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**EVOLUTION OF ENVIRONMENTAL PROTECTION
STRATEGIES IN THE SOVIET UNION**

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Evolution of Environmental Protection

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Introduction

The environment in the former Soviet Union is rapidly deteriorating. One-sixth of the land mass in the Soviet Union is classified as environmentally hazardous. Fifty-million people live in cities where the pollution levels are 10 times greater than the maximum safety levels (Keller 1990); Moscow city air has twice the permitted amount of hydrocarbon pollutants (Keller 1990); and St. Petersburg City environmental officials report high levels of cadmium in the city's drinking water supply.

Environmental degradation in the former Soviet Union is linked to the former state control of natural resources and production quotas at each factory. Because the state owned the resources, no market incentives existed to minimize energy use or protect the natural resources. Performance was based on the facility's ability to achieve production quotas, not on compliance with environmental laws or regulations. Because the government controlled the industries, it was also the largest violator of environmental standards. With few exceptions, environmental standards yielded to the more emphasized production goals.

After decades of neglect and mismanagement, the republics of the former Soviet Union are now faced with an enormous challenge to clean up the environment at their industrial and military facilities. Numerous agencies and institutes are involved in the development of environmental protection strategies in the former Soviet Union, but they will be hindered by the lack of tradition of effective regulatory structures, by continued political uncertainty, and by likely radical economic transformation.

In performing this work, interviews were conducted with members of the Supreme Soviet Committee for Rational Use of Natural Resources, Moscow City Council, and St. Petersburg City Council. These officials provided their views on the current status of environmental protection in the former Soviet Union. Literature published in English, although limited, supplemented these discussions. In addition, a literature search was conducted of recent articles about this topic.

Although the research for this paper was conducted before and during the August 1991 coup attempt in the Soviet Union, and after the formation of the Commonwealth of Independent States (CIS), many of the observations expressed in this report may be relevant to the new states. This report provides a historical perspective on the barriers encountered while attempting to develop environmental policy in the former Soviet Union and establishes a context for problems facing the new states in developing their environmental policies. Organizational changes that have occurred in environmental protection since the August coup are included to the extent they are known.

Prior Environmental Decision-making Process

The democratic legislative process affected environmental decisions, as it has affected all other public decisions, in the reforms of the former Soviet

Union. The Supreme Soviet Committee on Ecology and Rational Use of Natural Resources, with assistance from the Academy of Science Institutes, drafted the initial piece of legislation and proposed the environmental standard. Some laws dictated the obligations and responsibilities of ministries at the state republic, union republic, or ministry (Jancar 1987). Standards, plans, or penalties associated with the law were not included in the text. These aspects of the law were negotiated among the designated ministries.

After final adoption by the Committee on Ecology and Rational Use of Natural Resources, the law and accompanying standards were reviewed by the Goskomstandart (Committee of Standards). Goskomstandart had the authority to make the standard more or less stringent based on an unknown set of criteria. Once approved, the legislation was then passed down to the Goskomprioroda (equivalent to the U.S. Environmental Protection Agency) for implementation. If the Goskomprioroda disagreed with the final standard, the Committee had the authority to challenge the Goskomstandart (Lesperance 1991a).

Until recently, Moscow was responsible for adopting the environmental policies and the republics simply adopted similar legislation. Similar to the states in the United States, the republics now have the option of adopting the laws passed by the national legislature or adopting more stringent laws. The impact of a law on an individual industry can vary greatly from the original intent of the law. For instance, industry-specific emission limits involve a negotiation between the local regulatory agency and the industry. This aspect of environmental management makes enforcement difficult. For example, if a factory is cited by an environmental inspector for noncompliance with the permitted emission level, the industry may claim that the technology to control the emissions is too costly and will negotiate an increased emission level (Jancar 1987).

The role of non-government organizations in the decision-making process at the national level has been minimal. Non-governmental organizations and grassroots organizations lack both funding and organization to coordinate a national campaign to support their cause. It is difficult for these groups to communicate with enough people to form an environmental coalition. Few of the groups have access to phone lines, and they cannot make massive mailings as do U.S. environmental groups because of the paper shortage in the Soviet Union (Green n.d.). On the republic and local level, however, these organizations are more effective and have been instrumental in the adoption of legislation. For example, the Ukrainian republic declared they are a nuclear-free zone, primarily due to the efforts of the local environmental organizations.

In November 1990, a new bill was introduced in the Supreme Soviet Committee on Ecology and Rational Use of Natural Resources to encourage the development of "green" (i.e., environmentally sensitive) technologies. The bill, proposed by Vitali Chelyshev, proposed that firms developing innovative green technologies would be taxed at 10%. Currently, companies that are part of joint ventures are taxed up to 40%. The proposed bill is intended to encourage foreign investment and the formation of joint ventures. An added incentive for foreign investors is that the bill will remain intact for 25 years after becoming effective.

