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NCSEER NOTE

This report is part of a Council-funded research project entitled Environmental Resources and Constraints in the Former Soviet Republics. Twenty one reports, listed below, resulting from this project will be distributed seriatim by the Council, and will collectively become the chapters of a book to be published in 1994 by Westview Press. Eighteen of the 21 (written by other authors) deal with the fifteen former republics, and three (written by Dr. Philip R. Pryde, the Principal Investigator) are summarizing reports.

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

Latvia

Juris Dreifelds

Executive Summary

The following paragraphs summarize the main contents and conclusions of a chapter on Latvia, 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 Latvia is briefly summarized, followed by a survey of its relatively limited mineral resources and any significant environmental constraints (climatic, geomorphologic, etc.) that affect the country’s development. 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 attention is directed to the problems that currently exist within Latvia concerning energy resources, pollution at Jurmala, and deterioration of the Daugava River (especially around Riga). Multinational efforts to better protect the Baltic Sea are also discussed.

The main conclusions of the chapter are that Latvia has both advantages and problems in solidifying its independence. Its advantages include the economic center of the Baltic region (Riga) and its well-developed port, excellent beaches to attract foreign tourists, and a level of economic interest on the part of west European countries. Lingering problems include its large Russian minority, a reliance on foreign fuels, and a current lack of markets for its products.

Philip R. Pryde, June 6, 1994
Chapter 7. LATVIA

Juris Dreifelds

Latvia is located on the eastern shores of the Baltic Sea. Its neighbors include Estonia on the north (300 km of common border), Lithuania on the south (500 km), and Russia (300 km) and Belarus (200 km) on the east (Figure 7.1). Its littoral along the Baltic Sea extends for over 500 km. While in popular perception Latvia appears tiny, its size of 64,589 square kilometers ranks it ahead of such countries as Belgium, Switzerland and Denmark. Its population of 2.6 million amounts to less than 1 percent of that of the former USSR. Its latitude places it on the same level as Labrador, hence the daylight hours are significantly different from those in New York City (longer nights in winter and longer days in summer). Its landscape has been carved by the deposits of retreating glaciers and is heavily dotted with hills and three major areas of highlands. There are numerous lakes and rivers. This variety in landscapes has limited the size of farm fields even though about 45% of Latvian territory is suitable for agriculture.

Latvia, Estonia, and Lithuania are collectively known as the Baltic republics. While there are many differences between them such as language, religious background and political culture, in contrast to other Soviet republics they were all independent and internationally recognized states prior to their forcible incorporation into the USSR in the summer of 1940. This period of independence has played an important part in the maintenance of a strong national consciousness and a European orientation.

Latvia's geographical location on the Baltic Sea has provided it with a maritime direction and has made it an attractive center of trade. Its capital city of Riga is equidistant from Moscow and Berlin (850 km) and because of its geopolitical and strategic advantages, has been a coveted object of both countries during their historical expansionist phases.

Latvia is unusual because of its mix of ethnic groups. Only 52% of the population was found to be Latvian in 1989. The decrease in the percentage of the Latvian population took place during the period of Soviet occupation from 1945 to 1991. Since 1991, however, there are signs indicating a slow Latvianization of the population.

History and Demography

Archeological objects indicate the presence of human beings in Latvia as early as twelve thousand years ago, however, no one is certain about the ethnic composition of these people. The Latvians were one of the branches of five distinct Baltic peoples, only two of which have survived into the modern era (the other survivors are Lithuanians).
Figure 7.1
Latvia

- Capital
- Cities
- Nature Reserves
Beginning with the thirteenth century the various Latvian tribes were conquered one at a
time by crusaders mobilized in Germany to Christianize the pagans. This conquest was
completed by about 1300 A.D. Many of the victorious soldiers remained and formed the basis
of the Baltic feudal baron class. This German- speaking ruling caste retained their power in
spite of a succession of foreign regimes in all or part of the country during the next six
hundred years (the Vatican, Denmark, Prussia, Poland-Lithuania, Sweden, Russia). The
greatest impact on the history of Latvia besides the German barons has been that of its imperial
neighbor, Russia. The process of attaching parts of Latvia to the Russian empire began in 1721
under Peter the Great.

Latvia was able to establish its independence in 1918 and was able to avoid the fate of so
many other parts of the former Russian empire which succumbed to Bolshevik domination.
Latvia's period of independence lasted until June 1940 when Soviet troops occupied the
country following the secret Molotov-Ribbentrop Pact of August 23, 1939. Many people
perished as a result of this occupation by the Soviet army. The annexation of Latvia and the
other two Baltic republics was never recognized by the United States. The oppression
continued under the Nazis from 1941 to 1945 and once again under the post-war rule of the
USSR. As in most other Communist countries private property was confiscated, farmers were
forced into collectives and most freedoms were extinguished. Tens of thousands of people died
as a result of deportations to Siberia, guerilla warfare and political executions. The overt terror
subsided after Stalin's death but the long-range program of Russification and Sovietization
continued. As a consequence of post-war industrialization, hundreds of thousands of mostly
Slavic workers settled in Latvia and formed a majority in all the largest urban areas (Table
7.1).

