

Expanding/Disrupting the Treadmill of Production in a Transitional Society: Role of Transboundary Environmental Organizations

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ABSTRACT

After Perestroika and the opening of the borders of the former Soviet Union, Russia experienced a rapid influx of capitalist culture. After barely a decade, an array of multinational companies have built infrastructure to facilitate their entrance into Russia's economy. The environmental movement of the West, specifically large transnational environmental organizations, entered Russia and established active subsidiaries as quickly as commercial interests did. These organizations, bringing with them Western money, Western values, and Western ideas of nature protection, officially entered Russia's political and economic spheres.

This paper analyzes the impact of transnationalization of both production and environmentalism in Russia. The "treadmill of production" approach (Gould, Schnaiberg, Weinberg, 1996) is applied to the analysis and its limitations in both the context of a society in transition and of globalization are discussed. The first case study examines the issue of importing spent nuclear fuel to Russia and shows governmental behavior to be consistent with the treadmill approach. The Russian Ministry for Nuclear Energy (Minatom) proposed importing spent nuclear fuel from abroad and storing it at the Mayak facility. To realize this decision, the State Duma introduced new legislation.

I analyze the mobilization of citizen's groups, their partnerships with national environmental NGOs, and with the transnational group Greenpeace against the importation of spent nuclear fuel. I show the limitations of local/transnational mobilization and demonstrate how change in global context can influence the implementation of nuclear waste management decisions.

In the second case study I assess the ability of transnational environmental organizations to disrupt the treadmill of production in the forest sector at three Russian regions. I show how differences in the economic context at the European and Asian borders with Russia influence the treadmill and its outcomes, as well as the abilities of transboundary environmental organizations to disrupt the treadmill. In the European part of Russia, mobilization on the transnational level is essential for disrupting the treadmill.

On the basis of these cases, this paper analyzes the expansion and disruption mechanisms of the treadmill of production within the post-Soviet social sphere.

Introduction

In his book The Environment: From Surplus to Scarcity, Allan Schnaiberg provides a neo-marxist political economy explanation for the origin of environmental problems. According to Schnaiberg, environmental problems are inherent in the nature of capitalism, which is seen as a system which can only survive through its own expansion, at the expense of the society and natural ecosystems. Capitalism, which expends natural resources (withdrawals) and pollutes the environment (additions), was called “the treadmill of production” (Schnaiberg 1980; Schnaiberg and Gould 1994). The concept was later expanded to the scale of the global economy (Gould, Schnaiberg and Weinberg 1996). Authors of the paradigm argue that at the end of the 20th century the treadmill accelerated, increasing both its outreach and ecological disorganization and causing stronger negative social implications (Schnaiberg and Gould 2000). Schnaiberg and Gould suggest that the treadmill of production can only be disrupted or slowed down by outside forces (Schnaiberg and Gould 2000: 46), such as environmental movements and organizations. For such resisters, an understanding of the mechanics of the treadmill empowers their resistance. Beyond the disruption of withdrawals and additions to the environment, such opposition can also slow the treadmill by decreasing demand for products.

While the treadmill theory works in the authors’ analysis of the American environmental movement, here I test the theory in two areas of current Russian environmental policy, relating to nuclear waste “additions” and forest product “withdrawals”.

In this paper I apply Schnaiberg’s approach to newly emerged Russian capitalism and show to what extent this approach is useful in understanding the environmental impacts of global trade on the transitional societies.

After Perestroika and the opening of the borders of the former Soviet Union, Russia experienced a rapid influx of capitalist culture. After a little over a decade, an array of multinational companies have built infrastructure to facilitate their entrance into Russia’s economy. Russia became attractive on the global scale both as a place to export waste (Schnaiberg’s ecological additions) and as a place to extract natural resources (Schnaiberg’s ecological withdrawals). Multinational corporations were

welcomed by both the Russian government and labor force, which parallels the analysis in Gould, Schnaiberg and Weinberg (1996).

However, the environmental movement of the West, specifically large transnational environmental organizations, entered Russia and established active subsidiaries as quickly as the commercial interests did. These organizations, bringing with them Western money, Western values, and Western ideas of nature protection, officially entered Russia's political and economic spheres. Such cross-border environmental movement interventions were not described by the founders of the treadmill of production paradigm.

Therefore, I will further develop the treadmill of production approach in my analysis to incorporate the disruptive effect of the transnational environmental movement. I will base my analysis on two very different case studies: Russia's decision to allow imports of the spent nuclear fuel (ecological additions) and Russia's opening to multinational forest companies (ecological withdrawals). While applying Schnaiberg's et al. approach, I will analyze the effort of transnational environmental NGOs to disrupt the treadmill of production. I will demonstrate under what circumstances the transboundary environmental organizations can disrupt or slow down the treadmill and under what circumstances they fail. I will also discuss the limitations of the treadmill approach for analysis of my case studies.

Expanding the treadmill: Russia's decision to import spent nuclear fuel

This case analyzes the behavior of the Russian government and NGOs in the process of decision-making related to acceleration of the global treadmill of production by importing spent nuclear fuel to Russia. It shows the strong commitment of the Russian government to the treadmill, by promoting imports of spent nuclear waste, despite strong citizen opposition. As we will see from the case, the logic, discourse, and rhetoric of governmental actions are totally consistent with that described by Schnaiberg (1980). As nuclear facilities are not privatized in Russia, the Ministry of Nuclear Energy (Minatom) acts at the same time as a governmental agency and as a private business, uniting in both its faces its commitment to the treadmill.

a) Changing legislation to expand the treadmill

In order to allow the international trade of nuclear waste (spent nuclear fuel) the Russian government had to change legislation. On December 21, 2000, the Russian State Duma held its first reading of three additions to Russian legislation. The first was an amendment to the Environmental Protection Law that would lift the ban on permanently storing foreign spent nuclear fuel. The second contracted special ecological programs for radioactively polluted regions of the Russian Federation, funded by profits from trade operations with spent nuclear fuel. The third made changes and additions liberalizing the federal law on the use of nuclear energy¹. The Ministry of Nuclear Energy (Minatom) of the Russian Federation proposes the transport, reprocessing and permanent burial of foreign spent nuclear fuel within Russia over the period from 2000 to 2010.

