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Chapter 1: The Environmental Implications of Republic Sovereignty. (Pryde)
Chapter 2: Russia - An Overview of the Federation. (Pryde)
Chapter 3: European Russia. (Kochurov)
Chapter 4: The Urals and Siberia. (Scherbakova & Monroe)
Chapter 5: The Russian Far East. (Strand)
Chapter 6: Estonia. (Soot)
Chapter 7: Latvia. (Dreifelds)
Chapter 8: Lithuania. (Kritkausky)
Chapter 9: Ukraine. (Stebelsky)
Chapter 10: Environmental Management in Ukraine. (Freeman)
Chapter 11: Belarus. (Cherp & Kovaleva)
Chapter 12: Moldova. (Dinu & Rowntree)
Chapter 13: Georgia. (Richards)
Chapter 14: Armenia. (Valesyan)
Chapter 15: Azerbaijan. (Wolfson & Daniell)
Chapter 16: Kazakhstan. (Smith)
Chapter 17: Turkmenistan. (Micklin)
Chapter 18: Uzbekistan. (Lubin)
Chapter 19: Kyrgyzstan. (Braden)
Chapter 20: Tajikistan. (Eicher)
Chapter 21: The View to the Future. (Pryde)
Environmental Resources and Constraints in the Former Soviet Republics

LITHUANIA

Randy Kritkausky

Executive Summary

The following paragraphs summarize the main contents and conclusions of a chapter on Lithuania, which has been prepared as part of a larger work on the environmental and economic-geographic situation in each of the former Soviet republics. The full study, edited by Philip R. Pryde, will be published by Westview Press under the title "Environmental Resources and Constraints in the Former Soviet Republics." Funding assistance from the National Council for Soviet and East European Research is acknowledged with appreciation.

In this chapter, the history, physical geography and ethnography of Lithuania is briefly summarized, followed by a survey of its main economic resources. It has few significant environmental constraints. The contemporary state of the development of industry and agriculture within the republic is reviewed, with a focus on the environmental disruption that has resulted from this development. The current situation with regard to biotic preservation is also reviewed, including the establishment of nature reserves and parks, and the potential for ecotourism. The administrative structure for environmental management within the country is also briefly examined, as are non-governmental environmental efforts.

Particular discussion is directed to the problems that currently exist within Lithuania concerning the Mazeikiai oil refinery and the Ignalina nuclear power plant. Pollution of rivers, and of the Courland lagoon and the Baltic Sea, are also serious concerns.

The main conclusions of the chapter are that the future of Lithuania is highly dependent on the successful reorganization of its agricultural and industrial sectors (particularly establishing new markets), and on resolving the future of the controversial Ignalina nuclear complex and related energy supply questions. Like the other Baltic republics, Lithuania must find ways to re-orient its economy from a dependence on Russia to a stable relationship with its European neighbors.

Philip R. Pryde, June 6, 1994
Figure 8.1
Lithuania

- **Capital**
- **Cities**
- **Nature Reserves**
- A Klaipeda region added to Lithuania in 1923
- B Eastern regions added to Lithuania in 1939
- C Three areas "given to Lithuania after joining the USSR" in 1940

Source: Atlas Litovskoy SSR, p. 204
Chapter 8. LITHUANIA

Randy Kritkausky

Lithuania is one of the oldest nation-states in the European portion of the former Soviet Union, tracing its state history back to the early 14th century. Over the past two hundred years, however, there have been only about 25 years of independence, from 1918 to 1940, and since 1991. Today, the new country (whose official name is Lietuva) is home to just under four million people and embraces a territory of 65,200 square kilometers. It is the only one of the former Soviet republics where Roman Catholicism is the dominant religion.

Ethnography and History

Lithuania’s ethnic diversity, history of Soviet occupation, culture, language and religion provide common links as well as discontinuities with its Baltic neighbors. Ethnically, Lithuania is the most homogeneous of the Baltic societies. In 1991, ethnic Lithuanians comprised nearly eighty percent of the total population of 3,751,000; Russians represented only nine percent. Consequently, Lithuanians have expressed less concern over and reacted with less severity to Russification than Estonia and Latvia which have proportionately larger Russian populations.

