia.

When evaluating uncertain security futures, security leaders often prepare for a range of scenarios. They build strategic and operational plans and size forces for the most likely and scenarios, while planning for the less demanding as "lesser-included cases." They identify the risks associated with various future scenarios and national security leaders then make judgments about the levels of risk they are willing to accept.

As previously indicated, there are many different types of migration. The Goff, Zarin, Goodman model categorizes migration into three broad categories:

- Regular (legal) migration: migration that adheres to existing immigration laws.
- Irregular or illegal migration: migration that does not adhere to immigration laws.
- Involuntary migration: mass displacement, which can be caused by extreme weather events or conflict.

Applying these three distinct kinds of migration to South and Southeast Asia, a model can be used to explore security scenarios surrounding two potential magnitudes of migration:

- Those consistent with today's trends.
- Those that are an order of magnitude (10x) higher.

Although models that can predict future migration patterns into South and Southeast Asia do not exist, the "security threats" that tend to be associated with migration can be broken down into four broad categories:

- Danger to international order.
- Danger to the government or institutions of the country that hosts the immigrants.
- Cross-cultural tension that could lead to ethnic conflict.
- Human threats to migrants or citizens of the host country.

Figure 1 is an illustrative example of how PACOM planners can apply the model and examine the security risks associated with international, inter-continental or even internal migration in South and Southeast Asia.

Type of Asian Migration	Magnitude of Migration: Consistent with current levels as a percentage of population	Magnitude of Migration: x10 current rate as a percentage of total population
Controlled migration, within immigration laws. Prolonged period	Overall **LOW SECURITY RISK** • Ethnic tensions • Stress on social programs • Growing nationalism	Overall **LOW / MED SECURITY RISK** • Ethnic tensions / conflict • Overstress social programs • High nationalism
Illegal or irregular migration. Prolonged period	Overall **LOW SECURITY RISK** • Ethnic tensions • Human trafficking / Exploitation • Criminality / smuggling	Overall **MED / HIGH SECURITY RISK** • Ethnic tensions • Low confidence in government • High criminality
Mass displacement. Short period	Overall **MEDIUM LOCAL RISK** • Ethnic tensions • Overrun social programs • Human rights / environment	Overall **HIGH SECURITY RISK** • Environmental crisis • Overrun social programs • Temporary shelter / encampment

Figure1: Future Asian Migration Security Framework

Figure 1 is only an example. When used to examine a specific migration pattern in South and Southeast Asia, the security risks identified in the framework should be informed by research on migration, conflict, and impacts to social systems, and should be more specifically identified by a broader group of government, intelligence, and security planners well versed in South and Southeast Asia policy, programs, and politics.

Most significantly, the illustrative framework shows how security risks vary across the six possible scenario combinations. It shows that none of the proposed types of migration pose a threat to international governance, and only a few pose a marginal threat to the internal governance. The threats identified in this framework are primarily to internal populations of destination countries and to the migrants. The majority of threats are manifested in cross-cultural conflicts, criminal activity, and population vulnerabilities; they are not existential threats.

As an example, the framework shows that if migration levels remain constant as a function of Asian population growth and migration is primarily legal, the associated risk is low. Security risks should be manageable at this level of migration. A similar analysis would ensue for each of the six scenarios.

From the security framework we can see that the highest security risks are associated with mass displacement over a short period of time. In a planning scenario with an anticipated high level of mass displacement, social programs would likely not be able to meet acute demand. Without the proper planning and resources needed to accommodate this level of displacement, a humanitarian crisis could ensue.

Using this framework, PACOM security planners can program resources to prepare and, if necessary, respond to identified potential threats and provide advice to partner nations on how to manage migration with the least amount of risk. Most importantly, the security framework identifies areas where policies can be targeted to reduce threats associated with each scenario. Other policies, such as mitigation and contingency adaptation can be targeted to completely avoid scenarios that pose the highest security threats.

