Tumen River Area Development Program and Transboundary Water Pollution

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I. Northeast Asia: a Region of Regions In the late 1990s, the Tumen River Area Development Program (TRADP) has emerged as Northeast Asia's predominant intergovernmental economic cooperation effort. The program-coordinated by the United Nations Development Program(UNDP) and comprising China, Russia, North Korea, Mongolia, and South Korea-was launched in 1991 to foster cooperation and economic development in Northeast Asia: a region more often defined by its stagnating economies, border conflicts, and internecine politics, than regional cooperation and economic growth.

These differences, however, were thought to be surmountable. According to the project's planners, simply the dire need to foster economic growth in a region just awakening from the cold-war deep freeze would drive states to cooperate. Specifically, the TRADP would capitalize on the region's beneficial geographic location (deep sea ports, access to Trans-Siberian railways and East Asian markets), and combine Japanese and Korean capital and know-how with low-cost Chinese and North Korea labor to exploit and process the natural resources of Mongolia and the Russian Far East.

Moreover, hopeful UNDP policymakers projected that economic cooperation would provide a functional base of iterated interaction between states, thereby leading to further non-economic cooperation. In essence, economics would be the horse that pulled the wagon of regional cooperation and political stability.

These plans also included environmental cooperation. On the heels of the Earth Summit, the TRADP was to serve as the UNDP's first attempt to inject sustainable development criteria into a major program.

At its genesis the TRADP seemed to possess a simple recipe for success: there were both suppliers of raw goods and services and the countries which desperately wanted to consume them; there were eager new markets for western goods and foreign investment to nurture them; and there was an international organization providing a tacit guarantee of quality for investors. There existed destabilizing forces, such as conflict on the Korean peninsula or the disintegration of the Chinese state, but these were deemed remote.

This was the promise but not the reality of TRADP. By the end of the decade, TRADP's ambitious goals were crippled. Driven by animosity between countries, the pain of converting planned economies, core-periphery governance conflicts, a historically driven heightened importance of borders, and anemic supra-national support, TRADP members dropped a multilateral framework for a "concerted unilateralism" approach in 1995. In that year, member states agreed to focus TRADP's efforts on creating an "enabling environment" for investment in the three riparian countries' individual development plans within the TREDA region. (In essence, the plan would use UNDP involvement as a seal of approval to attract investment to the otherwise poor investment climate of the individual country programs.) This has allowed economic growth to continue-albeit with redundant infrastructure projects, competition between states driving down tax incentives to unrealistic levels, and little real work on trade facilitation-but more worrisome is that the breakdown of multilateralism is threatening the ecology of the region, which, placed within the region's greater historical, political, and economic context, threatens the future of economic development, as well as the political security of Northeast Asia. These are strong words, but this is an extraordinary case. The interaction between environmental degradation and economic cooperation is a security concern for three reasons:

- 1) The absence of exogenous incentives for capacity building have left state environmental governance weak or non-existent. In early plans for the TRADP, state capacity was to be developed, cleaner technologies made available, and eventual harmonization of environmental standards was to occur. Without a multilateral framework, efforts to increase capacity have faltered, thereby decreasing incentives for compliance and increasing driving forces contributing to the pollution of transboundary waterways.

2) This has led to a transboundary political vacuum, which, due to the absence of mitigative channels for resolving conflicts over chronic or exigent environmental problems, is increasing tensions between riparian states. Although the TRADP is based upon the geographic attributes of the region's shared resource-access to the Sea of Japan, and the Tumen, Hunchun, and Gaya Rivers-there is no coordination in the management of the transboundary resources. The implications are best illustrated in TRADP's geography: an upstream China and North Korea with a large number of heavily polluting factories and other sources of point and non-point pollution, and a downstream Russia with scant interest in TRADP, stricter environmental enforcement, and an economic sector based upon the river and coastal area's natural resources. Given the stakes, without proper mid-level channels of communication, environmental problems could seep into the political realm very quickly.