During and after World War II, however, Russians were settled in towns and newly created industrial centers, such as the one around the Ignalina nuclear power station, where more than ninety percent of the residents are Russian. As a result, Lithuanian pollution problems, economic reform efforts, and plans for environmental remediation all have the potential to become intertwined with ethnic tensions.

Lithuanians live with the distant memory of leading great empires and a more recent memory of being absorbed into the Soviet Union. In the fourteenth century, under Grand Duke Gediminas (1316-1341) and his heirs Lithuania expanded south as far as Kiev and east as far as Novgorod. Between 1569 and 1795 Lithuania and Poland were ruled as a Commonwealth. Then, during the last decade of the eighteenth century, Poland was partitioned by Russia, Prussia, and Austria and most of Lithuania fell under Russian control. Occupied by Germany during World War I, Lithuania declared its independence in the chaos after that war. Between 1918 and 1940 Lithuania was an independent nation, though slightly smaller in size than today (Figure 8.1). This experience with democracy was ended by the secret Molotov-Ribbentrop Treaty between Hitler and Stalin in 1939. Like the other Baltic republics, Lithuania was occupied by Soviet troops in June of 1940, a period of Soviet control disrupted only by German occupation between 1941 and 1945.
Lithuanian independence began anew in 1988 when scientists publicly opposed the expansion of the Ignalina nuclear power plant and thousands of Lithuanians joined in protest. The result was formation of a Lithuanian Green Movement which acted as an umbrella for a wide variety of groups seeking comprehensive governmental reforms. The Green Movement prepared the way for creation of the Lithuanian Reform Movement, known as Sajudis, in 1988. Under pressure from these popular forces, Lithuania's communist government asserted limited independence, and the communist party eventually split into factions on the eve of elections in January 1990. Sajudis triumphed in these democratic elections and under the leadership of Vytautas Landsbergis, the new Parliament declared the restoration of Lithuania's independence. An economic blockade by the Soviet Union in 1990 and a violent attack in January of 1991 on the Vilnius television tower, radio station and publishing houses failed to discourage the parliament or Lithuanian people who voted overwhelmingly (90.5 percent in 1991) for independence.

In September of 1991, following the failed coup attempt, the Soviet Union formally recognized Lithuania's independence. In October of 1992, Algirdas Brazauskas, head of the Lithuanian Communist party during the early stages of the independence struggle, was returned to power and the Sajudis-Landsbergis faction was voted out of its parliamentary majority. The 1992 "October election surprise" was seen as a response to economic uncertainty and the strong nationalist rhetoric of the Sajudis faction.

Contemporary Lithuanian culture is a combination of deeply rooted traditional cultural elements and more recent Soviet values. Added to this historical mixture is the impact of the profound political, social and economic transformations of the last five years.

Nowhere is this more apparent than in an examination of the "Baltic personality": disciplined and reasoned, friendly but cool, quietly determined, and ethnically self-conscious. These traits played a critical role in forming the tone of the firm and defiant, yet patient and flexible negotiations between Baltic independence movements and the Soviet Union. For example, facing repeated violent provocations, such as the 1991 killing of thirteen civilians by Soviet troops in Vilnius, Lithuanians exhibited extraordinary self control and determination. They resisted the temptation of violent retaliation which would have precipitated a massive use of Soviet force, and instead set a moderate tone for Lithuania's precedent setting independence effort. It probably helps explain why Lithuania was the first Baltic republic (in September, 1993) to enjoy the removal of all Soviet military personnel from its soil.

Throughout the Lithuanian independence struggle, Lithuanians were surprised to find that the communist goal of a "new Soviet man" had not taken root as deeply as they had feared either on their own soil or in their own psyches. The "new Soviet man" was a Stalinist era
concept of forging a universal socialist culture and language (Russian), and collectivist attitude. Today this concept remains a part of the Baltic cultural legacy, but is most often used by individuals who self-deprecatingly refer to unwelcome characteristics in their own personalities.