In 1991, four environmental protection bills were introduced to the Soviet legislature, addressing

- nuclear safety
- national protected areas
- plant and species protection
- general protection of nature.

Barriers to Environmental Decision-making and Implementation of Regulations

The following are barriers to environmental decision-making and implementation of regulations:

- **Environmental protection not a top priority.** In the past 2 years, public attention has shifted from environmental issues to other serious social conditions. Before attention again focuses on the management and restoration of the Soviet environment, the Soviet Union must first stabilize some of the more immediate social needs, such as the country's food distribution system. Because the country is facing a question of immediate survival, the food distribution and delivery system will take precedence over the country's environmental ills.
- **Political uncertainty.** A struggle for power and resources exists between central, regional, and local governments. One of the key issues that must be determined before environmental protection strategies become truly effective is ownership of the state's natural resources. The role of the central government versus inter-republic relations will be a subject of debate in the upcoming months and years.
- **Lack of adequate resources.** Lack of resources prevents many research institutes and governmental organizations from adequately performing their functions.
- **Lack of strict enforcement.** Laws on environmental protection are not adequately enforced by the federal ministries, republican governments, local councils of people's deputies, and industry (FBIS 1990).
- **Lack of technologies.** The lack of laboratories and basic instrumentation has been identified as one of the major problems. Basic environmental monitoring equipment is scarce or not available in many areas in the former Soviet Union. For example, although water quality standards exist in the City of St. Petersburg, basic monitoring equipment to ensure compliance is lacking. As another example, the Supreme Soviet proposed legislation that requires the use of remediation and monitoring technologies that are currently unavailable in the Soviet Union.
- **Lack of qualified staff.** The former Soviet Union lacks qualified and trained staff to implement environmental policies. Although faculties of the USSR Academy of Sciences offer advanced degrees in many disciplines of engineering, biology, and health, there is no

interdisciplinary environmental management degree that includes courses in environmental law, urban planning, and public education.

- **Lack of trust in the government.** A recent poll conducted in the former Soviet Union found that only 8% of 100,000 people polled were satisfied with the current state of the environment, 20% were partially satisfied, and 54% believed the situation to be unsatisfactory. The remainder had no definite opinion (FBIS 1991).

As the clergies are gaining prominence and becoming more active in political life, they are gaining the trust of the people. In fact, 40% of the population believe the clergy and 40% believe the Green Party when they discuss the state of the environment in the country. Because Gorbachev was viewed as being too flexible (i.e., trying to satisfy all perspectives from the reactionary to the progressive), only 10-20% of the population believed his assessment of the environment (Lesperance 1991a).

- **Inadequate information.** Because of the lack of adequate resources, qualified staff, and appropriate technologies, comprehensive environmental data do not exist for the former Soviet Union. These data are critically needed for decision-makers to determine the allocation of already scant resources.

Possible Outlook and Impacts

It is too soon to predict how much power the republics will have with respect to environmental protection. However, there have been requests for a major part of the budget from the military. In some respects, the former Soviet Union may become more like the European Economic Community, which has autonomous countries with some shared policies for environmental protection. The following are possible activities that may occur with respect to environmental protection in the former Soviet Union:

- **Development of inter-republic ecological agreements.** As the republics gain more autonomy and control of their resources, there is a need to reach a consensus on those resources that are vital to many republics. Inter-republic ecological agreements may be established to protect and manage resources common to all the republics. This is not a new concept in the region. For example, an agreement has been established and signed by the republics of Ukraine, Russia, and Georgia for the mutual protection of the Black Sea. Similar agreements could be made among Russia, Latvia, Estonia, Lithuania, and Byelorussia for protection of the Baltic Sea, and among Azerbaijan, Turkmenistan, Russia, and Kazakhstan for the protection of the Caspian Sea (Lesperance 1991a).

As air pollution, transportation of hazardous waste, and other environmental issues gain more attention, the republics will need to address these issues. Inter-republic ecological agreements could be developed to address the remediation of some of the country's worst ecological disasters, such as at Chernobyl, as well as the cleanup of soils and groundwater that resulted from the military-industrial complex.

- **Greater emphasis on criminal prosecution.** Criminal prosecution for punishing the most severe offenders of environmental laws is already occurring. A criminal case has been filed against some of the Chernobyl officials, accusing them of abusing their power. These officials did not release information about the levels of radiation that were detected nor evacuate residents. With the breakup of the Union, punishment of environmental crimes may become more complicated when accuser and accused are from different republics.
- **Enhanced use "polluter pays" principle.** Beginning in January 1991, the "polluter pays" principle was enacted in the Russian republic. Assuming adequate enforcement, this may result in the shutdown of 100 of the 500 major industrial facilities in the city of St. Petersburg. The fines associated with environmental crimes will likely be increased.
- **Development of military conversion strategies.** Military installations may be converted to productive civilian industries. In order to increase the production of new environmental technologies, defense installations may play a role in the development of those technologies.
- **Creation of a "brain drain."** Some researchers are leaving the former Soviet Union for more lucrative positions in the West. Because of the lack of sufficient and competent environmental managers, some environmental professionals are leaving government and joining the citizen action groups where they feel they can accomplish more (Green n.d.).
- **Commercialization of USSR Academy of Sciences technologies.** The USSR Academy of Sciences will probably be required to commercialize many of the technologies that are being developed within their institutes. This new role for the Academy will probably be met with some resistance from the researchers who are not accustomed to marketing.
- **Establishment of joint ventures.** The formation of joint ventures is one way to assist these economies in achieving independence. Through the establishment of joint ventures, western capital and management methods can be brought into the former Soviet Union. The formation of joint ventures is one of the top priorities of the leadership.

