

Integrated environmental policy from a regional perspective in Slavic Eurasia

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Peoples and nations have formed borders among them, and have behaved according to the borders, in principle. Natural environment, however, does not recognize the man-made borders, by nature. Consequently, we face with difficulty in designing the solutions of trans-border environmental issues.

In the following we focus the issues on the regions of the Slavic Eurasia, a huge area including the former socialist countries of the Soviet Block and their neighbors. The Slavic Eurasia has now many trans-border environmental conflicts, especially that of international river basins, such as the Gabcikovo-Nagymaros dam construction in the Danube River Basin (between Slovakia and Hungary), the new navigation canal construction in the Danube Delta to the Black Sea (mainly between Ukraine and Romania), water use of the Amu- and the Syr Rivers to the Aral Sea (among most of the Central Asian countries), water use of Ili river to the Lake Balqash (between China and Kazakhstan), wide ecosystem in the Amul River basin and the Sea of Okhotsk (among Mongolia, China, and Russia). Trans-border conflict or trans-border cooperation is new for these ‘nations’, since it was the matter of Moscow in the socialist era, and some of the countries are, simply, newly independent states. They have little experience to manage the trans-border issues as their own matter. As a result, the trans-border issues are often deadlocked, threatening seriously the natural environments of the regions.

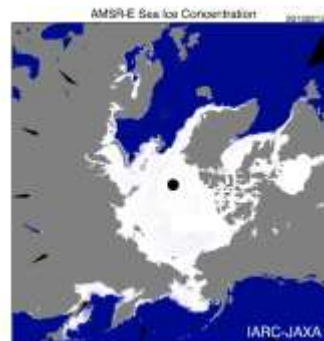
We examine two cases in the paper, the Amur-Okhotsk ecosystem and the Danube dam construction, in order to draw lessons for dissolving or avoiding the deadlock in the future.

Giant Fish-Breeding Forest: Trans-border Ecosystem in the Amur-Okhotsk Region

Every winter the northern coast of Hokkaido Island, Japan, facing with the Sea of Okhotsk is closed by numerous sea ices (see the map below).



Map One: Hokkaido Island
from the Sea of Okhotsk



Map Two: Arctic Sea Ice
Concentration

<http://www.ijis.iarc.uaf.edu>

The map Two shows the sea ice concentration in the Arctic Ocean and the Sea of Okhotsk in the middle of March 2010, when the sea ices reached the most southern position in the year. It is outstanding that the Sea of Okhotsk is, in spite of its lower latitude (at 60-45 degrees N.), covered by the ices. The ices, however, do not come from the Arctic Ocean, but from the Amur River. Eventually, the fresh water of the Amur River freezes in the mouth of the river in winter, and the north wind pushes the ices to the south along the Sakhalin Island. This mechanism of sea ice formation in the Sea of Okhotsk shows us that the Amur River and the Sea of Okhotsk are closely connected, and that the basin of the Amur, which spreads to Mongolia, China, and Russia, is united with Japan by the trans-border regional water system.



The Amur River Basin: <http://trifter.com/asia-pacific/amur-river/>

The yellow part is the Amur River basin.

Moreover, the recent scientific researches suggest that the Amur-Okhotsk countries are connected not only by the water system but also by an ecosystem, which is named as ‘Giant Fish-Breeding Forest (GFBF)’.¹ The key material of the ecosystem is ‘dissolved iron’, which comes from the wetlands and the forests in the Amur River basin. The Amur River water system, collecting the dissolved iron from the huge river basin, carries it to the Sea of Okhotsk, where the dissolved iron diffuses into the marine water, reaching the Kuril Islands and the Hokkaido with the help of the floating sea ices in Winter and early Spring. Additionally, other researches suggest that the dissolved iron goes further beyond the Kuril islands to the northwest Northern Pacific Ocean, partly sailing on the Oyashio Current, thus diffusing further in the south direction.

¹ See about the details of GFBF Takayuki Shiraiwa, Giant Fish-Breeding Forest: A new environmental system linking continental watershed with open water, presented at the international symposium ‘The Dilemma of Boundaries: Toward a New Concept of Catchment’, October 20-22, 2009, Research Institute for Humanity and Nature, Kyoto.