After Gorbachev introduced the policy of glasnost, Latvia became a leading center of
liberalization. The first openly anti-regime demonstrations began on June 14, 1987 in Riga to
commemorate the thousands who had been deported by the Soviets to Siberia. Many other
demonstrations followed. During this period of awakening, most Latvians, and surprisingly, a
majority of non-Latvians in the republic as well, expressed their desire for independence. The
first democratically elected government since the Soviet occupation declared on May 4, 1990,
it's intention to pursue independence. The goal came sooner than expected as a result of the
failed coup of August 1991 and the subsequent recognition of independence by the USSR.
Soon thereafter, Latvia, as a sovereign country, received membership in the United Nations
and other world bodies (Dreifelds. 1988, 1990).
Table 7.1: Population of Latvia by Ethnic Origin: 1935-1989 (in thousands)

<table>
<thead>
<tr>
<th>Ethnic Origin</th>
<th>1935</th>
<th>%</th>
<th>1959</th>
<th>%</th>
<th>1989</th>
<th>%</th>
<th>Riga %</th>
<th>Daugavpils %</th>
<th>Jelgava %</th>
<th>Rezekne %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Latvian</td>
<td>1,467.0</td>
<td>77.0</td>
<td>1,297.9</td>
<td>62.0</td>
<td>1,387.8</td>
<td>52.0</td>
<td>36.5</td>
<td>13.0</td>
<td>49.7</td>
<td>37.3</td>
</tr>
<tr>
<td>Russian</td>
<td>168.3</td>
<td>8.8</td>
<td>556.4</td>
<td>26.6</td>
<td>905.5</td>
<td>34.0</td>
<td>47.3</td>
<td>58.3</td>
<td>34.7</td>
<td>55.0</td>
</tr>
<tr>
<td>Belorussian</td>
<td>26.8</td>
<td>1.4</td>
<td>61.6</td>
<td>2.9</td>
<td>119.7</td>
<td>4.5</td>
<td>4.8</td>
<td>9.1</td>
<td>6.0</td>
<td>2.0</td>
</tr>
<tr>
<td>Polish</td>
<td>48.6</td>
<td>2.6</td>
<td>59.8</td>
<td>2.9</td>
<td>60.4</td>
<td>2.3</td>
<td>1.8</td>
<td>13.1</td>
<td>1.7</td>
<td>2.7</td>
</tr>
<tr>
<td>Ukrainian</td>
<td>1.8</td>
<td>.01</td>
<td>29.4</td>
<td>1.4</td>
<td>92.1</td>
<td>3.4</td>
<td>4.8</td>
<td>3.1</td>
<td>3.9</td>
<td>1.6</td>
</tr>
<tr>
<td>Lithuanian</td>
<td>22.8</td>
<td>1.2</td>
<td>32.4</td>
<td>1.5</td>
<td>34.6</td>
<td>1.3</td>
<td>0.8</td>
<td>0.9</td>
<td>1.2</td>
<td>0.2</td>
</tr>
<tr>
<td>Jewish</td>
<td>93.4</td>
<td>4.9</td>
<td>36.6</td>
<td>1.7</td>
<td>22.9</td>
<td>0.9</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>German</td>
<td>62.1</td>
<td>3.3</td>
<td>1.6</td>
<td>0.1</td>
<td>3.8</td>
<td>0.1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Estonian</td>
<td>6.9</td>
<td>0.4</td>
<td>4.6</td>
<td>0.2</td>
<td>3.3</td>
<td>0.1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gypsy</td>
<td>3.8</td>
<td>0.2</td>
<td>4.3</td>
<td>0.2</td>
<td>7.0</td>
<td>0.3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tatar</td>
<td>.04</td>
<td>0.0</td>
<td>1.8</td>
<td>0.1</td>
<td>4.8</td>
<td>0.2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>3.9</td>
<td>0.2</td>
<td>7.1</td>
<td>0.4</td>
<td>24.7</td>
<td>0.9</td>
<td>4.0</td>
<td>2.5</td>
<td>2.8</td>
<td>1.2</td>
</tr>
<tr>
<td>Total</td>
<td>1,905.4</td>
<td></td>
<td>2,093.5</td>
<td></td>
<td>2,666.6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


Note: The 1935 statistics exclude the territory of Abrene which was added to the RSFSR in 1944.
The Soviet period left Latvia with difficult demographic and linguistic dilemmas. As a result of the large migration of workers from other republics and differentiated birth rates, Latvians are almost a minority in their own country. They constituted about 83 percent of the population in 1945, but only 52 percent in 1989. In addition, by 1989 Latvians had become a minority in the seven largest cities of the republic. In the capital city of Riga the Latvians had been reduced to only 36.5 percent of the total population of 915,000. A similar situation applied in the next largest cities: Daugavpils (127,000) and Liepaja (114,000).