The establishment of all types of joint ventures has increased dramatically since 1989. In 1987, 23 joint ventures were formed; by September 1989, 749 new joint ventures had been formed. In addition to U.S. companies, many of these joint ventures were with German and Finnish companies. Although the Soviet government views joint ventures as a top priority, the western democracies view the formation of joint ventures very cautiously. Business managers who are accustomed to western business practices may lack supplies, infrastructure (communication, transportation), a convertible currency, or a trained workforce.

Recently, joint ventures have been established with U.S. environmental consulting firms to assist in monitoring and remediation activities. One firm, American Capital and Research Corporation (ACR), will monitor pollution at 32 coke plants in the Soviet Union (Wamsted 1990). In 1990, the state of Wisconsin was asked by the Tatar Autonomous Republic, a region in the Russian republic, to enter into a joint venture. The Tatar Republic has made a 5-year agreement to commit a portion of their oil revenue to buy environmental technology and equipment from Wisconsin (Behm 1990). In addition, the formation of the Environmental Business Association by Goskomprioroda and the USSR Academy of Sciences Center for International Cooperation may continue to play a key role in establishing joint ventures.

- **Development of free economic zones.** Discussions have proceeded regarding the establishment of 15 free economic zones, which would create an environment where foreign and domestic productive resources could combine. Western companies locating to these areas could take advantage of special tariff and tax privileges. However, environmental concerns should be addressed at the onset of the formation of these zones.
- **Formation and enhanced role for republic environmental protection agencies.** Similar to the Ukraine and Moldavia, other republics will begin to form their own environmental protection agencies. The republics have many diverse situations and issues that they must address. Because of the extent of environmental problems and awareness of these issues throughout the republics, environmentalism could be the one issue that unifies the republics.
- **Greater international cooperation.** International agencies are assisting the former Soviet Union in solving environmental problems. The United Nations General Assembly recently approved a resolution on international cleanup support for Chernobyl. The resolution calls on all member countries, government organizations, non-governmental organizations, and individuals to do everything possible to clean up the environment surrounding Chernobyl (FBIS 1991).

In addition, discussions are accelerating the procedures to allow the republics of the former Soviet Union to become members of the World Bank and International Monetary Fund. Membership in either of these organizations would allow them to gain access to the needed environmental technologies.

- **Enhanced U.S. government cooperation.** In 1972, a bilateral agreement was signed between the Environmental Protection Agency and the Soviet government, covering 10 areas of cooperation, including air and water quality, hazardous waste, climate, and parks. Within each of the areas, three or four specific projects were identified, involving scientific exchanges between U.S. Environmental Protection Agency laboratories and the sponsoring USSR institute. On January 12, 1990, a cabinet-level meeting was held in Washington, D.C. addressing a "Memo of Protocol" on the areas of cooperation. There

were 48 projects planned with 170 different activities and/or visits anticipated.

The Agency for International Development is becoming involved in many environmental training and educational efforts in Eastern Europe. Although not a top priority, allocation of funds for the former Soviet Union in these areas may be made available this year.

- **Increased attention on hazardous waste.** As surveys are developed and the extent of hazardous waste contamination is revealed, serious threats from hazardous waste will be unveiled. The Soviet version of "Love Canal" will probably be uncovered within the coming years and may prove to have greater impact on the environment than the Chernobyl accident.
- **Increased attention on environmental health.** It is clear that the impact of air pollution and contaminated groundwater on human health (especially on rural population) will become a greater issue as more monitoring data is released.

Since work for this article began, the Soviet Union has disappeared as a political entity. Some republics, such as Russia, Ukraine, and Kazakhstan, have already taken steps to adopt and enforce more stringent environmental regulations; however, as in the former Union, the lack of adequate resources hampers implementation of the regulations in the republics. The extent that more stringent regulations are being adopted in other republics and municipalities may be a focus for further study.

Because the former Soviet Union is undergoing such major changes, many of the environmental organizations and agencies described in this section no longer exist or are experiencing a major reorganization. However, the people and government are now aware of the need for environmental reform. Currently, this reform is overshadowed by the more pressing need of human survival. After these basic human needs are met, the government and people can make environmental reform a top priority again.

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