Currently in Russia, there are two large nuclear complexes: Mayak in the small city Ozersk and another in the city of Zheleznogorsk². At both of these facilities, there are storage facilities for spent nuclear fuel from Russian designed power plants and reactors. Minatom's plan for importing spent nuclear fuel involves reconstruction at these two sites as well as the construction of another two large storage units. They claim that Russia will then have the capacity to accept 20,000 tons of non-Russian origin spent nuclear fuel from foreign plants between the years 2000 and 2010. Because the Russian plants are now operating at 35-40% of their normal capacity, the ministry claims that importing additional spent fuel will not hinder the storage of domestic waste.

Before the recent change in legislation, Russia imported foreign spent nuclear fuel from Russian designed reactors, reprocessed it, and then returned it. For this

¹ "Spent Nuclear Fuel: Not a Valuable Resource but Dangerous Nuclear Waste", Press Release of Joint Press Conference at Center of Nuclear Ecology and Energy Policy of the Socio-Ecological Union, Center for Environmental Policy Russia and Greenpeace Russia, in *Energy and the Environment*, No. 28, 2001, page 4

² "Technical-Economic Basis of the Laws Related to Widening Russian Participation in World Market of Spent Nuclear Fuel", Ministry of Russian Federation on Nuclear Energy, in *Energy and Environment*, No. 28 April-June 2001, page 27.

service, the country received 350 (from Ukraine) to 800 (from Finland) U.S. dollars per kilogram. Wastes from reprocessing would stay in barrels in the Soviet Union (as additions to the environment) and never be returned to the country of origin. Now, according to the new amended laws, it is allowed to import spent fuel not only for reprocessing, but also for long term storage. Wastes from reprocessing need to be returned to the country producing the spent fuel. For reprocessing and permanently storing the spent fuel, Russia will receive 1000 dollars per kilogram (\$20 billion for 20,000tonnes). The Ministry of Nuclear Energy sees this as an important opportunity to procure money, which will then, it claims, be put towards solving the social, economic, and ecological problems of the country.

Much of this money will also go towards the new infrastructure to reprocess the fuel itself. In 1984, the construction of a reprocessing facility called RT-2 began, but due to lack of funds it was never finished. The Ministry already has spent \$350 million on this project, and will use new income from newly imported fuel to finish the construction. According to Minatom's figures³, Russia will be left with 7.2 billion dollars after the necessary spending on transport, storage, reprocessing facilities, and burial.

Minatom does not consider this operation as a threat to Russian ecosystems or as a health hazard for the population. Minatom believes profits put towards the economy will help stabilize the country as a whole. Many inconsistencies in Minatom's argument in favor of importing nuclear waste lead opponents⁴ to see Minatom's purpose as not only profit, but rather development and permanent investment in the nuclear branch of the Russian economy. Independent of Minatom's actual goals, the project will necessarily include the modernization of Russian nuclear

³ "Technical-Economic Basis of the Laws Related to Widening Russian Participation in World Market of Spent Nuclear Fuel", Ministry of Russian Federation on Nuclear Energy, in *Energy and Environment*, No. 28 April-June 2001, page 27.

⁴ Press Release of April 17, 2001 at the Press Conference of the Center for Nuclear Ecology and Energy Policy at the Socio-Ecological Union, Center of Environmental Policy in Russia, and Greenpeace Russia from *Energy and the Environment*, No. 28, 2001, pages 4-5.

energy facilities. The planned importation will bring in much plutonium to Russia, and promote the development of plutonium-fueled nuclear power plants.

Consistent with the treadmill concept, Minatom is oriented toward economic expansion and its argument is “based upon the increasingly widespread social belief that advances in public welfare are achieved primarily through economic growth” (Gould, Schnaiberg and Weinberg 1996: p.5). It refers to the nuclear sector as a “life-saving branch of the Russian economy” and attributes claims of “ecological additions” such as “broken down nuclear containers, nuclear waste dumps, polluted drinking water, and human mutants” to “confusion and ignorance” and even lying on the part of its opponents. According to the government’s rhetoric and framing, spent nuclear fuel is a market that Russia can profit from and importing it into Russia will not adversely affect ecosystems and public health. As we can see, Minatom’s logic is totally consistent with the treadmill of production approach.

b) Transnational, national and local activism against the treadmill

Local, national and transnational environmental struggles in Russia, however, go beyond those described by Gould, Schnaiberg and Weinberg (1996) and are not comparable with those in the U.S. because of the difference in context. Throughout the process of ratification, there was extensive opposition coming from environmental organizations operating in Russia, as well as the Russian population itself. Russia saw one of its largest and most unified movements since Perestroika organized against the government’s proposal. Working with legislators is not a common tactic of environmental organizations in Russia. The spent nuclear fuel issue, however, mobilized mass opposition and many organizations began lobbying extensively. Since 1996, when a statute allowing the importation of spent nuclear fuel first appeared, both international NGOs, Greenpeace and the Socio-Ecological Union (SEU) have been mobilizing interaction between activists and regional and federal officials in many ways. There was a large effort in which people contacted their regional elected officials and requested that the new legislation be blocked on the regional level. This occurred after the first reading of the amendments in the State Duma and again after the second reading. There was also much picketing of regional deputy councils on the

oblast, krai, and republic levels of government. Twelve of these councils supported the demands of the environmental movement, and they sent a package of documents to the State Duma in Moscow.

A principal aspect of widespread environmental opposition to the importation of spent nuclear fuel was the organization of a nationwide referendum against the project. On July 26, 2000, environmental organizations throughout Russia including Greenpeace, the World Wildlife Fund, the Socio-Ecological Union, as well as many small groups and student's groups, began collecting signatures from Russian citizens disapproving of the legislation concerning spent nuclear fuel. This effort involved a significant consolidation of the environmental movement and cooperation between over 100 organizations. In three months, 2.5 million Russians had signed for the preventative referendum. However, the Regional Election Committees declared invalid more than 600,000 of these signatures. The Russian legislation on referendums requires at least 2 million signatures to force a national referendum, so this action blocked the effort. The reasons behind disqualifying many of the signatures include the fact that many of the people who signed listed no addresses, although many villages in Russia have no street addresses⁵.