3) This has led to a "tragedy of the commons" scenario in the TREDA. As the multilateral effort has

failed to develop a sufficient community of interests among riparian states and without a pooling of costs of shared development, the effort states are free-riding on the shared water resources. I will return to these issues in a moment, but first I would like to back-up for a moment and give a fingernail portrait of the region's environment, and the TREDA's impact on it.

II. The Ecological Landscape

While Northeast Asia's isolation, historical tensions and cold war legacy have frozen economic development in the region, on the brighter side, it has also preserved the region's vast, globally significant, terrestrial and aquatic biodiversity. The shared transboundary water resources alone are impressive.

- The Tumen River Delta, spanning over 88,000 hectares of wetlands in China, North Korea, and Russia, are critical to coastal zone management, and a crucial point for migrating birds along the East Asian/Australasian flyway.
- Peter the Great Bay, the Sea of Japan's most biologically productive area, is home to thousands of species marine invertebrates, hundreds of species of fish (eleven globally threatened), three species of whales, seals, and over 200,000 water fowl.
- Moreover, the bay is the only habitat suitable to lay eggs and raise fingerlings for fish stocks on the continental coast of the Sea of Japan. The Russian coast supports a lucrative export-oriented mariculture industry.
- The waters of the TREDA also include the Tumen River and its tributaries, which are vital for downstream municipal and industrial water use, wetlands, and spawning grounds for North Pacific Salmon

.This area of rich marine resources, however, is in peril. With economic growth supplanting ideology as the foundation for state legitimacy, especially in China and Russia, provincial governments are pushing economic growth, leaving little concern for the impacts of environmental degradation. This is problem which may increase in scope and magnitude as the TREDA develops.

The impacts the TREDA is having on these resources can be broken down into three categories, as follows.

2.1. Water Withdrawals

1. TREDA will increase the demand for water withdrawals as population growth, affluence, and industrial use rises with economic growth.
2. Multiplier effects from industrial and economic growth, including greater demand for electric power, will lead to an increase in industrial, municipal and agricultural demands for water.
3. Withdrawals during low flow periods could heighten shortages, pollution levels, and saltwater intrusion.
4. The short length of the region's rivers means that surface water is not abundant year round, and may necessitate interbasin transfers to other municipal and industrial centers-possibly across borders.

2.2. Catchment Area Deterioration

1. Deterioration of the region's mountainous catchment basin is/will cause increased storm run-off, flooding, erosion, and sedimentation. It has exacerbated water shortages during the dry season, and the large, irregular injections of fresh water is having a detrimental effect on the marine

biodiversity in Peter the Great Bay.

2. Current understanding of the region's catchment basin is scant and largely anecdotal. Thus, the relationship between river discharge, water quality or groundwater supply, and catchment degradation inadequately known.
3. The lessons learned from North Korea's degradation of its watersheds and subsequent famine is a stark lesson which should be heeded.

2.3. Point and Non-point Water Pollution

1. Due to the region's lack of waste water treatment for municipalities and large industries, water pollution is already extremely high on the middle and lower stretches of the Tumen.
2. Several examples of the point-source polluters include the following: the Maoshan Mine (North Korea) deposits roughly 15 million tons per year(t/y) (41,000 tons/day) of tailings; the Kaishantun and Shixian (China) chemical pulp and paper mills together discharge about 62 million t/y of untreated waste water in the Tumen and Gaya Rivers; the Awudi chemical plant (North Korea) discharges about 65 million t/y of untreated waste water which is high in phenols and other unknown substances; and in Yanji City the current rate of discharge of untreated sewage to the Bulhartong River is about five times the dry season discharge of the river. By 2010 it may be ten times the low flow discharge.

2.4. Impacts to date

1. Water quality in the middle to low reaches of the Tumen is now unfit for industrial and municipal use.
2. The traditional fishing industry on the river has virtually collapsed.
3. High level of tumors and carcinomas on fish and large invertebrates in Peter the Great Bay have been found. Genetically altered gills and kidneys of fish are reported.
4. Russian officials now consider the pollution a threat to the bay, and particularly to the economically valuable mariculture industry.
5. Russian are also very concerned about Chinese attempts to build water reservoirs as, according to Russian officials, the retaining walls are of poor quality and a break would be disastrous downstream.
6. River spawning habitats have been severely threatened
7. Flooding and pollution of internationally important (Ramsar designated) wetlands vital to the migration of several globally threatened birds is of great concern.
8. Increased freighter traffic without proper ballast water disposal has led to the introduction of alien species.