Despite widespread negative characterizations of the Soviet legacy, Lithuanians remain quite fond of Russian literature, music and culture in general. But contemporary Lithuanian attitudes also reserve a special place for the more undesirable "soviet" experiences, in particular for those responsible for forced migrations to Siberia, purges of intelligentsia, collectivization of small farms, environmental deterioration, and recent violence. It is necessary to keep in mind the extreme ambivalence that Balts have toward things Soviet and Russian, if one is to understand Lithuanian society, its struggle for autonomy, and the struggle of individual Lithuanians seeking to break free from their past while maintaining some sense of continuity in their lives.

Natural Resources and Constraints to Development

Lithuania is situated on the eastern shore of the Baltic Sea and borders Latvia to the north, Belarus to the south and east, Poland to the southwest and the Kaliningrad region of Russia to the west (Figure 8.1). The 65,200 square kilometer surface area of Lithuania lies in the east European mixed forest belt, but today is mostly gently-elevated unforested plains. There are over 6,000 small lakes in Lithuania, half of them less than one half hectare in size and only twenty five having a surface area of more than ten square kilometers.

Lithuania’s Baltic coast is unusual and extraordinarily beautiful. Nearly half of the coastline is separated from the Baltic Sea by the Courland (Kurshskiy) Lagoon. The outer boundary of this lagoon is a long, narrow, sandy peninsula called the Courland Spit, half of which is on the territory of Kaliningrad. Its dunes and pine forests are a natural protected region with generally clean sandy beaches on the outer Baltic shore. These beaches are a major source of amber. During Soviet times, the nearly pristine ecology of this Baltic shore was severely threatened by intense military activity from nearby Kaliningrad, as munitions fragments sometimes mixed with amber on the beaches. In the summer of 1989, local environmental organizations collected and displayed the rubble, including bomb casings, at the resort town of Nida in order to publicize the problem (Figures 8.2 and 8.3).

Lithuania is crossed by a large number of small rivers and streams, of which the largest are the Nemunas (Neman) River, and its tributary, the Neris. Lithuania also has an abundance of clean subsurface ground water which provides most drinking supplies. Because Lithuania has been less industrialized than many other former Soviet Republics, most of the ground
Figure 8.2. Recreational use of the beach along the Baltic Coast of the Courland Peninsula at Nida, Lithuania.

Figure 8.3. Display by local group of beach debris, including bomb casings, collected along the coast near Nida.
water is in relatively good condition. Agricultural runoff, not industrial chemicals, are the main contaminants of ground and surface waters.

Twenty-eight percent of Lithuania is covered by woodlands, the majority of which are pine forests and softwoods. Bogs, once a significant part of the landscape, are now only six percent of the territory. Over the last few decades the intensification of large scale agriculture, cutting of forests, and draining of bogs has contributed to erosion and loss of soil productivity. Presently, fifteen percent of the nation’s farmland is severely eroded.

Lithuania’s potential energy resources are the focus of an emerging controversy. Fuel oil from Russia, natural gas from Ukraine, and electricity from the Ignalina nuclear power plant were once the energy lifelines of Lithuania. Growing concern over the safety of the Ignalina reactor and increased costs and uncertainties over the stability of oil supplies from Russia have forced Lithuania to look for alternative energy resources, preferably from internal sources. High quality oil reserves have recently been discovered off the Lithuanian Baltic coast. Although the ecological and tourist values of this coastal region present serious obstacles to petroleum development, nevertheless Lithuania has decided to develop its oil reserves, to build an off-shore oil terminal, and to modernize its refinery at Mazeikiai (Izvestiya, November 17, 1993).

Lithuania’s other natural resources are fairly limited. Those that do exist pose certain dilemmas. Raw materials for the cement industry (limestone) and fertilizer industry (anhydrite) are abundant. So too is extremely high quality iron ore in the southwest. The difficulty in exploiting these resources is that many of them lie under Lithuania’s remaining forests and in regions where ground water could be easily damaged.

Aside from the above, Lithuania has few natural constraints to development. Its proximity to the Baltic Sea gives it a much milder climate than other parts of the former Soviet Union lying at the same latitude. Severe storms are rare, though drought, such as devastated Lithuanian agriculture in 1992, can periodically occur. The relative shortage of industrial raw materials is a factor of continuing concern.

Environmental Problems

Lithuania is predominantly an urban nation, with 68% of its population living in cities in 1989. Although the country has had a modest 0.8% average annual growth rate over the past twenty years, its largest cities have grown at two to three times that rate (Table 8.1).