Environmental organizations appealed this action to the Supreme Court of Russia, where they were rejected, as well as to regional courts in eight different regions of Russia, one of which accepted the claim. Greenpeace took this appeal a step further by applying to the European Court in Strasburg on account of human rights violations. This court has accepted the application that the right to organize a referendum was denied but could not prove that disqualifying signatures was not justified. The ability to force a referendum is an important channel for the Russian public to participate in decision-making, however in this case that channel was closed. Citizens and environmental activists claim that the people's democratic right to play a part in setting policy was violated.

Direct action played a big role in the campaign to prevent importation and against the nuclear energy program in general. Protests, informational campaigns, and

⁵ "Waste Import Threat Rallies Russian Public" in *Give & Take*, Spring/summer 2001, Vol. 4 / Issues 1,2, page 9.

fax and letter-attacks on the Duma were conducted by Greenpeace, SEU and many smaller organizations throughout the period of discussion of the proposed legislation, as well as after the laws were signed. The opposition movement was especially strong in the Chelyabinsk Oblast, and the region's importance in the issue piqued the interest of activists and national and international NGOs in Mayak's history and its victims. They often directly partnered with victims to conduct direct action. For instance, on October 9, 2000, about one week after the new legislation's first draft was submitted to the Duma, Greenpeace and villagers from Russia's Chelyabinsk region placed barrels of soil on the steps of the Duma building. According to the activists, this radioactive soil came from farms and gardens affected by the Mayak nuclear site, which is the planned destination of imported spent nuclear fuel. In an attempt to protest the adding of more radioactive materials to the site, Greenpeace activists used a Geiger counter to show that this soil already had thirty times the normal background radiation level⁶. Later, in June, 2001 when the Duma was discussing the final phases of ratification, there were nation-wide ceremonies aimed at getting President Putin's attention before he signed the amendments. People congregated in the main city squares and burned candles. In Moscow, activists were blowing up large balloons with anti-nuclear requests written by children for President Putin⁷.

None of these activities stopped neither the State Duma, nor Minatom, in their commitment to the treadmill. Coalitions of citizen-workers groups with national and international NGOs, suggested as a good way of opposing the treadmill (Gould, Schnaiberg, and Weinberg 1996), also could not bring a positive outcome.

c) Resistance to the treadmill after September 11, 2001

However, the September 11, 2001 terrorist attack on the Twin Towers in New York changed the world order and attitudes toward global security and safety issues.

⁶ "Greenpeace and Russian Villagers Deliver Radioactive Soil to Duma" on <http://www.ecocities.net/Article11.html>, Moscow, October 9,2000.

⁷) Nuclear Campaign, July 13, 2001 "Russia Against Radioactive Waste" on <http://www.greenpeace.ru/gpeace/56>.

It gave additional arguments and framing opportunities to the environmentalists and citizens in Russia.

One of the most prominent instances of direct action took place in October, 2001 after the president had already signed the new legislation. In cities all along the Trans-Siberian Railroad, activists gathered at railway stations and announced that they would not allow spent nuclear fuel from abroad to be transported through their cities. With many television and radio stations reporting, people handed out leaflets linking the dangers of transporting the fuel with international terrorism⁸. In Ekaterinburg, the main slogan of the protest was “Radioactive Trains Are the Best Gift for Bin Laden”.

The theme of international terrorism continued to resurface among criticisms of importing and transporting spent nuclear fuel in Russia. Although the decision-making surrounding this issue took place only within Russia’s State Duma, its ramifications are quite international. According to activists, in addition to threatening the safety of Russians, the insecure transportation and storage of spent nuclear fuel can easily result in a worldwide threat. Opponents of the legislation have used the increase in international concern about terrorism. On February 15, 2002, State Duma deputy Sergei Mytrochin, along with journalists and representatives of Greenpeace Russia, got onto the roof of a spent fuel processing plant in Krasnoyarsk. They tried to demonstrate a lack of security to the media and the public and to raise anxiety over the activities of the nuclear sector. This plant held 3,000 tons of spent nuclear fuel and there was a proposal to add an additional 20,000 tons. The activists claimed that if they would have had even a small bomb, they could have caused a disaster five times worse than Chernobyl⁹.

Then, in 2002, Greenpeace, in coalition with the Movement for Nuclear Safety and “Pravosoznanie”(organization of young lawyers from Chelyabinsk), sued Minatom for non- returning the waste after reprocessing of the spent nuclear fuel from

⁸ “Citizens of Trans-Siberian Railroad Stood Up on the Way to Nuclear Waste” in *Socio-Ecological Union News*, No. 4 (19), 2001, page 8-11.

⁹ Nuclear Campaign “Myth on Nuclear Security is Destroyed”, Feb 15, 2002 on <http://www.greenpeace.ru/gpeace/presskonf>

Hungary and won the case. The Supreme Court declared that import of spent fuel from Hungary was illegal, based on the non-return waste practice.

Beyond international danger, the international nature of this issue is further illustrated by the transboundary work of many environmental groups. In a globalized world, with globalized threats, organizations are appealing to a global civil society. Greenpeace appealed to an international court as mentioned before, in addition to speaking with governments of G7 countries and others with the potential to export spent fuel to Russia. It also did extensive international campaigning through the Internet. Similarly, the SEU organized some informational campaigns in Taiwan, one possible source of spent nuclear fuel (Interview with SEU activist, 2002). They distributed materials containing information such as updates on the recent protests in Russia. Ecodefense!, which was originally formed as a branch of the SEU, has created an office in Germany where it vigorously spreads information to citizens against exporting the country's spent fuel and against the nuclear program in general.

