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3.1 INDUSTRIAL PRODUCTION

3.1.1 Development and decline

Industrial production in Livani has a long historical background. The railway came there already in the late 1800s. The most intensive development period was from 1950 -1990. It was mainly due to the supply of local raw materials. Seven large factories were in operation during that time. Yet a decline in Livani, as everywhere else in Latvia, began after 1990 due to the unsuccessful methods of the structural rearrangement implemented by the government, intensified by the lack of knowledge of market economy. Industrial production has since declined dramatically, and several branches have even stopped functioning. The big factory buildings and the industrial equipment is deteriorating, the grounds are overgrown with weeds, and the number of workers has dramatically diminished. Under privatisation, the industrial enterprises of Livani have been divided into many structural units and in this way are subject to privatisation.

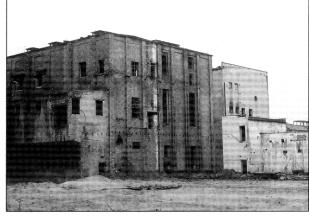


Figure 3.1 Deteriorating industrial buildings in Latvia. As in many places in the Eastern part of the Baltic Region, many industries have closed and the empty buildings are left behind. (Photo: Lars Rydén)

It is impossible to restore industry to its earlier state, despite the existence of local raw materials. To a great extent, this is connected with the loss of Russian markets.

Only a small amount of goods are sold to Russia. The industrial enterprises now produce mainly for the home market and are looking for markets in the West.

At present two companies coming from a previous glass factory is developing successfully, and an earlier peat production continues. There are also several smaller firms engaged in industrial production: the "Kometeh" company (a limited liability company), Livanu PMK (a mobile construction company), the "Buve un L" company (a limited liability company), as well as "Ronis un KO", a Latvian and Russian joint enterprise. These firms produce a small amount of concrete and gypsum products. There are not many workers, although during the busy season the number increases and then decreases at the end of the year.

Efforts have also been made to start new companies. One of them was a charcoal production operation where the product was intended for export to Germany and Sweden. Unfortunately this project did not work.

3.1.2 Major companies – the glass factories

Thanks to the existence of the Livani Glass Works, two enterprises have appeared. In 1994, the "Livanu Stikls" holding company started producing glassware and other glasswork. In December 1999, the "Livanu Stikls" holding company employed 301 workers as compared to 1985 when 1,300 workers were employed – a decrease of 77%. The total sales during nine months of 1999 were 783,666 Ls. The export dominated (Table 3.1). The home market was the single largest market with a total sales of 248,786 Ls.

Contracts for the delivery of goods are signed after visiting various expositions abroad. The chief exposition is in Frankfurt-am-Main, Germany. The raw materials are supplied from abroad - Russia, Ukraine, Bashkiristan and other countries.

Another enterprise, which developed thanks to Livanu Glass Works, was the independent state enterprise ANDA. In December 1994 ANDA was privatised, and its functions passed over to the limited liability company, "ANDA OPTEC." In 1999 the company employed 45 people, compared to 16 employed in 1996, 24 in 1997, and 40 in 1998. Ten of the 45 employees have post-secondary education.

The products of the Anda Optic company are:

- quartz -type optical fibres,
- quartz-polymer-type optical fibres,
- quartz optical fibre beams,
- medical instruments,
- optic cables.

Most of the Anda Optic products, with the exception of optical fibres, are not mass-produced. They are, rather, very specific products used as component parts by other

Table 3.1 Livanu Stikls holding company export sales, 1998-99.

Nordic countries	sales in Ls	Other countries	sales in Ls
Lithuania	493	Netherlands	371,608
Norway	65,173	Germany	293,720
Denmark	3,989	Great Britain	6,561
Sweden	18,558	USA	333



Figure 3.2 Fibre optics demonstrated during a visit at Anda Optics in Livani. (Photo: Per G. Berg)

firms. Presently, the company exports 100% of its products to Western countries. The chief customers are firms and research institutions in the USA, Japan, and Western Europe engaged in the development and production of high-tech equipment. Basically, these products find application in the following areas: medical diagnostic equipment, optic sensors, laser devices, spectroscopy, automatic control systems for technological processes, aviation and automobile construction, and space technologies. The raw materials come from Germany, Russia, and the USA, although some are purchased in Latvia. The intention is to increase the number of employees from 60 people in 2000 to 110 in 2004. The planned amount of production was 410,000 Ls in 2000 and reached to 9,500,000 Ls in 2002.