The dissolved iron is, according to the expertise, very essential for fishery, since it is one of the necessary materials for generating phytoplankton, and phytoplankton is the basis to the rich marine resources. Actually, salmon, herring and many other seafood are a result of the food chain beginning with phytoplankton. One of the clear evidences of the interrelation between the sea ice and the development of phytoplankton is a massive proliferation of phytoplankton, which is very seasonal, and it is no other than Spring when it happens in the Sea of Okhotsk. The series of causes and effects, starting with the dissolved iron and finishing with, let us say, salmon, is symbolized by GFBB, an wider regional ecosystem, and Japan is one of the stakeholders of the GFBB ecosystem.

The Sea of Okhotsk is the very important part of the most significant fishing zone of the world, the northwest Northern Pacific Ocean, whose annual fish catch is around 20 million tons, one fourth of the world harvest. Though we have not yet had the final results of the surveys, the Amur River essentially contributes to the rich production of the marine resources in the northwest Northern Pacific Ocean with provision of the dissolved iron.

The idea and practice of conserving Fish-Breeding Forest (FBF) is very old in Japan from the Medieval period, and it was institutionalized in the 17th century in the early Edo era by the Tokugawa Shogunate in order to recover the forests damaged in the century-long turbulent period before the Edo era. Then the idea and practice were discovered in the end of 19th century in the Meiji era after some decades of destruction of the forests by the modern industrialization, and the Japanese scientists started to pay attention and analyze the interrelationship between the fishing ground and woodland in the 20th century.² Now the number of the officially registered FBF is 123 all over the country with 8,337ha in Japan,³ though, in reality, any woodlands in Japan work as FBF.⁴ This relationship is sometimes called as ‘Sea loves Woodland’ among the people.

The close linkage between the rich forest and rich fishing ground has been known among the fishermen and local residents through observation and experience in the history of Japan. However, the case of the Amur-Okhotsk GFBB is different from the cases in Japan. Namely, the FBF in Japan is generally a local ecosystem, which is observable in a daily life, the Amur-Okhotsk GFBB is, however, too big for fishermen to realize such a causal link as their salmons grow up with help of the dissolved iron from the Amur River. Neither the loggers in Amur or Chita oblasts in Russia nor the farmers in Sanjiang plain in Heilongjiang province, China, could not recognize the relationship between salmons in the Sea of Okhotsk and the dissolved iron from their woodlands or wetlands, which are now diminishing as a result of the

² Inukai,T and S.Nishio, A limnological study of Akkeishi Lake with special reference to propagation of the oyster, *Hokkaido Teikokudaigaku Nogakubu Kiyō*, 40, 1937.

³ http://www.rinya.maff.go.jp/j/kokuyu_rinya/tokei/2008/index.html. The figures include those FBF, which are secondarily classified as FBF. The figures of the FBF as main classification are 90 and 5,033ha. See Wakana Hiroshi, The development of ideas of Uotsukirin at modern age in Japan, *Journal of water and environmental issues*, vol.14, 2001 (Japanese)

⁴ Takehiko Yanagimuma, *Mori ha subete uotsukirin* (any forests are BFB), 1999, Tokyo.

expansion of lumbering or agriculture.

The Amur River basin is the heartland for the GFBBF ecosystem, serving also as habitat, migratory corridor, or nest for 2800 kinds of vascular, 380 kind of birds, 23 kinds of amphibians and reptiles, and more than 70 kinds of mammals only in the Russian side of the basin.⁵

In spite of the significance the trans-border ecosystems had been out of scope of the international legal regulations, because ‘it was assumed that the control of natural resources is within [national] sovereignty over land territory and territorial seas.’ However ‘recent environmental concerns have eroded state sovereignty and involved a redefinition of sovereignty itself. In the contemporary situation, states only have the limited sovereignty over resources within their jurisdictions.’⁶ This is a good development. However, we have still no frameworks for conservation of a comprehensive trans-border ecosystem such as GFBBF. Namely, many international laws have been established, which relate to the trans-border environmental issues, but these laws work separately or independently, regulating only a specific aspect of the regional ecosystem. Another limitation is the bilateralism. For instance, we have not a few bilateral agreements among the countries in the region,⁷ however, we need a trilateral or multilateral agreement, which is, in general, very difficult to be concluded. One more obstacle is the specificity of the global agreements. For example, there are some legal instruments of the international watercourses,⁸ but these are based on a geographical area “determined by the watershed limits of the system of waters, ... [and] are exclusively concerned with allocating water supply between upstream and downstream states, or preventing pollution or damage, not relevant for the transportation of the dissolved iron, much less the conservation of the whole system.”⁹ The same thing is the case for the marine resources. The existing international laws ‘only establish a general framework for the regulation of land-based sources of marine “pollution”, and, therefore, do not refer to the relationship between the conservation of the marine living resources and any land-based substances ... such as the dissolved iron’.¹⁰

⁵ <http://www1.american.edu/ted/amur/htm>.