The activists from the Movement for Nuclear safety have lobbied the American government not to ship spent nuclear fuel from US style reactors based abroad, by explaining the potential threats of importing spent nuclear fuel to Russia.

As we can see, if pressing the government in one country fails to affect legislation, it is still possible to block the implementation by pressing the governments of other countries. The Russian government ignored the call for human rights, but the terrorist threat and demand for security goes across borders. In order to influence the decision-making process of one nation, efforts of environmental organizations expand to the global level. Such activist strategies were never touched upon by the authors of the treadmill approach.

d) Treadmill in a network society

We can see from this case study the behavior of the Russian State Duma and Minatom is totally consistent with the treadmill of production logic. We observed how “the treadmill paradigm traces the rising influence of agents with exchange values

over other community actors with use values” (Pellow, Schnaiberg, Weinberg 2000) in Russia the same way as in the west.

However, the complexities of the real world case go way beyond the treadmill explanation. According to the treadmill logic, the spent nuclear fuel from abroad should be already in Russia. As we have shown, the treadmill approach accounts for the decision to import spent nuclear fuel and the resulting opposition, but it does not explain why importation never occur. We also do not know if spent nuclear fuel will be imported in the future. For possible explanations we need to look at issues beyond resistance to the treadmill within Russia.

The decision not to export can be made by industrialized countries based on different reasons. For example, in Spring 2003, the U.S. State Department was not satisfied by a Russian decision to help build the nuclear facility in Iran and did not like Russia’s opposition to the Iraq war. As a result, the U.S. facilities abroad would not be allowed to export spent nuclear fuel to Russia [to punish Russia] unless Russia changes its policy (participant observation at the meeting held in the State Department, March, 2003). Terrorist threats might be essential for the explanation of prohibiting export. The intersections of different networks and interest groups can influence the transnational treadmill, not by stopping it, but by redirecting its environmental impacts. We saw how environmental activists in Russia were empowered by the threats of the terrorist networks in their direct actions and received more opportunities in framing their issue. Global diplomacy might be important. We saw that the export of the spent nuclear fuel to Russia from the U.S. facilities abroad might depend on interactions between Presidents of the U.S. and Russia, and other nation-states and their intergovernmental networks which are only partly related to the issue under this case study investigation. September 11, 2001 changed the flow of values on the world scale and created other markets. Iraq war spending and “investments” of the U.S. and the UK’s capital were accelerating the treadmill since then. These new developments reorganized the global networks and shifted capital flows in other direction, as with the Iraq war, devastating other ecosystems and ruining other lives far away from Russia.

Disrupting/expanding the treadmill in the Russian Forest Sector

a) Introduction to the case studies

Forests are one of the most important natural resources in Russia, both from the viewpoint of potential economic development as well as from that of environmental well being. According to figures published by the WWF, Russia contains nearly 21% of the world's entire timber reserve, and nearly 25% of the remaining untouched, virgin forests on the planet ¹⁰. In May 2000, President Putin, despite many protests of the environmentalists, demolished the Federal Forest Service and gave its responsibilities to the ministry of Natural Resources. Since then, the same governmental agency would both use and protect forest resources. This decision facilitated the licensing process for resource extraction.

With globalization, "while there continue to be national commitments to economic expansion [in industrialized countries] and national competitiveness, the treadmill moves into a more transnational arena" (Gould, Schnaiberg, Weinberg 1996: 8). When the borders of the former Soviet Union first opened in the early 1990's, companies from inside and outside of Russia gained an interest in cashing in on Russia's vast forest resources. Nearby foreign markets began increasing withdrawals from Russia's forests and the treadmill of production was accelerated, just as the authors of the paradigm describe.

However, simultaneously, the opening of the borders has allowed transnational environmental organizations to enter the country's industrial and political arenas in order to protect those resources, slowdown the treadmill and diminish withdrawals. The expansion of Western environmentalism into Russia since the early 1990's has brought with it ideas and concepts of nature conservation and "minimum withdrawal" techniques of natural resource exploitation developed by the science, industrial and the third sectors of the U.S., Canada, and European countries. Greenpeace came in 1992 and created a central office in Moscow, followed by the WWF in 1994. Since then, these and other large environmental NGOs have tried to influence government policy,

¹⁰ WWF (2000) *WWF in Russia*. Published by WWF-Russia, Moscow.

industry, and the environmental awareness of Russian citizens. Greenpeace and WWF assign a world-wide value to Russian old growth forests, and so they have raised great amounts of money and effort for their protection (Tysiachniouk and Reisman, forthcoming). In this process, they have come to play an important role in Russian forestry treadmill disrupting. As we will see in our cases, they have been instrumental in promoting forest certification under the Forest Stewardship Council (FSC), which was the major strategy in slowing down the treadmill. Therefore, at once, globalization has brought both a danger of accelerated treadmill to Russia's forests and a measure of slowing it down.

b) Saving the Karelian forests from the treadmill

Karelia, where a major Greenpeace campaign took place, contains Russia's longest border with Western Europe (Finland). Karelia offers Russian forestry a unique combination, in that it contains huge tracts of virgin forest with proximity to important timber markets of the West (Autio, 2002), providing excellent opportunities for the treadmill expansion. Russian and Karelian governments both welcome multinational European companies. While doing so they had perfect "treadmill logic", hoping that economic growth will bring more tax revenues from foreign companies, who are not so skilled in avoiding taxes as Russian companies are. In this case the environment would be the loser and valuable Russian old growth forests would be gone. Companies logging old-growth forests in Karelia are breaking no laws or norms of the Russian Federation, so there would be no barriers for ecological withdrawals.

The transboundary NGOs, however, are trying to enforce new global environmental "soft" laws that are beyond the control of any one state. Greenpeace-Russia's forest campaign focused primarily on the protection of old-growth forests in Northwest Russia. This program was in conjunction with the Forest Club, which includes several Russian NGOs. Using satellite images, the Forest Club inventoried and mapped virgin forests in the region. They take this data to the public of Europe, to the Russian government, and to companies involved in using the forest resources of this area. The Forest Club's message is manifold: they list companies logging these old-growth forests, as well as those buyers in Europe that accept wood from these

companies. They implore the European public to boycott products made with Russia's old-growth wood. They warn timber companies and European buyers to establish moratoriums on logging these forests. With the Russian government, they try to initiate a process of creating a specially protected natural area in order to preserve the old-growth forests.