3.1.3 Biomasses and peat production

During the Soviet period, the Livani Peat Factory which used the local peat bogs was a very important industrial enterprise. Peat is marketed locally as well as on foreign markets. There are two shops of Livani and shops in Daugavpils, Ludza, Rezekne, Riga, Kraslava, Ogre, and Preili.

The Livanu Kudras Fabrika holding company was privatised in 1998. In 1998, sales revenue was 465,225 Ls, while during the first nine months of 1999 sales revenue was 1,857,200 Ls.

In 1998, 50,000 m³ of peat and its products were produced, which increased to 160,000 m³ in 1999. 80%

of the peat is exported: 75% goes to Germany, Denmark, the Netherlands, France, Italy, Croatia, and Slovakia. At present there are 50 people employed, with an extra 20 employees during the busy season. In the late 1980s, 180 people worked there, almost four times as many as now.

3.1.4 Food production

A Part of the Livani Biochemical Plant was privatised by J. Bojars, owner of the "Ezerini" farmstead. The enterprise has been in operation since 1996. It is engaged in several lines of activities:

- the production of concentrated feed
- baking bread
- services, such as grain milling and machine repairs
- the production of 25 kinds of concentrated food
- the production of flour from bread grain and groats

Every year about 200 tonnes of grain are purchased from 35 farmers living in the regions of Preili, Daugavpils, Jekabpils, Madonas and Rezeknes.

Vitamins and mineral substances for the production of concentrated food are purchased abroad, in Holland and Finland, and sunflowers are bought from Ukraine.

Four kinds of bread are baked: klona (rye bread baked on the floor of the hearth), saldskala (sweet and sharp fine rye bread), formas (rye bread baked in blocks), and whitemeal bread.

In 1998 the turnover was 138,845 Ls which decreased to 108,331 Ls in 1999. At the moment 28 people are employed at the plant as compared to the earlier 32. The reduction of production is due to a decreased market, it sees that the products are too expensive.

3.1.5 Notes on industrial development

The industrial production in Livani, which once was very important for the economic life of the town, is not particularly visible any more. All of the seven large factories have been closed and those which are operating after privatisation do not yield the former profit. Export to Russia is only a fraction of what it was during Soviet times. The development seems irreversible. The workers who worked at the large plants are now already middleaged and retraining them is sometimes impossible due to health problems and unwillingness.

We are clearly into a new phase. The managers of plants are looking predominantly for young employees. According to the data provided by the administration of the plants, the average number of those employed in industry is about 450 people. Those plants which have been privatised are developing. They attract both young workers and investments for the development of production and modernisation. The increase between 1998, 1999, and 2002 reported above is quite impressive for three of the newer companies: Livani Stikls, Anda Optics and the Peat factory, Livani Kudras fabrika. Anda Optics may be labled high tech.

New markets are also developing, not the least through new international contacts in Western Europe. Thus the major part of the products from the three companies mentioned is exported. It appears that after all this sector in the local economy now has passed its lowest point.

3.2 THE SERVICE SECTOR

3.2.1 Trade – commerce and shops

Trade was the first type of entrepreneurship which flourished at the beginning of the transition economy. In Livani, 130 firms are engaged in trade including 87 limited liability companies and 43 individual enterprises.

40 firms deal with food, tobacco and alcohol. The largest enterprises and 3 wholesale warehouses operate with a profit, 17 firms in all. 7 shops also sell fresh meat products. All the food shops also sell tobacco, alcohol, household goods, pharmaceuticals and sanitary supplies. The assortment in all the shops is approximately the same, only prices are different.

There are two bookshops in Livani with a wide assortment of books, stationery and greeting cards. The books are in the Latvian, Russian, English, German and Polish languages. If a customer needs a book, it can be ordered in the shop and delivered from Riga.

Ten shops deal exclusively in manufactured goods. In 1998, three shops sold building materials and in 1999 there are nine. In 1998 two of them were already showing a profit. There is one florist's shop in Livani and 4 more where, besides flowers, one can buy food, tobacco, alcohol, and manufactured goods. Three shops sell children's goods - toys and books. The Livani department store of the Preili co-operative society sells manufactured goods, souvenirs, food, tobacco, and alcohol It has also a small cafe. Seven pharmacies are also engaged in trade, selling pharmaceutical, sanitary and veterinary supplies.