This condition has had an enormously negative impact; Riga accounts for 34 percent of the national population of Latvia and the bulk of publishing, higher education and culture. Since most non-Latvians have a minimal knowledge of Latvian, ethnic Latvians have difficulty conversing in their native language in their own capital city, and their daily life unfolds within a sea of Russian-speaking individuals (Appendix 7.1). According to the 1989 census, 65.7 percent of ethnic Latvians knew Russian (the highest rate of any former republic), but only 21.1 percent of Russians living in Latvia knew Latvian. Thus, following independence, it is not surprising that the government made Latvian the official state language and required a knowledge of Latvian in all jobs involving public contact (doctors, government clerks, etc.). This demand has created predictable strains within the non-Latvian population.

Another source of conflict has turned out to be the question of citizenship. As an occupied country Latvia had no control over its borders or its immigration, and thus received hundreds of thousands of foreign settlers. Today most of these people strongly favour "instant citizenship" for all those who desire it, without any pre-conditions such as language requirements or length of residence. Most ethnic Latvians, however, are opposed to such a blanket policy. The Latvian parliament (Supreme Council) in 1994 was considering a law requiring 10 years of residency, a knowledge of the state language (Latvian) and an oath of loyalty. The draft law also contains a quota limiting the number of new citizenships that can be granted annually.

Another lingering issue in early 1994 was that of the remaining Soviet military troops in the republic. Russia, now in charge of them, ties their removal to the status of the ethnic Russian residents in Latvia. A serious incident involving these troops and local Latvian officials occurred in January, 1994, and all sides would like to avoid the possibility of such incidents escalating into armed conflict. This has led to a tentative agreement for the removal of the remaining troops by August 31, 1994.

The upheavals of the last few years have wrought changes in the demographic patterns of Latvia. Beginning in 1990 more people left the republic than came to live in it. The net out-
migration during 1992 was over 30,000. There has also been a shift in self-identification among a certain percentage of those from mixed marriage families involving a Latvian parent or from those of Latvian origin who had earlier assimilated to the predominant (Russian) power group. Now many of these have chosen to be identified as Latvians. The rates of natural increase have also changed. The birth rate of all groups has decreased, but that of the Russians has been particularly drastic. They now have a negative natural rate of change in population as a result of lower births and higher deaths.

Natural Assets and Resources

Latvia is not a highly mineralized region and contains relatively few metal and hydrocarbon resources. On the other hand, it is rich in biotic resources.

While Latvia is one of the oldest populated countries of northern Europe it still contains significantly large and pristine wilderness areas. Over 42 percent of its territory is wooded. Scotch pine and Norway spruce form about two thirds of forest stands. A very high proportion of the timber crop is immature because of previous over-cutting and the devastation wrought by several hurricane force storms in the recent past, hence much of the local wood supply comes from thinning and improvement cuts. A very high percentage of harvested wood is utilized for combustion and with increased prices of oil and other fuels the popularity of wood furnaces and stoves has increased dramatically, even in cities. Wood is also used by the republic's paper industry and by its specialized plywood and furniture manufacturers. The traditional designation of "green gold" given to Latvian forests has recently been discovered by a myriad of private companies and "privateers" who have found a lucrative market in the export of lumber to neighbouring countries, often without proper licensing or payment of taxes.

Ironically, while the Soviets overcut the allowable annual yield of wood, the area of bushland has increased since 1940. The abandonment and eventual overgrowth of many isolated, formerly private farms by low value scrub may not have added much in terms of timber value, but did create ideal conditions for wildlife. The World Wildlife Fund in its 1992 Latvian project acknowledged the existence of many unique ecological sites and animal species rarely found in other parts of Europe (i.e. black storks, small eagles, otters, wolves, beaver, lynx). An added feature of Latvia's environment is the large territory occupied by lakes and marshes (over 10 percent). The variegated and rapidly changing environments of glacial moraines and lowlands has allowed temperate southern flora (oaks) to grow within a few hundred meters of northern flora (bog cotton and cloud berries). Indeed, one of the most
appealing aspects of the Latvian countryside is the interspersing of glacial highlands (25 percent of territory) with undulating or flat plains. The recent trend to privatization of abandoned farms and the reckless and often uncontrolled cutting of timber stands for fuel and for quick profits may jeopardize the existing ecological sanctuaries.