Problems related to energy production are perhaps of greatest environmental concern. At present, Lithuanians obtain their petroleum from a refinery at Mazeikiai. It is Lithuania’s largest industrial installation and a major source of sulfur dioxide and lead pollution (Banks,
<table>
<thead>
<tr>
<th>City</th>
<th>Population (1000s)</th>
<th>Ave. annual growth rate (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1970</td>
<td>1989</td>
</tr>
<tr>
<td>Vilnius</td>
<td>372</td>
<td>582</td>
</tr>
<tr>
<td>Kaunas</td>
<td>305</td>
<td>423</td>
</tr>
<tr>
<td>Klaipeda</td>
<td>140</td>
<td>204</td>
</tr>
<tr>
<td>Siauliai</td>
<td>93</td>
<td>145</td>
</tr>
<tr>
<td>Panevezys</td>
<td>73</td>
<td>126</td>
</tr>
<tr>
<td>Lithuania (total)</td>
<td>3128</td>
<td>3690</td>
</tr>
</tbody>
</table>
The refinery’s supply of petroleum is from Russian wells. Only Mazeikiai’s "strategic value" as a source of fuel for the Kaliningrad military installations has kept the petroleum flowing, and then only irregularly, since Lithuania regained its independence.

Over 40% of Lithuania’s electrical power is produced at the Ignalina Nuclear Power Plant in the northeastern corner of Lithuania (Figure 8.1). Because the two reactors at this site are quite large, Lithuania produces more electrical power than it consumes and nearly one quarter of Ignalina’s output is marketed in Belarus and Latvia. Ignalina is thus a major source of hard currency.

The reactors are also a major source of domestic and international concern. Ignalina station has the largest RBMK or Chernobyl-type reactors in the world (1500 MW each). Unlike other RBMKs, they have not been fully upgraded since the 1986 Chernobyl accident. The fact that Ignalina is constructed on an earthquake fault line made the attempted completion of a third reactor in 1988 an environmental and political turning point in Lithuania’s history. Over 20,000 people formed a human chain around the reactor in September of 1988 in a successful demonstration preventing further expansion.

Iugalina’s thermal pollution of Lake Druksiai, the largest in Lithuania, is a source of concern. The possibility of a nuclear accident is an even greater concern as the Lake empties into a major Lithuanian river system. Tritium leaking from the site has added to the alarm. A history of small fires in the reactor facility has attracted international attention and some funding for safety programs from Scandinavian countries. A lack of proper nuclear waste storage facilities on site and virtual elimination of the possibility of utilizing Russian waste disposal facilities will soon precipitate a crisis at the reactor. There will be no more space for spent fuel rods within two years.

Untreated industrial waste water and sewage present a surface and underground water contamination potential throughout Lithuania. The Baltic port city of Klaipeda is a focus of this concern. Much of Lithuania’s surface water enters the Baltic via the Nemunas River a short ways south of here. Klaipeda’s industry and sea traffic offer abundant opportunities for spills. Unfortunately such accidents are common, and included the breaking apart of a British tanker near Klaipeda in 1981. Klaipeda’s sewage processing plant is only now being completed.

Klaipeda’s water pollution problems are magnified by the fact that its pollution can be trapped in the inland waterway created by the Courland peninsula. The threat to the Courland lagoon is enhanced by untreated industrial wastes dumped into the lagoon from the Russian controlled Kaliningrad Oblast region to the south. The lagoon has the potential to breed the same kinds of biological and health problems that have been associated with St. Petersburg’s dike which encloses that city’s harbor (see Chapter 3). Unfortunately, both situations raise the
same difficult questions. Unless local emissions are controlled, dangerous pollutants will become trapped behind barriers that impede normal water circulation, thereby endangering coastal populations. Until the sources of pollution are eliminated, it is likely that the flow of pollution into the already devastated Baltic sea will increase.