⁶ Yasunori Hanamatsu, National boundaries and the fragmentations of governance systems: Amur-Okhotsk ecosystem from the legal and political perspective, presented at the international symposium ‘The Dilemma of Boundaries: Toward a New Concept of Catchment’, October 20-22, 2009, Research Institute for Humanity and Nature, Kyoto.

⁷ Such as ‘the Agreement on Cooperation in Protection of the Natural Environment between China and Russia’ (1994), ‘the Agreement on Cooperative Conservation of Nature between China and Mongolia’ (1990), ‘the Agreement on Cooperation in Protection of the Natural Environment between Russia and Mongolia’ (1994), ‘the Agreement on a General Framework for Cooperation between Provinces of Russia and China’ (1997).

⁸ Such as ‘the UN Convention on the Law of the Non-Navigational Uses of International Watercourses’ (1997), ‘the UNECE Convention on the Protection and Use of Trans-boundary Waters and Lakes’ (1992), ‘the ILA (International Law Association) Helsinki Rules on the Uses of the Waters of International Rivers’ (1966)

⁹ Op.cit., Y. Hanamatsu.

¹⁰ Op.cit. Y. Hanamatsu. The concerned laws are such as the UN Convention on the Law of the Sea (UNCLOS, 1982) and the subsequent UN Agreement relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks (Straddling Stocks Agreement, 1995).

We need a positive approach to regional conservation for the GFBF ecosystem. What is a positive regional approach in a trans-border environmental issue? One of the essential elements is precautionary principle, and to realize this end we have to invent a feedback system between the ‘upstream’ and the ‘downstream’ in a wider geographical setting such as the Amur-Okhotsk region. The traditional idea of Uotsukirin in Japan may suggest a hint for this feedback system. Namely, the fishermen in the ‘downstream’ plant trees in the forests of the ‘upstream’. Eventually the fishermen in Hokkaido began to realize the relationship between the sea ice or the Amur River and their marine resources,¹¹ and they seem to be ready to plant trees in the Amur River basin. This is, instead of a passive approach such as restriction of logging in the upstream, a positive approach for the ecosystem, where a stakeholder shall actively do something beneficial to the ecosystem and thus to the other stakeholders as well. This approach would be important and still effective especially in the case of GFBF, because this trans-border ecosystem, so far, seems not to have been suffered a critical damage by the diminishing wetlands and the growing lumbering in the Amur River basin.

At any rate, the first task for this end is, among many, to make the new scientific knowledge about the ecosystem of GFBF a common one to be shared among the peoples in the region. For this aim, a multilateral academic cooperation was established among the countries. This was an epoch-making. Namely, in 2009 the Amur-Okhotsk Consortium was established by an initiative of some Japanese scholars in Hokkaido. The consortium declared that ‘The Amur Okhotsk Consortium is a multilateral researchers’ network to promote the sharing of information on environments, to make efforts toward a cooperative environmental monitoring, and to facilitate the robust discussions that transcends borders toward an environmental conservation and sustainable use of the resources of the Amur River Basin and the Sea of Okhotsk’.¹²

Danube Dam construction: national, international, and local perspectives

Trans-border regional cooperation is more and more needed in the contemporary world in various fields, especially in the environmental issues due to their genuine border-free nature. The former socialist countries in Slavic Eurasia, though twenty years have already passed since the collapse of the communist regimes, are facing with difficulty in trans-border cooperation. One of the most serious obstacles is the young nationalism. The new nations or the renewed nations in the area have been enthusiastic in integrating the natural and human resources into the new nation building in the post-communist era. The so-called ‘resource nationalism’ is prevailing, and the nations are not enough flexible to concede. The conservation of the natural

¹¹ T. Yanabimuma, *Ki wo uete sakana wo huyasu* (We shall plant trees for growing fish), 1993, Tokyo. The wives of fishermen began to afforest the denuded lands in Hokkaido to recover the fish catch, which had decreased before, and some fishermen observed that the diminishing sea iced at the Hokkaido sea coasts had something with the decreasing fish catch.

¹² <http://www.chikyu.ac.jp/AMOC/index.html>

environment is also important for them, but within the state boundary. In the cases of Russia, Mongolia, and China the central and local governments have made a great progress in promoting the environmental policies, and adopted the significant international laws, such as Convention on Wetlands of International Importance especially as Waterfowl Habitat (Ramsar Convention),¹³ but trans-border cooperation is still in the phase of beginning.