To protect this natural wealth, Latvia has created 5 state nature reserves, totalling about 40-thousand hectares, and almost 150 (as of 1987) smaller nature preserves (Table 7.2). One of the first national parks in the former Soviet Union was created in 1971 along the Gauja River (see Figure 7.2). A problem exists, however with former private landholders in the area of some of the reserves wishing to have these parcels deeded back to them.

Latvia’s location on the westernmost borders of the USSR and on a sea which also washes the shores of NATO countries created an unexpected windfall for naturalists. The Latvian sea coast was inadvertently protected by the Soviet border guards. These troops, for security reasons, destroyed many of the existing houses along the sea shore and prevented the construction of new homes in this area. As a result there are over 300 kilometres of unsullied and "undeveloped" sea shore washing on mostly sandy slopes and dunes, covered by natural pine and spruce forests. While laws have been passed to prevent any construction within one kilometre of the sea, many legal loopholes as well as the general ignoring of such laws has opened the prospects for the destruction of a wild coast not found in any other part of Europe. As yet, local entrepreneurs have not realized the long range prospects of developing eco-tourism.

The more populated seaside of Jurmala, with its many sanitoria and tourist accommodations was a key rest zone for the Soviet state and the Riga population since independence. Much has changed, however. Jurmala beaches have remained closed to swimming since 1988 due to bacteriological contamination and few visitors find their way here from Russia and other former Soviet republics. This resort area with its striking tall pines and antique architecture has the potential for becoming a major attraction for West Europeans as it did in the interwar years.

The Latvian climate is humid with high rates of precipitation. One of the benefits of this condition has been the ready availability of water for recreation and for industries. Indeed, Latvia has much more water per capita than almost all other republics of the former USSR. While this has helped processes of self purification, it has also lessened pressure for the recirculation of waste water. In addition, this abundance has attracted industries producing large volumes of effluent.
**Table 7.2: Preserved Areas in Latvia**

<table>
<thead>
<tr>
<th>Type of Preserve</th>
<th>Number</th>
<th>Total area (b)</th>
<th>Average size (b)</th>
<th>% of Republic (c)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nature Reserves (&quot;zapovedniki&quot;)</td>
<td>5</td>
<td>396.72</td>
<td>79.34</td>
<td>0.62</td>
</tr>
<tr>
<td>Biosphere Reserves</td>
<td>0</td>
<td>0.00</td>
<td>-</td>
<td>0.00</td>
</tr>
<tr>
<td>National Parks</td>
<td>1</td>
<td>837.50</td>
<td>837.50</td>
<td>1.31</td>
</tr>
<tr>
<td>Natural preservest (&quot;zakazniki&quot;)</td>
<td>148</td>
<td>1040.00</td>
<td>7.03</td>
<td>1.63</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>154</td>
<td>2274.22</td>
<td>14.77</td>
<td>3.57</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Nature Reserves (date created)</th>
<th>Hectares</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grini (1957; 1936)</td>
<td>1477</td>
</tr>
<tr>
<td>Krustkalny (1977)</td>
<td>2902</td>
</tr>
<tr>
<td>Moritssala (1912)</td>
<td>818</td>
</tr>
<tr>
<td>Sliere (1957; 1921)</td>
<td>15428</td>
</tr>
<tr>
<td>Teichi (1982)</td>
<td>19047</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>39672</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>National Parks</th>
<th>Hectares</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gauya (1973)</td>
<td>83750</td>
</tr>
</tbody>
</table>

(b) In square kilometers.
(c) Area of Latvia is 63,700 sq. kilometers.

Figure 7.2: View along the Gauja River from reconstructed Turaida castle in Latvia’s Gauja National Park.
As a coastal republic it is not surprising that much of the water carried by Latvia’s rivers is collected outside its boundaries. Thus over 60 percent of the annual water volume of the six largest rivers comes from abroad, mainly from Belarus and Lithuania. The dangers inherent in a lack of pollution cooperation were brought home to Latvians in November, 1990 when a polymer complex in Novopolotsk, Belarus, accidentally spilled 128 tons of cyanide derivatives into the Daugava River (Western Dvina) and did not warn downstream users in Latvia. Only the presence of numerous dead fish forewarned Latvian inhabitants about the danger.