The cumulative impact of industrial and sewage waste upon the Baltic Sea is magnified by the unusual nature of the Baltic. It is extremely shallow and its waters are slow to flow into the Atlantic because of the narrow passage connecting it to the North Sea. Fresh water tends to "float" on the surface of the heavier salt water below. Consequently, pollution tends to stay concentrated at the surface. Seal kills and deadly algae formations in the Baltic have made international news in recent years. More recently, opening of Soviet-era archives has documented the dumping of chemical weapons into the Baltic at the end of World War II. Cylinders containing these wastes are now rusting through and releasing their contents.

While the inland waterways and ground waters of Lithuania have been contaminated by untreated sewage, leakage from landfills, and agricultural run-off, these problems are easier and less costly to remedy than the persistent chemical and heavy metal contamination in the ground water of some heavily industrialized regions such as northeastern Estonia. Much of the water pollution in Lithuania could be quickly halted by treatment facilities, landfill management, and new agricultural methods.

Another source of concern about industrial pollution in Lithuania is two chemical fertilizer factories north of Kaunas. Situated in Jonava and Kedainiai, these two giant installations produce phosphates and ammonium based fertilizers. Two problems result from the production. First, uncontrolled or improperly controlled emissions of chlorine, sulfur anhydride, fluorine, and heavy metal compounds cause chronic health problems. Nearly one quarter of the population living within 6 km of the Kedainiai facility suffers from conjunctivitis. The Kedainiai region also has Lithuania's highest rate of malignant tumors.

The second environmental problem associated with the fertilizer plants is a history of accidents. Leaking chemical storage tanks, placed too closely together, are a chemical time bomb. The most notable accident at these sites occurred in March of 1989 when a liquid ammonium tank broke open and exploded. A chain of fires was ignited and the blaze was not extinguished for two days. Seven people were killed in this incident. Severe health problems were detected among local residents months after the accident.

Two environmental problems having significant human impact upon the general population are urban air pollution and food contamination. Urban air pollution in Lithuania can be threatening to human health. As in other former Soviet republics, automobiles are generally not equipped with air pollution control equipment and trucks and buses normally pollute
visibly. Official statistics indicate that about 60% of Lithuania's air pollution is caused by motorized transport. Recently, a growing market for imported used cars from Europe has introduced a large number of worn out, poorly tuned and ill-equipped vehicles. Combined with the fact that leaded gasoline is still commonly used, there is reason to be concerned about urban air pollution and particularly lead poisoning in children. Ironically, the Soviet economic boycott in 1990 and recent interruptions of petroleum deliveries produced a temporary improvement in urban air quality. This respite alerted the public to the problems of urban air quality and mobilized some support for measures restricting traffic in the core of urban centers.

Contaminated food is a growing problem with environmental roots. The collapse of the old Soviet Sanitary Inspection Service, which was responsible for food inspection, has left a somewhat chaotic and poorly financed food inspection service in the republic to fill an enormous gap in public health protection. In this vacuum, there have appeared large amounts of unregulated food from Lithuania and neighboring countries. There is concern that some of the food brought in from Belarus may be from Chernobyl contaminated zones and represents products that could not be marketed at home. Without proper supervision and inspection, the food chain remains a potential pathway for environmental contaminants.

A balanced picture of Lithuania's environmental situation should also note some significant gains, as well. After decades of secrecy, glasnost unleashed a flood of revelations about previously unknown ecological problems. This may give the appearance of a rapidly deteriorating environmental situation in Lithuania, when in fact conditions are probably beginning to stabilize or improve in many sectors.

Many of the improvements in Lithuania's environmental conditions, however, can be traced merely to a large decrease in national productivity, characteristic of so many former Soviet economies. A positive result of this otherwise negative development is a dramatic reduction in the absolute volume of wastes produced in the manufacturing sector. Inefficient, noncompetitive and often wasteful production processes have been shut down. When brought back on line, they will hopefully have been modernized to operate in a more efficient, less wasteful mode. Some older factories may be the target of international buy outs and conversions, but others may be re-opened simply out of economic urgency. In any case, Lithuania's present economic conversion process may present opportunities for environmental improvement, though only time will tell to what extent this will be realized.