III.Russian/Chinese Environment-Security Relations

Developing causality between environmental degradation and political conflict is a difficult task. For the past several years, much of the environmental security literature has struggled to develop a definitive relationship between ecological degradation and security matters without great success. What is clear, though, is that environmental degradation can exacerbate security issues. In the case of the Tumen River area, transboundary environmental degradation seems to have the potential of exacerbating security issues between Russia and China. Tension is growing over China's continued pollution of Russian waters.

Before discussing this point, I'd like to step back and give some background on Russian/Chinese relations in the TRADP/TREDA context. In 1938 China lost access to the Sea of Japan. Attempts to gain navigation rights in the 12 km of the Tumen River from the Chinese border through the shared waters of North Korea and Russia have been consistently denied-an effort which is also opposed by the UNDP as the dredging of the lower Tumen for shipping would prove environmentally disastrous. Provincial policymakers in China consider this lack of coastal access, together with Beijing's ambivalence, as the primary cause of Jilin Province's status as one of China's poorest provinces. With this chip on their shoulder, and after being cast off from Beijing's economic tutelage in the early 1990s, Jilin's leaders are evermore determined to gain coastal access. But with no hopes of gaining navigation rights to the Tumen River, the province is dependent on the Russian port of Zarubino and/or Rajin-Sonbong in North Korea for coastal access. The later is highly unlikely to serve as an outlet port, though, because the North Korea will almost certainly not be able to raise the estimated $39 billion necessary to develop the Rajin-Sonbong port complex. This effectively renders the future economic development of Jilin Province dependent upon cooperation and engagement with Russia.

However, China continues to agitate its downstream neighbor. Why? One reason is that China (and Jilin Province bordering the Tumen River) have seen little reason to preserve the shared resources of the river. The incentives for short-term economic growth over, in the eyes of provincial leaders, an uncertain future of cooperation have not favored an environmental preservation commitment. In this region of poor governance, sink or swim economic policies, and historical animosities, the thought of Chinese state actors pursuing long-term political/environmental cooperation because its in their best interests-as UNDP's concerted unilateralism approach assumes-is difficult at best and impossible at worst.

On the other hand, TRADP's most reluctant partner, Russia, has much to lose by continued Chinese pollution. Current impacts on Russian biodiversity from upstream pollution remain largely anecdotal, however, as I outlined above, seem to be severe. Russian attitudes toward TRADP/TREDA are another key driver in heightening tension over transboundary pollution problems in the region. From the get-go, Russia has been dragging its feet in the TRADP negotiations; for several reasons. One reason is that there is a desire to protect the environment of the region. Russia is the only TREDA member without an action plan, and the only state which has canceled development plans in the delta due to ecological concerns (other TRADP members have insisted that environmental conservation in the Russian Far East is "obsessive"). Another reason is that and given the psychological impacts of its decline as a superpower, and the historical border conflicts between Russia and its Asian neighbors, Russia expresses a very protective attitude toward its borders.

Direct conflict between China and Russia over the shared resources of the Tumen River seems remote. The two states, as rational states, are most likely to find means to avert conflict over transboundary issues through diplomatic channels, compensation through side-payments, or bilateral/multilateral agreements. The Tumen River area is an area defined largely by its "hinterland" status. The political, economic, and cultural makeup of the area is best defined by the spatial relationship between the periphery and core areas of the states. The "core" areas are the areas around the national capitals (Tokyo, Moscow, Beijing, Seoul, and Pyongyang). These are the areas of greatest concentration of political and economic influence. The littoral provinces of the Sea of Japan region-i.e., the Tumen River area-can largely be defined by their remote relationship with their capitals. The western coast of Japan, China's Jilin Province, and the Russian Far East, for example, are all hinterland areas relative to the capital centers of the respective nations.