Water has also been a source of valuable electricity. Latvia’s largest river, the Daugava carries a large volume of water over its 370 km flow through Latvia and has stretches of significant descent. There are presently three hydroelectric dams supplying over a third of the republic’s consumption of electricity. It is noteworthy that the construction of the number two dam at Plavinas involved a wide ranging and surprisingly agitated confrontation between naturalists and resource exploiters in 1958 - a period of ideological thaw when more liberal and nationally minded Latvian Communists dominated the Party in the republic. After their purge and replacement by ideological conservatives in 1959, the dam project was signed for construction.

The projection of another dam on the Daugava, dam number four near Daugavpils, precipitated another nation-wide debate and confrontation between environmentalists and engineers. This time the engineers lost and the project was terminated in November 1987. This victory was a critical factor in the reawakening of Latvian consciousness leading eventually to the vigorous pursuit of autonomy and then independence. The initiative for this successful campaign which began in October 1986 was taken by two journalists, one of whom, Dainis Ivans, later became the first leader of the Latvian People’s Front. Many groups in Latvia and to a lesser extent in Belarus were mobilized. Meetings, demonstrations, articles in the press and media events characterized this rising of the people against a seemingly untouchable project of the then current five year plan. The truly effective coup-de-grace to this project was masterminded by the scientific community, not merely of Latvia but also of Belarus and more importantly of the USSR Academy of Sciences which provided the much needed credibility and legitimacy to change the minds of decision makers in Moscow (Dreifelds, 1989).

The abundance of water has created economic problems as well. A large part of Latvia’s useful agricultural land requires constant draining. This has necessitated extremely expensive water amelioration projects involving the laying of drainage pipes, the straightening of natural streams, the digging of drainage ditches and the construction of polder dams. During the 1960s and 1970s drainage work absorbed about a third of all agricultural investments in Latvia.
Indeed, Latvia, with less than one percent of the former territory of the USSR, claimed over 11 percent of all Soviet drained land.

Another negative aspect of the climate pattern is that the heaviest precipitation usually occurs at harvest time, in August and September. This hinders mechanized grain harvesting, leads to grain drooping and forces heavy investment outlays in grain-drying structures and ventilation systems. In 1992 ironically, the biggest problem was lack of rain. Such a degree of dryness had not been experienced in over a century.

In general the climate has determined that the mainstay of agriculture in Latvia is clearly animal husbandry and dairying, although much attention is also paid to cereal and root crops. Most of the field crops (barley, oats, potatoes) have traditionally been utilized for animal feed. One of the important features of Latvian agriculture for many decades, as planned by Moscow specialists, was to grow pigs and other animals in large complexes utilizing feedstock from other republics. With the dissolution of the former patterns of inter-republic trade many Latvians have been forced to cut back on animal husbandry, slaughtering their cattle and pigs because of a lack of affordable feed.

In spite of many problems, agriculture still presents one of the key resources of the republic. The privatization process has allowed over 50,000 individual farmers, mostly Latvian, to begin farming. In view of the small size of these farms (an average of 17 hectares) and the lack of previous experience by many, a large number of the novices will be involved in little more than subsistence farming and many of the younger enthusiasts may soon become discouraged or go bankrupt. On the other hand, the loosening of agricultural quotas and tariffs by the European Community as now seems probable, could raise the survival potential and even prosperity of Latvian farmers.

While forestry and agriculture are among the most important resources, a signal advantage of Latvia is its seaside location and year-round ports. The port of Riga, with its container terminal and freight traffic from Japan via Siberia has particularly great potential for growth. The port of Ventspils is the end terminal for a Volga-Urals crude oil pipeline built in 1968. The port has three berths capable of servicing large ocean tankers. The American Occidental Petroleum Company (“Oxy”) built a giant industrial chemical complex here increasing the economic importance of this all-season port, but at the same time creating dangerous conditions of pollution and a threat of chemical explosions within the boundaries of the city. The third port of Liepaja, was for many decades under the supervision of the Soviet military and at times even harbored Soviet atomic submarines. Not until May, 1992, was Liepaja relinquished by the Russian military. Much rebuilding is in store, but the port holds
much promise for the future. The post-independence cooptation of the Soviet merchant ships which were based in Latvia has provided the republic with a strong source of foreign currency. Many of the 150 or so ships with the Latvian Shipping Company, however, are old and dilapidated.

Other significant natural resources exist such as raw materials for cement, gypsum, high quality clay, peat and construction materials such as gravel, limestone and sand. Fish from the Baltic Sea are also in great demand. Amber which is washed up on the beaches of the sea is a much sought after material for jewelry and has had a symbolic impact on the country which is often called "amberland". Some minor deposits of oil have been found but greater hope is placed in locating oil in the Baltic Sea within Latvian territorial waters.