In certain areas, tangible environmental improvements are being made. Foreign investment banks are providing funding for such projects as waste water treatment facilities and
### Table 8.2. Preserved Areas in Lithuania

<table>
<thead>
<tr>
<th>Type of Preserve (a)</th>
<th>Number</th>
<th>Total area (b)</th>
<th>Average size (b)</th>
<th>% of Republic (d)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nature reserves (&quot;zapovedniki&quot;)</td>
<td>4</td>
<td>207.84</td>
<td>51.96</td>
<td>0.32</td>
</tr>
<tr>
<td>National Parks</td>
<td>5</td>
<td>1333.00</td>
<td>266.60</td>
<td>2.04</td>
</tr>
<tr>
<td>Natural preserves (c)</td>
<td>174</td>
<td>1850.00</td>
<td>10.63</td>
<td>2.84</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>183</td>
<td>3390.84</td>
<td>18.53</td>
<td>5.20</td>
</tr>
</tbody>
</table>

(A) For the definition of each type of preserve, see Appendix 2 to Chapter 1.

(B) In square kilometers.

(C) 1985 data; the number in 1992 was about 240, covering ca. 2500 sq. km.

(D) The area of Lithuania is 65,200 sq. kilometers.

energy conservation programs. Comprehensive planning has begun for modern municipal and industrial waste minimization and disposal programs at the regional and national level.

Perhaps most encouraging are the multitude of microdecisions that businesses, consumers, and non-governmental organizations (NGOs) are making in an effort to improve the quality of the local environment. Locally initiated and funded, these programs involve environmental education, stream and landscape protection programs, and technology development. One of the most impressive examples of such activity is the upgrading of the Lapiu landfill in Kaunas. For the two decades prior to the election of "greens" to the city council in 1989, the Lapiu landfill outside Kaunas accepted a mixture of unsorted industrial and household wastes. Without a liner or leachate collection system, contaminated water ran into a local stream and the nearby Neris River. When several Greens from the Atgaya Club of Kaunas, an environmental NGO, were elected to office, they set their sights on improving operations at the landfill, hired a staff of twenty workers and stopped surface leachate runoff by using local clay. They then drilled wells on the perimeter of the site so that contamination could be monitored. Wastes were then separated so that liquids were not poured into the garbage. Recyclable materials were removed and sold. These steps, while preliminary, have reduced the damage caused by the disposal facility. The decision making process at Kaunas reflects a productive pattern of cooperation between environmental NGOs and local officials. The improvements at the Lapiu landfill are all the more remarkable as they began during the hardships created by the Soviet economic blockade of Lithuania. They demonstrate the potential to solve environmental problems at the local level with local resources.

Environmental Management in Independent Lithuania

During the Soviet period, Lithuania's environmental protection was in the hands of the State Committee for Nature Protection, which was responsible to the USSR Council of Ministers. In the Soviet command economy, the Committee was overshadowed by the powerful economic ministries and the goal of producing goods outweighed environmental concerns. In 1990, when the Lithuanian Environmental Protection Department replaced the Soviet Committee For Nature Protection, this new department was placed under control of the new Lithuanian Parliament. It was hoped that this elevated legal status and independence would avoid many of the regulatory problems of the past.

The Lithuanian Environmental Protection Department is responsible for developing environmental policy, enforcement of laws and regulations, and for control of the exploitation of natural resources. Lithuania has five national parks, four nature reserves, and 234 preserves which are administered by the Environmental Protection Department (Table 8.2). A problem
common to several of these preserved areas is that individuals whose families owned land in the area prior to 1940 are seeking to regain title.

There are eight regional agencies operating under the Environmental Protection Department in Alytus, Kaunas, Klaipeda, Marijampole, Panevezys, Siauliai, Utena, and Vilnius. In each of these regions there are district inspectorates. Larger municipalities also have inspectorates. In 1990, 371 air and water pollution cases were prosecuted or arbitrated and 4,300,000 rubles in fines were collected. A separate environmental department exists within the government for coordinating the environmentally related functions of ministries.

Nature protection and environmental management in Lithuania are funded by fees or taxes imposed upon industries using natural resources which are engaged in activities which pollute the environment. Fees or taxes are to be increased by multiples when pollution exceeds allowable effluent levels; these were taxed at the 1992 rate of 464 rubles per ton for water pollution and five roubles per ton for air pollution. The result of this system is that Lithuania spent 0.6% of its national income on environmental protection in 1991.