At the present time, there are twelve companies selling second-hand goods. There is a wide variety of goods available - from clothes for children and adults to footwear and toys. These shops make a small profit, and the economic status of the customers vary.

Another kind of service is public catering - cafes, bistros, restaurants. In 1999 there were one restaurant, 3 bistros and 8 cafes in Livani, as compared to 7 in 1998. Three of them earned a profit in 1998. In 1998 there were also 3 gas stations, one vehicle leasing shop, 3 shops for spare parts, and 1 pay car park.

Assessing the results of mercantile enterprises may be done from the accounts submitted to the State Income Service. But in practice, it is rather more possible to assess an enterprise's success by knowing how busy they are. In 1998, one-third of 102 shops showed a profit. Since most shops have a staff of 2-4 people, some shops unavoidably go broke every year. Much depends on the skill of the trades people. Thus trade is one of the main activities in Livani, although not the most profitable one.

3.2.2 Transport and public services

There are a broad range of services in Livani that serve not only the people of Livani but the population of surrounding communities as well.

The predominant type of service is freight transport, in which 31 firms were engaged in 1998. For the most part these are small, limited liability companies (SIA) or individual enterprises with 2-4 workers. Most of the firms have a profit. The predominant freight is timber, however goods transport to and from Riga also takes place. Even

though these freight transport services are profitable, most entrepreneurs have an additional occupation, usually trade.

Services are offered at the post-office where one can subscribe for periodicals, pay for public utilities and telegraph accounts. Through the post-office, pensions, social security payment, and child support payments are received. In the Turku pagasts there is one local post office with two post women. In the Rozupes pagasts there are two local post offices with four post women. Daily postal routes in the rural areas extend 40 km. Rural postal workers do not receive minimum wage.

Currently in Livani there are several public telephone booths. In the Turku pagasts, almost every apartment in the apartment buildings have a telephone. In rural regions telephones are found in the larger population centres. In the Rozupes, public telephone boots are located near the blocks of flats. The rural population can pay their phone and electricity bills at the local post office or the Livani post office.

A fire fighting and rescue service is in operation in Livani. In the rural regions there is also a fire engine and brigade that render help when needed.

There is also one security firm in business.

3.2.3 Heating Systems

Other services received by the inhabitants of Livani are housing and communal services including services from the heating network, the Livani region of the Daugavpils gaze (gas company), and the Livani region of the Eastern Electric Networks. Part of population receives gas which is centrally distributed, but private houses mostly receive gas in gas cylinders. Gas delivery in cylinders is the chief method of supplying gas to the apartment buildings in Turku pagasts. In private houses, there are both stoves using gas cylinders and electric stoves.

In Rozupes pagasts, apartment buildings have gas centrally supplied, while individual consumers use gas cylinders delivered only once a week which can cause problems.

The apartment buildings in Turku have their own heating systems. The Jaunsilavu elementary school has

central heating and its own boiler house. In Rozupes, both the school and two residential buildings belonging to the municipality have central heating. The other apartment buildings have their own heating systems.

Heating in the Town of Livani is centralised, but private homes have their own heating systems.

Statistics below show that a high percentage of the population in the Livani area use renewable resources, wood and peat, as a main source of energy for heating. This consumption is essentially due to the difficult economic situation. Additionally, it means that approximately up to 150,000 Ls annually are invested in the local economy instead of flowing from the municipality to foreign energy suppliers. Statistics also show that there are a lot of opportunities for increasing the consumption of renewable energy resources as well as rationalising the energy consumption (Table 3.2 and 3.3).

It is very essential from the point of view of sustainability that inhabitants are adapted to the usage of renewable resources and have such a tradition.

3.2.4 Water and wastewater

The two main rivers, the Daugava and Dubna, have moderate levels of organic pollution and are used as public swimming areas. The groundwater is clean. There is a system that monitors the groundwater quality near gasoline stations.

66% of all households are connected to a centralised water supply and waste water channelling system. The biological waste water treatment plant uses only 38% (7,000 m³) of its capacity. It receiv waste water from the city households and industrial sites.

The main source of air pollution is transportation, as the main street of the town is also part of a heavily travelled highway. The total amount of air pollutants from stationary sources is approximately 10-20 tons annually.