Latvian Industry

During the Soviet period Latvian industry was developed according to the concepts of a Moscow planned division of labor. Most of the industries that were located in Latvia had to import workers and raw materials and export finished products. Exports as a proportion of Latvia’s GNP accounted for 50 percent in 1988, a level similar to that of ten other republics. Only Russia had a relatively low export dependency, at around 15 percent (Grahm and Konigson, p.6).

During the late 1980s, 60 percent of all industrial personnel in Latvia were employed in the engineering industry (42.8%) and the textile industry (20.3%). The other important fields were food industry (6.7%), wood industry (9.8%), building materials industry (5.2%) and chemical industry (6.7%). Certain military industries may not have been included in this calculation. Soviet enterprises often provided in-house services for their own employees such as housing construction, food catering and retail trade, consumer sales, health care and recreational facilities. Such a practice skews final employment figures (Grahm and Konigson, pp.25–27).

In view of Latvia’s export dependency and raw material import dependency on the former USSR, the entire industrial sector is undergoing adverse changes as a result of the rupturing of old trade patterns, the general chaos in currencies and finances, price hikes to world levels and endemic and widespread thievery by managers and other leading personnel. Production in Latvian industry declined 44.4 percent between October 1991 and October 1992 (Latvijas Valsts..., 1992, p.6). Especially hard hit has been the engineering industry which has not been able to sell most of its production. Over half of this sector was dependent on military orders from the Soviet armed forces, a market that has all but disappeared.
There is no doubt that the state with its limited budget will not be able to maintain industries that cannot sell what they produce. Massive unemployment appears to be on the horizon. Most of these workers, moreover, are non-Latvian. Privatization, which has been touted as the only way out of the economic gridlock has not proceeded very far. Less than 10 percent of production is outside direct state control (but not outside indirect control). Plants having some foreign capital accounted for only 1.1 percent of industrial production in 1992 (Latvijas Valsts ..., p.15).

There are signs of change. In 1991 most (88.2 percent) of Latvian exports went to the C.I.S. and 3.2 percent to western countries. One year later over 20 percent of exports went to the West (Latvijas Valsts ..., p.23). The International Monetary Fund also praised Latvia in 1992 for its determined actions in stabilizing the currency and limiting the printing of money. As a result of this policy, inflation in Latvia has been below 4% a month from December 1992 to April 1993. A major change in attracting foreign investments will occur when the former Soviet armed forces, numbering about 30,000, leave Latvia.

One of the most critical variables in changing the costs of production has been energy, and in 1991 Latvia imported 91% of the energy it consumed. Latvia is dependent on Russian oil and gas and Estonian and Lithuanian electricity. Russia is now charging close to world prices for its supplies while Latvia’s Baltic neighbors are strongly pushing for more realistic electricity prices. These price changes have affected all levels of the population. Most people cannot afford the high price of energy and the state cannot afford to continue subsidies.

Switching to wood, to gas meters and to smaller apartments is a step forward but obviously such measures are not enough.

Environment and Pollution

Latvia as an urbanized (71%) and industrial republic has had to wrestle with a variety of endemic problems of pollution. However, these have not been of the same severity as in other heavily industrialized parts of the USSR, or in the pollution triangle of Poland, former East Germany, and the Czech Republic.

The assault on the environment has come from many directions. The most pressing concern is water quality. Air pollution is less of a problem because automobile transportation is less developed than in the West. Also, cleaner natural gas and electricity have replaced dirtier energy sources such as coal. There is growing concern over toxic wastes and the haphazard unmonitored burial of industrial and commercial garbage. Abandoned explosives and poison
gas canisters from World War II, dumped off the Latvian coast near Liepaja have become a major source of tension (Diena, February 25, 1992).

The three rivers of Daugava, Lielupe and Venta carry the bulk of water pollutants. Riga in particular, a city of about 900,000 people which straddles the Daugava less than 10 km from its mouth at the Gulf of Riga, has been the major source of contaminants. It accounts for two thirds of industrial production in Latvia and as yet only about 20 percent of its sewage is properly processed (Figure 7.3). The construction of a treatment plant for Riga sewage has gone on for over twenty years and to many it seems likely that it will continue another twenty years.

Farming has been responsible for a growing share of water pollutants. Erosion of hilly terrain and high levels of fertilizers and pesticides have created difficult problems of containment. One of the key debilitating aspects of rural areas has been the careless attitude and ignoring of environmental laws. Animal barns are constructed alongside water bodies, fertilizers and pesticides are stored in ramshackle buildings, pollution treatment equipment is sloppily maintained and oil storage depots have insufficient environmental safeguards.