One of the difficulties facing government authorities, businesses, and environmental organizations is a general lack of experience with making and enforcing environmental laws. There are few, if any, environmental lawyers in Lithuania. Environmental enforcement and management is in the early stages of developing, even as the entire governmental and civil structures of Lithuania simultaneously evolve.

During the late 1980s, environmental NGOs played an active role in formulating and influencing the enforcement of environmental laws and regulations. The Lithuanian Green Movement included top scientists and intellectuals who were able to influence action through public demonstrations, such as the 20,000 protesters who circled Ignalina in September, 1988, and the milk boycott a year later. They were also adept at working behind the scenes using their expertise to influence environmental decisions. Authorities were aware that should scientific reasoning fail, a public demonstration could follow. In the late 1980s, Lithuania’s officials were still unfamiliar with public protests and were still deeply concerned about how their superiors in Moscow would view the embarrassment. This pre-independence period was the high point of environmental NGO influence.

Ironically, Lithuania’s environmental NGOs succeeded too well. In the elections of January 1990, many of the national environmental leaders were elected to the national parliament. These leaders soon became overwhelmed with the task of achieving national independence. Locally, in municipal and regional elections, green leaders were elected to city councils or were appointed to administrative positions in environmental bureaucracies. The Lithuanian Green Movement’s leadership was removed in a wave of democratic success. But
the loss was no less devastating. Of the dozens of local green clubs that constituted the Lithuanian Green Movement in 1989, only a handful remained in 1992.

At the same time public concern with explicitly environmental issues, which formerly provided safe cover for more political concerns as well, went into a decline. First, independence commanded center stage. Then simple economic survival in a transition economy became nearly everyone's daily focus. While greens in office began to implement many of their policies, such as the Kaunas landfill project discussed above, they too began to confront the grim realities of severely limited economic resources. In a highly competitive budgetary environment, funding for environmental programs began to decline. By 1991 and 1992, in a more democratic and independent Lithuania, Greens no longer had the organizational ability to mobilize the political support they so desperately needed.

Recognizing this need, in March of 1993 the Lithuanian Green Movement held its first Congress in two years. Original Green Movement members shared the podium with new and younger aspirants. Discussions reflected a new, almost painfully deliberate, dedication to democratic procedures. One young, newly elected member of the directing council offered to step aside so that a woman who was nominated could serve. Congress participants examined the need to set a movement agenda which accommodated economic development needs along with environmental concerns. The green movement, which helped to nurture Lithuania's independence struggle, was rebuilding itself.

Lithuania's Green Movement shares with many government leaders a recognition that sound environmental management and enforcement practices will be possible only after a civil society is established. Newly empowered and broad based environmental NGOs working in partnership with local and national authorities will be able to make progress on Lithuania's ecological problems as they did a few short years, but a political generation, earlier. Independence has not stopped environmental progress in Lithuania, it has simply stalled it in some areas.

Perhaps the final roadblock to environmental reform in Lithuania is slowed economic reform. Privatization through 1993 has been slow in Lithuania, and has slowed further since the election of Brazauaskas. While somewhat favorable foreign investment laws are in effect, and banking policies allow for the repatriation of profits, it remains difficult, if not impossible, for foreign companies to gain title to property. Until full and free foreign investment is guaranteed, most of Lithuania's industries will not have access to the efficient processes and anti-pollution technologies that they need.

Agriculture is an area where environmental improvements can be and are being implemented with success and at a relatively low cost. Agriculture is a large part of
Lithuania’s economy. In 1990, it constituted twenty five percent of the GNP (versus fifty four for industry), but thirty three percent of the national income, about the same as for industry. Breaking up large Soviet collective farms and redistributing the land to individual farmers is ending the era of monoculture and its reliance upon massive applications of chemical fertilizers and pesticides.

Making Lithuania’s new agricultural sector economically stable is an issue mitigating against environmental reforms. In many cases, private farms have been made almost unmanageably and unproductively small. Equipment for small farms is in short supply. Russia, which in the past supplied livestock feed grains to Lithuania’s animal husbandry industry, has reduced its shipments. Productivity in this sector, which represents sixty nine percent of Lithuania’s agricultural productivity, has dropped in the last two years. And in the absence of good sanitary inspection and monitoring of food supplies, market incentives for providing commodities that are not tainted with nitrates and pesticides remains small.