Summary

As the United States rebalances to the Pacific, threats associated with climate change must be considered across the full spectrum of military operations from capacity building through response to conflict. Migration due to sea level rise will occur across the much of South and Southeast Asia, and the U.S. will likely be called upon to respond to crisis and conflict. How Washington and specifically PACOM navigates its relationships with strategic partners who may experience heightened conflict over migration with each other, such as India and Bangladesh, should be a pressing concern for policymakers.

By exploring the various forms of migration through a security framework, planners can evaluate whether migration can be an effective adaptation mechanism or a threat or conflict. The security framework shows that legal migration within set policy frameworks holds the lowest risk, even at higher orders of magnitude. Similarly the security framework shows how illegal or irregular migration has increased risk. Finally, the security framework can also show how failure to plan or

adapt might to a changing climate could lead to sudden onslaught of mass migration, which carries the greatest risk, not only for governments, but for migrants.

Working both bilaterally and through multinational organizations, the U.S. must apply sound migration principles, employ a migration security framework, and adopt best practices to find acceptable and perhaps even beneficial solutions to make migration a successful adaption rather than a source of conflict and strife. PACOM should encourage partner countries to adopt sound migration policies to avoid the higher risk illegal or irregular migration scenario and should put in place contingency plans to limits the risk should mass migration result for catastrophic events.

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Notes

1 Admiral Samuel J. Locklear III, Statement before the House Armed Services Committee on U.S. Pacific Command Posture, March 5, 2013, available at http://docs.house.gov/meetings/AS/AS00/20130305/100393/HHRG-113-AS00-Wstate-LocklearUSNA-20130305.pdf

2 Government of the People's Republic of Bangladesh, Ministry of Environment and Forests, *Bangladesh Climate Change Strategy and Action Plan*, Dhaka, Bangladesh, 2008, p.1, available at http://www.sdnbd.org/moef.pdf

3 United Nations International Panel on Climate Change, "Climate Change 2001Working Group II: Impacts, Adaptation and Vulnerability. Section 11.2.6.1. Climate Extremes and Migration," available at http://ipcc.ch/ipccreports/tar/wg2/index.php?idp=450

4 UN IPCC, *Climate Change 2014: Impacts, Adaptation, and Vulnerability*, Chapter 24, October 28, 2013, p. 28, available at http://ipcc-wg2.gov/AR5/images/uploads/WGIIAR5-Chap24_FGDall.pdf

5 Organization for Economic Cooperation and Development (OECD), "Climate Change: Meeting the Challenge to 2050," *Policy Brief*, 2008.

6 *UN IPCC, Climate Change 2013: The Physical Science Basis*, available at http://www.climatechange2013.org/images/report/WG1AR5_Chapter13_FINAL.pdf

7 *UN IPCC, Climate Change 2014: Impacts, Adaptation, and Vulnerability*.

8 Gardiner Harris, "Borrowed Time on Disappearing Land," *The New York Times*, March 28, 2014.

9 *UN IPCC, Climate Change 2014: Impacts, Adaptation, and Vulnerability*.

10 Ibid.

11 Government of Bangladesh, *Bangladesh Climate Change Strategy and Action Plan*.

12 UN IPCC, *Climate Change 2014: Impacts, Adaptation, and Vulnerability*, 19.

13 François Gemenne et al., "Climate and Security: Evidence, Emerging Risks, and a New Agenda," *Climatic Change* 123(1) (March 2014): 1-9.

14 Ashok Swain, "Displacing the Conflict: Environmental Destruction in Bangladesh and Ethnic Conflict in India," *Journal of Peace Research* 33(2) (May 1996): 189-204.

15 Deeptiman Tiwary, "Illegal Immigration from Bangladesh a Threat to National Security: Army Chief," *Times of India*, February 12, 2014.

16 "Modi: Bangladeshi Immigrants Must Pack Up," *Dhaka Tribune*, April 28, 2014.

17 Gemenne et al., "Climate and Security: Evidence, Emerging Risks, and a New Agenda."

18 Leo Goff, Hilary Zarin, and Sherri Goodman, "Climate-Induced Migration from Northern Africa to Europe," *Brown Journal of World Affairs* 18(11) (Spring/Summer 2012).