The poor core-periphery governance structures have left most of the negotiations and implementation of TRADP objectives (particularly in the environmental realm) to the provincial governments. These officials, however, have little experience in international relations. This lack of capacity is means scenarios where ecological degradation could increase security tensions between Russia and China.

IV. Second Attempt at TRADP Multilateralism

Recognizing that the Tumen River area is a possible political flashpoint, since 1995 the UNDP has been working to develop a multilateral environmental framework within the TRADP. The TRADP environmental effort was launched in 1995 with a Memorandum of Understanding (MOU) on the Environment. The MOU, signed by all five countries, sought to outline a plan for environmentally sound and sustainable development in the entire TRADP region. The MOU tasked governments to coordinate and cooperate to protect the region's environment, and committed them to exchange data, conduct environmental impact assessments, enhance public participation, seek outside funding, and consider harmonization of standards. However, to date, the MOU has not been implemented.

In 1997, as the Tumen Secretariat faced the termination of its mandate, it held the first Environment Working Group Meeting in May of that year. The goal of the meeting was to gain regional input to the development of a Strategic

Action Plan on the Environment (SAP), which the TRADP Secretariat was developing for submission to the Global Environment Facility (GEF) for funding the next year.

The Goals of the SAP are to: 1) understand current status of the TREDA's environment; 2) identify development projects related environmental problems in the region; 3) outline the national and regional priority action areas of the TRADP; 4) identify where the GEF and other donors monies are needed; 5) discuss means of gaining greater community participation in the SAP processes; and 6) clarify the potential interaction between TRADP environmental strategies and those of other Northeast Asian efforts.

By October, the Second Regional Environment Working Group approved the project brief and submitted it to the GEF. If approved, project implementation will begin in the summer of 1998. The projected cost of the SAP is US$5.5 million, and member states have been asked what they can contribute. Early indications, however, show that most TREDA members want to take a back seat in the development and implementation of the program and default to the UNDP as the implementing body. Conversely, the UNDP wants to confine its responsibilities to organizing international agreements, intergovernmental relations, and joint economic development, leaving implementation to member states.

Gaining member interest is only the SAP's first challenge. A second challenge is to find means of international cooperation which do not follow the "least common denominator" path of cooperation. It may be difficult to overcome the historical, cultural, and political hurdles which caused the breakdown of earlier multilateral efforts. However, if it does not aggressively seek to build individual government's capacity, foster binding riparian agreements, and build an effort where the benefits and costs of using the region's transboundary waterways are pooled, then the effort is bound to fail. If the SAP fails, and with it the program's last attempt to nurture multilateral governance, then tensions between China, Russia, and possibly North Korea, will likely continue to grow in scope and scale.

V. Conclusion

The Tumen River area may serve either as a the source of conflict or cooperation between the states of Northeast Asia. If a multilateral environmental framework is not effectively developed through the TRADP, then the conflict scenario may be the more likely.

If an international environmental problem has significant political and security implications, then the chances of finding the international political will to address the problem will likely increase. However, if the political and security implications are minimal, then there is danger that the problem will not be addressed. Given that in the Tumen River area there already exist transboundary environmental transgressions; given that economics is replacing political power as the foundation of state legitimacy in some states of the region; and given that some state's ability to govern their periphery areas, there is a possibility that the security implications of environmental degradation with go unheeded until too late.

Endnotes

1) Based on a talk given at the Woodrow Wilson Center Environmental Change and Security Project Working Group on Environment in US-China Relations January 7, 1998.

2) The TRADP is geographically defined into two regions: the coastal area of the Tumen River Economic Development Area (TREDA)-comprising China's Southern Jilin province, the Southern end of Russian Primorskie Krai, and the North Korea's Rajin-Sonbong Free Economic Zone-and the Northeast Asia hinterlands-extending into China's the Yanbian Autonomous prefecture into Mongolia. Because the bulk of the activity associated with the project is occurring within the coastal region, when discussing transboundary water impacts this paper focuses exclusively on the TREDA zone.

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