The market protest gets its muscle from the extremely necessary and sought-after economic links between Russia and the rest of Europe. For this reason, the Forest Club focuses on areas in Western Russia that rely on exporting timber to Western Europe.

The Forest Club, led by Greenpeace, is trying to establish the concept of a "virgin forest" both in the legislation of the Russian Federation and in the awareness of industry and the public. The goal is to convince stakeholders in the forest that virgin forests have a value in the West and must be preserved. The concept of old-growth and its modern value grew in Western Europe where there are virtually no unlogged forests. The attempt to import this idea into Russian industry and government is not fluid, because Russia, unlike Western Europe, contains vast stands of virgin forest, which would bring fast capital gains to the companies.

As several researchers have recounted in the early 1990's, Greenpeace, the Forest Club, and the Taiga Rescue Network started an international consumer-information campaign that attempted to vilify companies logging Karelia's old-growth forests, as well as those companies in Europe buying from them (Vorobiov, 1999; Yanitsky, 2000). The campaign included numerous publications, videos, conferences, and protests. The NGOs investigated the timber sources for publishing houses' paper in England, Holland, and Germany, and requested that they boycott the logging of Karelia's old-growth. This culminated in 1996 with a series of publicized protests both in the forests of Karelia and at the pulp-and-paper mill of the large Finnish logging company Enso (Yanitsky, 2000). This led to Enso's significant financial losses and announcement of a moratorium on logging in three important plots of the disputed forests in Karelia. In 1997, several companies, both Finnish and Russian, joined the moratorium. In 2002, the Kalevala National Park was established in Karelia. Recreation will be the only type of activity allowed in Kalevala National Park.

Therefore, the achievement of this effort can be labeled as slowing the treadmill by “changing the type of exchange value uses” from devastating to more ecologically sound (Schnaiberg and Gould 2000:144). The Karelian case was a historical precedent of confronting the treadmill, because it changed the attitudes toward old growth forests of European multinational and Russian companies involved in European markets.

c) Disrupting the treadmill: Pskov Model Forest

FSC is WWF’s primary tool for containing the forestry treadmill in Russia. Through participatory processes, the FSC develops various criteria and standards of sustainable forestry that are accepted nearly everywhere in the world. These standards provide that forestry is environmentally appropriate, socially beneficial, and economically viable. Among its many criteria are efficient harvesting technologies, forest practices designed to preserve biodiversity and minimize harmful resource withdrawals, and public participation in decision-making for forest management. Companies that become FSC certified have an advantage in selling to “sensitive” markets, such as those socially constructed in environmentally conscious Western Europe. FSC was successfully implemented in several European countries, such as Netherlands, Germany, UK and Sweden (Cashore 2002, Bostrem 2003a, 2003b). Therefore, the FSC creates a niche of alternative market relations which I consider as not part of the treadmill of production.

WWF’s promotion of the FSC is a way of bringing Russian industry into European markets, and bringing the EU’s environmental code into Russia. These two goals are actually two sides of the same coin. Interestingly, governments of Western Europe fund much of WWF’s promotion of the FSC in Russia, including the World Bank, the Swedish International Development Agency, and the Swiss Agency for Development and Collaboration. Funding also comes from the companies that are already engaged in the FSC market niche, such as StoraEnso and IKEA.

WWF’s promotion of the FSC in Russia consists of publications, information dissemination, and conferences with industry and government, so an information campaign is used to transform treadmill politics (Overdevest 2003). However, the most significant promotion of the FSC consists of “Model Forests” in which the WWF

creates a demonstration of a “disrupted” forestry treadmill example, from which lessons can be learned by actors that are not yet involved. Here I discuss the most successful demonstration project in Russia—Pskov Model forest.

Pskov Model Forest features a close partnership between WWF-Russia and a subsidiary of the multinational logging firm SturaEnso. Formerly called Enso, this company has logged in Russia for many years and took a hit from Greenpeace’s market manipulation to save Karelia’s old-growth forests. It was this specific instance of Greenpeace rattling Russia’s forest industry, described in an earlier case, that convinced SturaEnso of the need to work with environmental NGOs such as the WWF. So this was not an ecological modernization motive on the behalf of SturaEnso. SturaEnso was converted to the FSC by the transboundary NGO strategy (Cashore 2002). In effect, we see a division of labor here in NGO environmental culture coming to Russia – Greenpeace confronts industry and government head-on, using economic and political force to imbue environmentalism with value; the WWF cleans up the mess, heals the wounds, and shows industry a new, “greener” way of operating, which I name “disrupted treadmill”. This is precisely the case that Pskov Model Forest represents.

After the Greenpeace incident, SturaEnso established a logging subsidiary called STF-Strugy in the settlement of Strugy-Krasnie, near the town of Pskov, in an attempt to meet FSC standards of sustainability. Inherently, however, these standards and techniques frequently conflict with the Russian forest code and accepted industry norms. The company was repeatedly fined by the Russian government for violations. Not being the PR powerhouse that the WWF is, STF-Strugy failed to resolve these conflicts. In 2000, the WWF came to the region and partnered with the company. In essence, the WWF and STF-Strugy, two monumental entities of the west, descended on a small, ordinary Russian locality and modified the commercial environment to comfortably suit European business people. The WWF creates a plan of action for the company based on scientific research and coordinates each move with government officials, and STF-Strugy carries out the logging as the action plan specifies.