The situation is not so different in Eastern Europe, though the most East European countries are now members of the European Union (EU). We take an example in the following among from the trans-border environmental issues in the region; the Danube Dam construction, to which a wide international attention has been paid as the first environmental case for the Haag court. The construction of the Danube dams started in 1977 under the communist rule as a joint project between Czechoslovakia and Hungary.¹⁴ The joint project would serve a comprehensive solution for clean energy production (instead of the so far prevailing coal power station), regulation of the river navigation, water supply for the agriculture and other industries, and flood control.¹⁵ The project would have completely change the landscape of the almost 200 km long section of the Danube River between the two countries, constructing dams, new and long channels, and huge reservoirs. The construction was really a big project, expending enormous budgets as much as billions of US dollars for more than ten years. This was also a kind of cross-border international cooperation but of a fanatic giant mania, which was the East European version of the ‘Reshaping the Nature’ plan in the Soviet Union. Their ideology was to overcome the nature with the modern science and technology of the mankind.



The Danube River Basin and the new channel of the river:
http://www.ramsar.org/cda/en/ramsar-news-archives-2002-new-ecological-expert/main/ramsar/1-26-45-87%5E19849_4000_0__

¹³ The convention came into force in the Soviet Union (now Russia) in 1977 with 35 sites, 10,323,767 ha, 6 in Amur basin (Torey Lakes, Lake Khanka, Lake Udyl, Khingano-Arkharinskaya Lowland, Lake Bolon, Zeya River); in China in 1992 with 37 sites, 3,168,535 ha, 5 in the Amur basin (Lake Dalai, Honghe, San Jiang, Lake Xingkai, Zhalong); in Mogolia in 1998 with 11 sites, 1,439,530 ha, 3 in the Amur basin (Lake Buir, Daguur, Khurkh-Khuiten river valley). http://www.ramsar.org/cda/en/ramsar-home/main/ramsar/1^7715_4000_0__ (16 May 2010)

¹⁴ Treaty between the Hungarian People’s Republic and the Czechoslovak Socialist Republic concerning the construction and operation of the GABČÍKOVŮ - NAGYMAROS system of locks, 16 September 1977; <http://www.gabcikovo.gov.sk/doc/it1977en/>

¹⁵ Libor Jansky et. Al., *The Danube, Environmental monitoring of an international river*, UN University Press, Tokyo/New York/Paris, 2004.

In the 1980s, however, there emerged the opposition movements attacking the dam project in the both countries,¹⁶ getting afraid of the environmental damages in the ecosystems of the Danube River basin, such as the biodiversity in the wetlands and the linkage between the surface water system and the groundwater system.¹⁷ The groundwater is the essential natural resource to the peoples in the region, because their dominant drinking water comes from the groundwater. The response of the communist governments to the movements was divided: the Czechoslovakian communists were enough powerful and affordable to carry the construction, and the Hungarian communists were, in contrast, vacillating and gave up the project in the end, when the opposition movements widely spread among the people in the last years of the decade. As a consequence of this division, the bilateral cooperation had turned to be antagonism against each other, and the two countries became inextricably standoffs on the water use of the Danube River. The Czechoslovak government, namely, required to introduce the river water into the constructed reservoir and channel in order to realize the original aims of the project. The Hungarian government, however, insisted the water flow along the original channels of the river in order to conserve the ecosystem of the river basin. The Hungarian government established even a national park for natural environment protection in the concerned river basin (Szigetkoz) in 1987, and the Czechoslovakia also, though a little later, recognized a wetland (Pariz marshes) in the region as an international asset based on the Ramsar Convention in 1990.

The political changes for democracy in the end of the 1980s and early 1990s did not help in mitigating the antagonism between the two nations. Rather, the governments and the peoples more stiffened on the conflict following the regime change. At last, in 1992, the Hungarian government one-sidedly declared the denunciation of the agreement conducted in 1977, and this was followed by the Czechoslovakian government with the eventual operation of the dam system. Consequently, the major part of the river water began to go into the new channel by damming up the original river course. Here the two governments gave up the solution by themselves, and they took the issue to the international court in Haag in 1993 after the failure of the EU intermediation. In the meantime the federal republic of Czechoslovakia was dissolved, and Slovakia became an independent country on the 1st January 1993. This political change did not affect positively on the issue, neither.