Balancing Economic Development and Environmental Preservation

Lithuania’s future economic development focuses upon balancing a number of difficult energy production and environmental risk considerations. Continued operation of the Ignalina nuclear power plant and development of off-shore oil reserves could provide Lithuania with an energy supply capable of supporting industrialization. However, the environmental risks associated with this strategy, as outlined above, are enormous. In the case of the Ignalina reactor, the danger is potentially catastrophic, as a Chernobyl-scale accident could devastate a small country. As an alternative, turning away from further energy development and instead promoting energy conservation techniques could provide Lithuania with sufficient power for a modern agriculture-based economy.

Agricultural development is inviting to many Lithuanians as it ties into traditional Lithuanian values. As Lithuania is relatively unindustrialized, this development path would not be a radical departure. In fact, several of Lithuania’s main industries, such as fertilizer production, are agriculturally related. As Lithuania’s land is largely unpolluted, the opportunities to capitalize upon this resource and preserve it are inviting. Agriculture is a sector where Lithuania could practice sustainable development. Making Lithuania’s agricultural products succeed in a highly competitive world market will be part of the formula for successful sustainable development in Lithuania.

Tourism presents a rich opportunity for Lithuania, both economically and environmentally. Germans have just rediscovered Lithuania’s exceptional Baltic coast and their hard currency is a major contribution to the republic’s national economy. Lithuania’s lake
regions, such as around Aukstaitia National Park, could provide a similar resource with relatively few environmentally damaging trade-offs.

Lithuanians also discuss the possibility of utilizing their highly trained, and comparatively inexpensive, labor force to attract high technology industries and convert the existing industrial infrastructure. Such a strategy might complement an agricultural and tourism based economy and still preserve Lithuania’s environment.

All of Lithuania’s critical development decisions, and therefore its environmental future, depend upon when and how the country is integrated into the regional and global economy. Some of the decisions are already being made for Lithuania by external factors. Multinational banks have imposed budgetary and currency restrictions. These same institutions have imposed energy pricing demands upon Russia which has used the opportunity to apply economic pressure on the rebellious Baltic republics.

Because of its historical ties with the Soviet Union, Lithuania’s trade situation and economic future are largely tied to that of Russia and other former Soviet Republics, at least in the short term. But Lithuania is currently looking westward to Europe, and especially north to the Scandinavian countries. The Danes, who are beginning to position themselves as the bridge between the west and the Baltic states, are becoming much more actively involved in the Baltics, forming joint ventures, acquiring property, and establishing cultural links. There is discussion among the three Baltic countries of forming a Baltic Common Market. But recent discussions concerning cooperative energy projects between Lithuania and Latvia, whereby Latvia would provide a petroleum depot at Ventspils and Lithuania would refine the oil at Mazekiai, suggest an atmosphere of suspicion as much as a common Baltic interest.

Events over the last five years in Lithuania suggest that it is impossible to imagine where this Republic will go. The world, excluding former Soviet leaders, has still not fully grasped and appreciated the role that Lithuania played in breaking open the Soviet empire. But it is clear to all that Lithuanians have a remarkable ability and a ferocious determination when it comes to reclaiming control of their own destiny. Exhausted after five years of living on the brink of a revolutionary abyss, Lithuanians are turning inward temporarily. Private homes, many of them in a grand style and scale that will undoubtedly be known someday as "post-independence celebration architecture" are springing up across the countryside and at the perimeters of cities. Even before they are completed, these homes began to show signs of gardens being planned and planted as Lithuanians reconnect to household and nature. Lithuanians are affirming their cultural idea of a self-sustaining homestead.

Greeks used the word "oikos" to refer to this notion of a self-sufficient home. In English, we have derived both the term ecology and economics from the Greek word. In recent
times, these two abstractions have been presented as polar opposites in many western development debates. But Lithuanians, and other peoples of Eurasia, have talked of remarrying these two ideas and finding a new economic development path, "a third way," that avoids the environmental devastation of both capitalist and socialist societies. Lithuania is fertile ground for such a new experiment.
Bibliography