The WWF launched a campaign to network with all stakeholders in the forest and to educate them about sustainable forestry, the ultimate goal being to convince them that STF-Strugy must be allowed to log according to the FSC. With the government, the WWF held seminars and workshops, sent written information about the FSC, and organized a few trips to Sweden so that government officials could study logging sites similar to those that the WWF and STF-Strugy wished to modify. The Model Forest's demonstration plots became a key instrument with which to educate forest stakeholders. By logging different forest plots with different technologies and techniques, the Model Forest showed different volumes of wood production with different repercussions for the secondary forest. Furthermore, the WWF established a small grant program that would pay for any research or creative project that pertained to the Pskov Model Forest. Forestry research is actually very advanced in Russia, however, there is often little funding put towards implementation. Thus, the WWF's small grant program became a unique opportunity for government officials in the Ministry of Natural Resources, several of whom carried out forestry research funded by the WWF.

Before the WWF, STF-Strugy had also received some conflict from the local public. Community members were especially suspicious of a foreign company which they felt was sending their forest's resources abroad. In working with the community, it became the WWF's job to soothe public opposition to forestry, such as by illustrating the difference between conventional Russian forestry and the FSC's "disrupted" forestry treadmill. In effect, through an extensive PR campaign, the WWF argued that by switching to the new, foreign way of doing things, Russia's economy, environment, and society would benefit. The WWF used television programs and newspaper publications, and organized seminars and workshops. In all projects that require the involvement of the Russian public, the WWF uses the local intelligentsia (the educated class) as a conduit for linking with the rest of the population. This Model Forest's small grant program focuses on scientists, teachers, educators, museum curators, and librarians. These people are often community leaders and help shape opinion in the rest of the community. For this reason, a social expert working with the WWF called such citizens a "golden fund" which will "help to form public

opinion” (Interview, 2002). Teachers and educators especially help to spread knowledge and ideas, and shape the mindset of succeeding generations. The WWF brought its Model Forest, its money, and its Panda logo into the classroom by funding teachers’ environmental education initiatives through the project’s small grant program. This includes such programs as recycling, nature calendars, computer education, and a Children’s Club of Friends of the WWF. With the benefits of FSC forestry and Western logging technology in school curriculums, they will in time become part of the local culture. This is the WWF’s ultimate goal throughout Russia – to establish sustainable forestry, as developed in Western Europe (specifically Sweden and Finland), as a permanent feature of the Russian environmental culture.

The FSC criteria demand that the local community have a voice in forestry decisions. Raising public interest in the Model Forest, which the WWF accomplished, laid the groundwork for official public participation. The Model Forest created a Forest Club that brings all forest stakeholders together into a productive dialogue. Once every three months, the Forest Club meets, and attendees include representatives of the company STF-Strugy, workers, administration, forest scientists, WWF staff, and all interested local citizens. The WWF bills the Forest Club as a model of democracy and citizen involvement in forestry, as it ideally, although not practically, happens in the West. The WWF brought an invaluable capacity to its partnership with STF-Strugy. By acquiring partners and support for the Pskov Model Forest, the WWF laid the foundation for popular acceptance of STF-Strugy’s foreign logging practices and the introduction of the FSC in general. This case demonstrates the necessity of NGO legwork for Western commercial interests in Russia’s natural resources.

The achievement of this case can be labeled as minimizing withdrawals through introduction of sustainable reproducible forest practices. Its purpose is to demonstrate to both the forest industry and the government that minimum withdrawal technique enriched by social components can be possible and even economically feasible. Here, on the one hand, the integration of companies into international economic markets is encouraged and, on the other hand, local communities are benefiting and are even empowered to participate in the way resources are extracted (Wapner 1996).

d) Fighting Corrupted Illegal Treadmill in the Far Eastern Forests

China's market economy is rapidly taking hold while the environmental consciousness of the population remains underdeveloped. While European interests are pushing Russia toward ecological improvements, China and the Russian Far East have meshed to create a breeding ground for political corruption, a wild economy, and unchecked environmental degradation, which are part and parcel of the treadmill of production. China's deforestation and flooding problems led in the late 1990's to a government ban on logging throughout the country. Its domestic timber production fell nearly to zero and Russia quickly became a source of raw materials for China's consumer products industry. Forest resource withdrawals in Russia increased immensely. Furthermore, most of this timber now crossing the border into China is illegal. The illegal corrupted treadmill of production expanded along the Russian-Chinese border.

The WWF's role in the Russian Far East has primarily been determined by the region's lawlessness. For this reason, WWF-Vladivostok has partnered with state law-enforcement agencies of the Far East, with the main objective of creating a stronger system of control. Here, we see a marked difference from the WWF's work in European Russia. There, the WWF's goal is to include Russia in the civilized markets of Western Europe, while here, wild wood flows and criminal networks must be tamed before anything resembling a steady and civilized timber industry can result. WWF-Vladivostok also concentrates heavily on market creation strategies. The WWF seeks out buyers in Northeast Asia that are interested in FSC products and links them to interested exporters within Russia. This effort involves expert economists, various publications, and cooperation with the WWF program offices in China, Japan, and Hong Kong. These activities are still in a very early stage.

The first and most extensive effort to stop expansion of the treadmill of production from China to Russia is Dalnerechinsk, where the WWF funds an inspection brigade called Kedr ("cedar" in Russian) to patrol the forests and roads for illegal logging operations. The WWF is trying to create a model territory where brigades can eliminate criminal networks in forestry.

The WWF faces a complicated and powerful illegal logging industry in the Far East, which often includes government and big business, as well as impoverished peasants selling illegal logs for survival. Nearly all wood harvested in Primorie and Khabarovsk krays, both legally and illegally, goes through one of two main storage and transportation hubs - Dalnerechinsk and Lesozavodsk. These two settlements see concentrations of the corruption and crime linked with illegal logging and the export of logs to China. The transactions that bring Russian timber through illegal channels concern large volumes, low prices, and quick cash. Local government structures are fully aware of these illegal transfers yet they fail to inspect or enforce. Virtually all of my informants, including environmental activists and independent journalists, claim that the head of Dalnerechinsk's administration is a "cover" for the region's mafia.