In 1997 the Haag court handed down the ruling to the governments, condemning both of them: the one-sided denunciation of the agreement by Hungary violated the international norm, and the one-sided operation of the dam by Slovakia did the same.¹⁸ Though the decision

¹⁶ Marni M. Berg, Environmental protection and the Hungarian transition, *The Social Science Journal*, Volume 36, Issue 2, 1999, pp. 227-250.

¹⁷ Dobos Lidia ed., *Utánunk az özönviz*, Budapest, 1989.

¹⁸ Bukhosi Fuyane and Ferenc Madai, the Hungary-Slovakia Danube river dispute: implications for sustainable development and equitable utilization of natural resources in international law, *International Journal for Global Environmental Issues*, vol. I, no. 3/4, 2001, pp.329-334. Stephen Stec and Gabriel E. Eckstein, Of Solemn Oaths and Obligations: The environmental impact of the ICJ's decision in the case concerning the

of the international court was absolutely correct, indeed, the two governments and the nations got again deadlocked on the issue, because the both sides would make no concessions, referring to the Haag decision in their own favor. Thus they are still being deadlocked on the problem, though more than ten years have passed since 1997. The focus of this issue, however, has changed in the meantime. Namely, both of the governments, not necessarily the nations, seem to have agreed in accepting the reality; Hungarian denunciation and Slovak operation of the dam, though new difficulties arise. One is technical. Namely, in the meeting section of 'the two Danubes,' the original Danube and the new channel in Slovakia, unexpectedly, sediment builds up on the riverbed. A specialist says that it is almost impossible to predict precisely the point where the sediment will build up, because the water flows very irregularly in the meeting section. The sediment could be enough large or high to endanger ship navigation. The two governments are again discussing almost endlessly on who and how the sediment should be cleared.¹⁹

The second focus is political and territorial; the border might change between the two countries. The state boundary would shift from the old Danube river course to the new channel if Hungary adapts the reality of the navigation course. Why is it so? The Trianon Peace Treaty, which decided the borders among the newly independent East European countries after the WWI, says that the state border between Czechoslovakia and Hungary in the related section is 'the principal channel of navigation of the Danube upstream.'²⁰

Concluding remarks

Harmony between the conservation of natural environment and the economic development is a very tough issue everywhere, and it is especially so, when the harmony is required between two countries, who dividedly insist the two aims, as the case of the Danube dam construction, where the issue turned to be the face of the nations. In this context, the international court cannot help the situation, because the two concerned countries want to avoid losing the face by interpreting the decision of the court in their own favor. Eventually the Haag decision itself in the Danube case was, as seen before, gentlemanly, and the two parties construed it to suit themselves.

What is missing in the Danube dam negotiations is a local perspective, since the national or international factors have been dominant. The local attitude toward the other party is much less antagonistic or rather open minded in the borderlands, where the residents are

Gabcikovo-Nagymaros Project(Symposium: The case concerning the Gabcikovo-Nagymaros Project), *Yearbook of International Environmental Law*, vol.8, 1998.

¹⁹ <http://www.bosnagymaros.hu/dokumentumok>.

²⁰ The Article 27 of the treaty prescribes the borders of Hungary with the neighboring countries in the way that 'to its confluence with the Danube, the course of the Eipel downstream [is the border]; thence to a point to be selected about 2 kilometers east of Antonienhof (east of Kittsee), the principal channel of navigation of the Danube upstream [is the border]. The confluence of the Eipel River with the Danube is near Sturovo and Esztergom, and Antonienhof and Kittsee are small settlements near Bratislava. The distance between the two places is about 150 km.

much more mixed ethnically and have much more frequent personal contacts with the other party than in the capitals, especially after their joining the EU in 2004 and the Schengen Agreement in 2008. The borderlands, which have been divided by the state boundary, are now developing the connections over the border river economically, culturally, socially, and in the other aspects. We could expect a joint management of the wetlands in Szigetkoz and Pariz by the local residents of the both sides beyond the border, which are now separately organized, but are originally parts of one wider wetland of the Danube River Basin.

In this paper we focused the environmental issues on the trans-border aspects. The trans-border aspects are not, or should not be identical with the international relationship among the states. They are or should be multilayer including the local commitment as an indispensable element of the issues. We need an integrated policy concept for a solution of trans-border environment conservation, developing the local and regional interests and the comprehensive international legal frameworks for trans-border cooperation. Globally the regional issues seem tiny, though not at all less important for the residents than a global issue.

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