The annual amount of solid waste per capita is 0.91 m³. The solid waste landfill is situated 7 km outside of Livani. The landfill site was established in 1974 and there are many design and organisational faults. There is no solid waste separation scheme.

Table 3.2 Wood consumption in private households in the municipalities of the Livani area.

Pagasts	No of houses	Amount, m ³	Costs, Ls/ m ³
Jersikas	695	4,692	4.5
Rozupes	1,076	7,260	3.5
Turku	844	5,016	3.5
Livani town	2,758	9,880	4.5

Table 3.3 Fuel consumption of industries and district heating in Livani in 1998.

Type of fuel	Amount	Costs	Comments
Natural gas	2,600,000 m ³		Import (Russia)
Wood	304.8 tonnes	3.5-4.5Ls/m ³	Local resource
Peat	27 tonnes		Local resource
Crude oil	4,480 tonnes		Import (Russia)
Electricity	Approx. 4.1 MW	0.04 Ls/kWh	Partly local resource



Figure 3.3 The water quality of the main rivers is good and they are suitable for swimming. (Photo: Lars Rydén)

3.3 NATURAL RESOURCES, AGRICULTURE AND FORESTRY

3.3.1 Natural resources

The main resource of the Livani area is soil. The soil quality is comparatively good. The lowlands, in the better drained locations, are soddy, moderately podzol, partly cultivated soils. In other locations they form a complex of soddy, clay, holm and marshy soils. The upland soils are predominately soddy, poor and medium podzol soils, which, due to deforestation, are in some places heavily eroded.

More than 40% of the area is used for agriculture, while 40% of the territory is covered by forests (mainly pine, birch, fir, black alder, aspen) and meadows.

The mineral resources include limestone at 44.6 ha in Livani with 8 million tonnes, and in Rozupes pagasts with 990 million tonnes in an area of 440 ha.

In Livani there is clay corresponding to 106.2 ha, 6.9 million tons. The peat resource in the bogs corresponds to 4,340 ha, with a total of 19,500,000 m³ of peat.

3.3.2 Agriculture

The territories surrounding Livani were for centuries agriculture lands with a long tradition. Development during the first period of independence from 1918-1940 was very successful. During the Soviet period, forced total collectivisation and nationalisation of the land was introduced. After the regaining of independence in 1990, the restitution of land took place. Currently agriculture is suffering from an extensive lack of resources and markets as well as structural changes.

In the Turku pagasts, the agricultural land is cultivated and the agricultural products are manufactured on 227 farms and 375 crofts. The average area of a farm property is 12 ha.

The majority of farmsteads are tiny, their production is not great, and sales are limited. Only about 6% of all farmsteads can be called producers of goods.

In order to expand production, small-scale farms need floating capital. Grain-crops are often not grown according to agro technical requirements resulting in low yields.

In Rozupes pagasts, the agricultural land is cultivated on 582 farms and 281 crofts. The average area of an agricultural farm is 9.9 ha (Table 3.5).

Table 3.4 Land use in Livani area (ha) (Preili district social, economic and regional development programme and strategy. Latvian, Preili, 1999. 92 pp.).

Pagasts	gasts Turku		Rozupe		Jersika	
Year	1997	1999	1997	1999	1997	
Agricultural land	4,962	4,924	7,868	7,845	3,508	
Forest	4,305	2,501	6,882	2,123	6,651	
Bush	202	179	338	361	92	
Swamp	1,415	25	1,858	1,221	113	
Water ponds	258	162	340	236	428	
Buildings	120	104	196	207	158	
Roads	198	62	285	41	313	
Other	482	108	406	176	395	
Total	11,942	8,065	18,173	11,116	11,658	

Table 3.5 Number and size of Farms/crofts in the Livani area.

Farm/Croft	Turku	Rozupes
Farms ≤10 ha(no)	47	233
Farms 10 - 50 ha (no)	169	349
Farms > 50 ha (no)	11	10
Farms total (no/av ha)	227/12	582/9,9
Crofts total (no/av ha)	375/4,6	281/5,8

Table 3.6 Distribution of agricultural land in Turku and Rozupe pagats in the Livani area (ha).