This insufferable economic and environmental situation stems directly from China's willingness to accept logs without documentation. In the Far East regions of Russia further from China, timber harvests are remarkably lower due to more difficult transportation. Primorie and Khabarovsk krajs offer huge forest massifs of valuable wood with unfettered export opportunities, given China's proximity and demands. Environmentalists admit that social and economic consequences of this economy outweigh environmental damage in gravity.

WWF-Vladivostok's main effort to disrupt this timber flow consists of the brigade called Kedr, which is a group of four men in an off-road vehicle, equipped with communication technology, computer databases, and guns, which checks logging trucks for the wood's legal documentation. The effort began region-wide in Primorie; however, the WWF has since based the brigade in one locality - Dalnerechinsk, in order to create a more effective, focused model for disrupting criminal networks.

In day-to-day operations, Kedr's main partners are the law enforcement agencies of Primorie's regional government. For instance, when Kedr goes on raids, it brings officials from the local police force. The two agencies work together, with the police using their authority to stop logging trucks, and Kedr using its legal training to identify violations in the truck's documents or wood.

In addition to corrupt power structures, Kedr's operations on the logging roads are fraught with hindrances and complications. Documents and forest tickets are

photocopied, incorrectly filled out, or filled out with erasable ink and reused. Enterprises log more than allowed, log outside prearranged borders, or log prohibited species such as cedar. Organized crime networks engage in blackmail and threats to acquire felling tickets or even logs already in transport. In 2001, when the administration of the Primorsky province required a new transportation certificate to accompany all lumber shipments, the certificates quickly became a new currency on the black market. One fresh certificate sold for 300 U.S. dollars, and they soon became useless as tools of enforcement. In the summer of 2001 their use was discontinued. Nevertheless, companies without documents often bribe check point employees or use scare tactics. Logging trucks are accompanied by cars with armed individuals who negotiate with transport police. Other tricks to avoid fines and regulations include borrowing logging trucks from other regions, hiring drivers who are not involved in the logging company, and shaving one strip of bark off logs so that they become “processed” wood and are no longer liable to the controls of transporting unprocessed logs.

Despite barriers, Kedr has shown many achievements. The storages of Dalnerechinsk have been more than halved and the timber flow to China has decreased. In December 2000, the government of Primorie adopted Kedr’s model and created 14 new brigades. The WWF is helping these brigades, as newly formed state structures, to “catch up with new laws and regulations and to be confident to do the right things when dealing with violators” (Interview with WWF forest program coordinator, 2002). These brigades will operate mainly on roads, as Kedr did, and with similar mobility, communications technology, and authority as part of the state’s forest enforcement forces. Despite the brigade’s activities in the overall region neighboring China, the treadmill is expanding and resource withdrawals far exceed carrying capacity of the regions’ forest eco-systems. Schnaiberg and Gould consider China as social alternative to the treadmill due to the fact that Chinese government implemented agrarian communal production in the country (Schnaiberg and Gould 2000: 176-179). However, such an “alternative treadmill neighbor” enormously accelerates Russian conventional treadmill. It gives the opportunity to Russian corrupted elements of fast capital accumulation, which is necessary for a newly

emerging national treadmill. The case study demonstrates that the Russian treadmill on the Chinese border is much harder to disrupt than in the European border. It can be partly explained by the uninvestigated logic of the Chinese “alternative treadmill,” which forced thousands of citizens to flow to Russia with cash money and to get involved in multiple illegal activities. Further research needs to be done on the Chinese forest trade and consumption to fully understand complex “treadmill related” interactions on the Russian-Chinese border.

e) Under what circumstances the transnational treadmill can be disrupted

The case studies show that without transboundary NGO intervention, Russia could easily become a worldwide exporter of raw materials and the treadmill of production would expand immensely. For containing the treadmill, capital flows into Russia are essential. Money raised beyond the border is spent in Russia, just as the FSC standards are developed elsewhere and imported. Without the enormous funds pouring into Russia from abroad, Greenpeace would not be able to conduct transnational campaigns or the WWF build its models, which require giving grants, supporting scientific research, supplying equipment, and funding conferences. Russian NGO’s participating in the networks with Greenpeace and the WWF are also totally funded by the western grants. Therefore, without this western money flow, the transnational treadmill would be much more devastating for the Russian environment than it is today.

The treadmill itself, and opportunities to disrupt it, depend on the economic context and values of consumers across the Russian borders. Cases demonstrate how the effectiveness of disrupting the treadmill by NGO networks varies within different regional market contexts in the European and Far Eastern areas.

We saw what the European border brings to Russia. On one side, Russia contains the forest production and supply side of the chain, while Europe presents the demand and consumption side of the chain. We have seen transboundary organizations working across this border, appealing to the environmental consciousness of consumers in order to legitimize supply chains. With corporate and NGO networks extending across the border, decisions made by environmentally conscious European

consumers penetrate and influence Russia and by doing so disrupt the treadmill of production. As a result, European influence has minimized harmful resource withdrawals, created maps of old-growth forests throughout Russia, and new nature preserves. Even though the old growth forest concept has no backing within Russian legislation, it has become a part of all FSC working groups throughout the country and ecologists and environmental activists use it. This result is due directly to the consumer marketing campaign which took place in Europe, on the other side of the border.

Pskov Model Forests have shown great success due to the forest sector's desire to sell to sensitive European markets. With corporate and NGO networks extending across the border, decisions made by environmentally conscious European consumers penetrate and influence Russia. These decisions and NGO effort helps to disrupt the treadmill. The Far East case highlights an economic situation where illegal forestry has been taken over by organized criminal networks. Illegal logging remains profitable and in demand among consumers across Russia's border with China, this facilitates rapid expansion of corrupted capitalism, which is even worse than a regular treadmill.

The WWF adopts its strategy to differing contexts in different regions of the country. The different levels of consumer sensitivity across Russia's Asian and European borders, respectively, leads to vastly different opportunities for NGOs to affect the treadmill. We saw how WWF's inspection brigades are a direct reaction to the economy of Russia's border with China. On the contrary, the culture of Western forestry becomes of economic value to timber companies working in the European part of Russia. So, Greenpeace and the WWF are working to introduce a European environmental code into the country's forestry business. With environmentalism firmly established, the WWF gains a head start in working to align Russian companies with green markets. This intervention of sorts will ultimately allow Russia to enter global markets while maintaining a sound foundation of natural resource exploitation.