In 1989, only 110 million cubic meters, or 30 percent of total effluent in Latvia, was adequately treated before being dumped into local waterways, a rate of purification somewhat ahead of Russia (11%) and Lithuania (25%), but exceeded by all other former Soviet republics (Narodnoe Khoziaistvo SSSR 1989, p.248). The bulk, or 86 percent of all inadequately treated waste water originated from commercial-industrial sources.

The Sloka Pulp and Paper Complex right alongside the resort city of Jurmala has been a perpetual pollution delinquent. The complex was built during the czarist period in 1895. It has been the focus of pollution criticism and charges ever since the 1930’s, but particularly during the Soviet period when its production of paper increased over fivefold, but the installation of purification facilities lagged far behind. The first protests about Sloka in the post war period surfaced in 1956, but the primary pollution treatment complex was put into operation only in 1975 and the secondary or biological treatment stage in 1978. A third more sophisticated chemical cleansing complex was planned but never installed. According to several oral sources even the first two stages came about as the result of the personal intervention by Premier Aleksei Kosygin who regularly vacationed in Jurmala.

The major confrontation between the republic and the All-Union pro-Sloka forces began in 1987, after the victory in stopping the Daugavpils dam. This time, rather than ask for more control equipment, environmental activists were determined to shut the mill entirely. In the end Moscow won by simply threatening to cut off the flow of paper to Latvia. The mill, however,
did decrease the volume of production and for one month in May 1990, stopped production
entirely to clean out its settling ponds and to refurbish other pollution cleaning equipment.
Together with Riga sewage, Sloka’s wastes have forced the closing of almost all seaside
beaches extending over 10 km on each side of the Daugava. Due to both environmental
concerns and economic necessities, the Sloka mill was shut down again in 1993 for an
indefinite period.

Eutrophication (excessive nutrients that can lead to algae blooms) is a growing problem
in inland waters as well as in the Baltic Sea. In spite of the various problems, however, and
not taking into account toxic contaminants but only microbiological indicators, Latvia’s
waterways on average can be classified as clean to moderately polluted. Individual rivers,
lakes, and sections of the sea, however, do vary and are listed in official categories from very
clean, clean, moderately polluted, polluted, dirty, very dirty to extremely dirty (Latvijas Vides ...., 1991).

The total discharge of air pollutants by weight in Latvia was significantly smaller than in
the neighbouring Baltic republics, reaching only one third of Estonia’s and two fifths of
Lithuania’s levels (Latvijas Vides ..., p.5). In 1989 the total discharge of air pollutants was
584,780 tons or 9.0 tons per square kilometer. The major share by volume of this pollution
(73 percent) was provided by motor vehicles. Among the stationary sources thermal power
plants were the most significant contributors, followed by agriculture and the food industry
(sugar, milk canning) building materials (cement and lumber) and municipalities (heating
facilities).

While factories have been able to control 93 percent of solid emissions, 97 percent of
their polluting gases and evaporated liquids have not received treatment. In 1990, only 40 gas
purification facilities were in operation. A major source of air pollution comes from Lithuania
where the ejections from the Mazeikiai petroleum refinery and thermoelectric plant and Naujoji
Akmene cement plant are carried north. About 247,647 tons of hazardous wastes are produced
every year, but these are discarded in regular dumps or other unsuitable areas (Nordic Project,

The environmental movement was one of the major catalysts of the Latvian awakening.
Between 1986 and 1990 the topic was on the agenda of every politician, newspaper and social
group. The undisputed leader in this area was the Vides Aizsardzibas Klubs (Environmental
Protection Club), led by forester and poet Arvids Ulme. The Greens even elected 7 deputies to
a Parliament of 201, and during the election campaign of Spring 1990 almost all deputies
claimed to be environmentally conscious. Since 1990, and especially since 1992 when rapidly
Figure 3.3  Discharge of polluted effluent (lighter shaded area of water) into the Taugavas River at Riga.
growing economic hardships have created major strains. Environmental issues have been receiving little publicity.

The official governmental body responsible for environmental issues is the Environmental Protection Committee (EPC). Rather than being attached to the cabinet it is under the direct jurisdiction of Parliament. Initially this allowed for greater freedom of action for the Committee, but its chairman in May 1992 indicated in an interview that it might be more effective if it were part of the cabinet. In 1992 the EPC had about one hundred people in its administrative offices and about 670 inspectors, scientists and technical specialists. The EPC has the power to shut down any object temporarily or forever, but this is rarely done. All new building or production projects require an environmental impact assessment which has to be signed by the Committee. The Committee also establishes pollutant emission standards and helps in setting the resource based "pollution tax". It is also in charge of the Environmental Protection Fund, a financial repository for fines and losses created by polluters.

An unexpected by-product of the slowdown in the economy has been the lowering of pollutant volumes. This gain, however, has been undercut to some extent by the decreasing funds available for pollution control equipment and programs.