Concluding remarks: the application of the treadmill of production concept to the economy in transition

The Treadmill Theory, in explaining the progressive withdrawals and additions associated with capitalism, clarifies processes that are evident in the new Russia with regard to nuclear waste importation and forest exploitation. Furthermore, it suggests a necessary learning process for those wishing to oppose this treadmill. First, they must understand its dynamics, well described by Schnaiberg (1980), and, thus enlightened, they are empowered to mobilize resistance.

The paper demonstrates that the treadmill of production is a very useful concept in understanding capitalist expansion from industrialized countries to newly established market economies. Therefore, it can be applied to a transitional economy, such as Russia's. In a young market economy the desire for economic growth and neglect of environmental consequences is even more evident than in a well established industrial society. The emerging capitalism in Russia is more similar to that in the 1970s in the U.S., a time when the paradigm of the treadmill was developed. This facilitates its application.

My research shows that the government in Russia, despite the lingering effects of its Soviet past, is committed to the treadmill in just the same way as in advanced industrial economies. The logic is the same. For example, importing spent nuclear fuel to Russia, according to the government's position, would bring capital into the Russian economy, which would allow modernization of the outdated technology of the military- industrial complex, and through investment, would revitalize the whole economic system. Ecological additions to the ecosystems are not a primary concern. In order to implement the nuclear waste importation, the government overcame the illegality of the concept by changing Russian law. Lingering effects of the authoritarian Soviet past also were important. They came into play in the decision-making process reinforcing the treadmill. The government found a way to avoid a national referendum and fundamentally ignored highly organized protests. Secrecy around the nuclear policy made the NGO efforts to block the decision to import nuclear waste even more difficult.

But, in the end, government appears to have been unable to overcome changes in the willingness of the U.S. to send the wastes to Russia because of diplomatic fallout related to Russian assistance to the Iranian nuclear program, opposition to the

Iraq war, and perhaps other areas of disagreement. Furthermore, while the threat of terrorism inspired new tactics by opponents, it also may have fueled U.S. fears over entrusting the Russians with so much nuclear material, particularly given concerns for insecure transportation and storage and the strength of the Russian black market. Spent nuclear fuel was not imported to Russia because of mobilization of the environmental movement, but due at least in part to coincidence with the terrorist attacks, which changed the world attitudes toward global security. Therefore, to understand a single case study in Russia, multiple networks and flows need to be investigated and additional tools, such as sociology of networks and flows (Castels 1996; Mol and Spaargaren 2003, Urry 2000, Urry 2003) need to be applied to the analysis.

Another example of the treadmill logic in Russia was opening the borders for multinational forest companies and allowing them to do business as usual in hope that their presence would create both jobs and tax revenues, which might promote economic growth. Ecological withdrawals of natural resources were not an issue for Russian government.

The logic and behavior of the private multinational companies was also consistent with the treadmill. They were interested in fast expansion on the Russian territory, economic efficiency and quick profits. Even those close to the European border changed practices only when they were forced to do so “by outside forces” and through a conflict, as in Schnaiberg and Gould (2000).

I assessed the ability of the transnational environmental organizations to disrupt the treadmill. Likewise, while the Korelian forest case study follows the treadmill predictions and shows the power of opposition in a predictable manner, the other two case studies illustrate the need for further conceptualization. In Pscov, a fascinating alternative to the treadmill was created, but the reliance on western capitalization for the alternative illustrates a different kind of western domination. Finally, in the Far Eastern case, where China was the export destination rather than western nations, oppositional resistance was stymied by the failure of China to play by conventional capitalist rules.

When the logic is clear, and information about production is available, disruption of the treadmill is less of a challenge. To the extent that forest extraction closely fits within the treadmill analogy, Greenpeace and the WWF were able to successfully use transnational networks in promoting environmentally friendly practices in European Russia. In this effort cross-border mobilization of multiple environmental networks were essential to work both with supply and demand sides of the production-consumption chain. To make resource withdrawals less harmful and redirect wood product flows, flows of values and flows of money were essential. Therefore, to fully understand the Pskov Model Forest case, the network analysis and sociology of flows (Castels 1996; Mol and Spaargaren 2003, Urry 2000, Urry 2003) would be helpful to supplement the treadmill approach. It might be that without financial flows for supporting environmentalists' effort, the FSC process would not found its way on to Russian soil.

In the Russian-Chinese border it is clear that businesses on both sides are seeking quick revenues, which is consistent with the treadmill. However, the situation there seems worse than the regular treadmill in terms of the environmental impacts. Two wild newly emerging market economies create a lawless and corrupted context for the treadmill. It is questionable that the WWF brigades are long term solutions. More than just cross-border cooperation in catching violators is needed to disrupt networks of corruption and the shadow economy. The treadmill approach does not provide the framework for such kind of analysis and is not really applicable to such a context. Further research needs to be done to conceptualize corrupted and illegal markets and relate them to the treadmill of production paradigm.

These cases suggest that secrecy defeats predictability in the treadmill operations and defeats opponents. Transparency of process may well be a requisite for resistance. It is hard to get off an invisible treadmill.

Many sociologists, including creators of the treadmill of production approach, have described aspects of the globalization process that relate to environmental protection (Gould, Schnaiberg and Weinberg 1996; Yearley, 1994; Sklair, 1994). Most of these reports have focused on the negative aspects of globalization for local communities and natural resources. As in our case, globalization processes can be

harmful as in the first and last case study, but also can be quite beneficial as in the successful FSC adoption model. There is a niche in environmental sociology concerning these positive outcomes (Spaargaren, Mol, Buttel, 2000). My paper pertains to this niche by showing the beneficial consequences of international NGOs in protecting the European part of Russia's forests. This paper represents the first attempt to examine disruption of the treadmill through NGO-driven processes of FSC's expansion into the former Soviet Union.

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