International Position and Future Prospects

During Latvia's independence period before the war, many resources were allotted to the building of communications and transportation infrastructures. After the war, Latvia's strategic location within the Soviet Union helped promote a dense development of transportation networks. The east-west routes are the best developed due to the flow of trade and major contacts to the east, particularly with Moscow. The all-season ports should help Latvia expand maritime contacts with the countries along the Baltic Sea. Indeed, a very close economic relationship appears to be developing with Sweden and Denmark. There is a great potential of growth with the Baltic ports of Germany such as Rostock, Luebeck and Kiel. Riga was for several hundred years an important trade link and centre for the historical free trade of the old Hanseatic League. There are now serious attempts to reactivate this League. Another project which could help international access for Latvia is the planned highway link between Helsinki and Warsaw (ferry from Helsinki to Tallinn).

There is much international interest in ameliorating environmental problems in Latvia. In particular, the Scandinavian countries and Germany have realized that their own shores of the Baltic cannot be fully protected unless all the countries around this sea aim for the same levels of cleanliness. Indeed, they have concluded that every unit of currency spent in the former
communist countries has a far greater impact in lowering overall pollution levels than if spent at home. Hence, their numerous technical and educational initiatives for the abatement of harmful pollutants on the other shore of the Baltic are in reality a wise investment in their own ecological welfare. One of the most active institutional frameworks in this direction has been the steering agency of the Helsinki Convention on the Protection of the Marine Environment of the Baltic Sea Area. This Convention was signed in 1974 and entered into force in 1980. The steering agency or Helsinki Commission (HELCOM) created a special task force in 1990 to coordinate and assist the elaboration of concrete programs from each of the Baltic littoral countries including Latvia. Latvia became a full member of HELCOM in March 1992.

The head of the Riga Environmental Committee acknowledged in May 1992 that much foreign advice is being provided but not enough concrete financial aid has been forthcoming. At a time when Latvia is experiencing wrenching economic pressures and has reached close to subsistence levels of survival it does not have the capacity to invest in costly ecological projects. Latvia is today in a unique position to maintain and enhance its exceptional natural endowments such as the unspoiled beaches, salmon streams, forest tracts, marshes and other water bodies, and rare animal and plant species. Well managed ecological tourism, especially in such a central part of Europe, could be an environmentally successful option for stimulating the economy. On the other hand the enticement of immediate cash from unscrupulous developers could turn Latvia into a weak and tawdry copy of the commercial tourist centers of Europe.

Unless more concrete initiatives are undertaken by Latvians themselves and by wealthier neighboring countries, there is a great likelihood that Latvia’s rich natural endowments will succumb to the forces of least resistance, and another link in the chain of the world’s natural heritage will be lost for use and enjoyment by future generations.
Appendix 7.1: Latvian Share of Employment in Various Branches of the Economy: June, 1987

<table>
<thead>
<tr>
<th>Occupation</th>
<th>%</th>
<th>Occupation</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Culture &amp; Art</td>
<td>74.6</td>
<td>Construction</td>
<td>45.8</td>
</tr>
<tr>
<td>Agriculture</td>
<td>69.5</td>
<td>Housing, Communal Economy &amp; Personal Services</td>
<td>45.4</td>
</tr>
<tr>
<td>Public Education</td>
<td>58.8</td>
<td>Science &amp; Scientific Services</td>
<td>42.2</td>
</tr>
<tr>
<td>Communications</td>
<td>56.7</td>
<td>Industry</td>
<td>36.3*</td>
</tr>
<tr>
<td>Administrative Apparatus</td>
<td>56.4</td>
<td>Light Industry</td>
<td>33.6</td>
</tr>
<tr>
<td>Credit &amp; State Insurance</td>
<td>55.1</td>
<td>Machine Construction</td>
<td>31.0</td>
</tr>
<tr>
<td>Health Protection, Physical Culture &amp; Social Security</td>
<td>53.5</td>
<td>Chemical Industry</td>
<td>30.1</td>
</tr>
<tr>
<td>Trade, Public Catering, Material Tech Supply Sales &amp; Procurements</td>
<td>48.7</td>
<td>Railroad Transport</td>
<td>26.5</td>
</tr>
<tr>
<td>Information &amp; Computer Services</td>
<td>48.1</td>
<td>Water Transport</td>
<td>11.5</td>
</tr>
<tr>
<td>Auto Transport</td>
<td>47.3</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


*The latter source claims the Latvian share of employment in industry to be 38.1 percent for the same period.
Bibliography

Diena. Republic of Latvia daily newspaper.
Jurmala, City of Jurmala weekly newspaper.