Pagasts	Number Turku (No.)	of users Rozupe (No.)	-	ural land Rozupe (ha)		rest Rozupe (ha)
Farmers	227	582	2,826	5,811	1,468	1,696
Householdland	375	281	1,581	1,657	982	244
Private gardens	207	56	14.5	-	-	-
State reserve	-	-	255	13	30	-

A limited number of non-traditional agricultural products are grown in Turku pagasts, such as oil-bearing black radish used as a fertiliser, valerian, and camomile.

Farmstead On the "Mazlejinas" farm, Janis Bernan is engaged in the small-scale cultivation of ecological products.

In Turku pagasts, 277 farmsteads are recorded as breeding primarily the Latvian Brown breed of cattle. Other breeds of cows constitute approximately 8% of the total number of cows. The principal branches of agricultural production in Turku pagasts are cultivation (cereal and feed crops) and cattle breeding with granger's cattle. Dairy products are mainly sold to the "Preilu siers" holding company as well as to individual consumers in the town.

As a rule, elderly peasants (constituting 54% of the population) are engaged in production in Rozupes pagasts. Therefore the users of land are mainly engaged in subsistence farming (natural economy). As a result of unaffiliated farming most farms are mixed farms, although specialisation is occurring. The main branches of specialisation are plant cultivation, grain growing and the growth of feed crop, and cattle breeding. After the closure of the "Jekabpils cukurfabrika" (Jekabpils sugar-refinery), sugar beet cultivation is no longer profitable as the nearest sugar refinery, "Jelgavas cukurfabrika" is too far away.



Figure 3.4 Almost half of the territory of the LIvani area is agricultural land. (Photo: Lars Rydén)

Table 3.7 Agriculture crops grown in 1998.

Crop	Turku	Rozupe
Rye	123	160
Winter wheat	250	900
Summer wheat	15	70
Barley	435	680
Legumes	14	60
Summer oats		300
Potatoes	120	200
Sugar-beets	11	9
Vegetables	54	75
Total	1,320	2,454

Table 3.8 No. of domestic animals in Turku and Rozupe pagasts.

Animal	Turku	Rozupe
Milk cows	583	1,147
Younger cattle	556	847
Pigs Incl. sows	424 (19)	1365 (220)
Sheep and goats	92	223
Horses	47	167
Poultry	2,493	4,980
Bee hives	177	312

There is one farmers' co-operative in Rozupes called "Mastarini" which is engaged in cultivation and cattle breeding. For the production of milk and meat the co-operative achieves good results and realises a profit of 32,000 Ls.

Another farmstead, "Drenu kalns", in addition to agriculture, is engaged in other activities, trade, forestry, etc., and is making a small profit.

3.3.3 Forestry in the rural territories

Like agriculture, forestry also has a centuries old tradition in the area. The term forestry refers to both harvesting and recreation in this report.

There are two kinds of forest management, state and private. In Turku pagasts, forests cover 4,305 ha and in Rozpes pagasts 6,882 ha of its community's total territory (Table 3.9).

The dominant tree species in the forests of the communities are pine, fir, aspen and birch. State forests generally form larger forest areas, while the private ones – are primarily small forests on overgrown arable land. These forests consist of a diversity of species, and are of



Figure 3.5 In the pagasts (rural communities) around Livani forest covers some 40% of the territory and is economically improtant. (Photo: Lars Rydén)

Table 3.9 Total pagasts area in Livani region.

Forestry	Turku (ha)	Rozupes (ha)
Private farms	1,434	1,572
Private crofts	981	275
State	1,871	5,333
Reserve	20	
Total area (ha./%)	4,305 / 36	6,882 / 37,8

varied density and quality. In the areas of natural growth, deciduous trees, mainly black alder, dominate.

There are 425 owners of the forest in Turku pagasts. In Rozupes pagasts, there are 491 owners and users.

The users of the forests in the community generally consume the resources of the forest as fuel, building material, pulpwood and casewood (marketable wood).

Artificially recovered forest areas, clearings for plant cultivation and sanitary felling constitute approximately 5% of the area.

In Turku pagasts there are 3 and in Rozupes pagasts there are 8 gang saws. In 1998 there were 10 sawmills in the Town of Livani. In 1999 the number of sawmills in Livani increased but in the rural communities it remained the same.

In 1998 there were 3 individual entrepreneurs who were engaged in the manufacture of articles from wood, straw and wicker. There were also joineries in operation, where articles from plywood and wooden boards are made.

Sales of forestry products for all the owners of gang saws and sawmills take place in Riga through dealers who sell them farther abroad. Presently, the purchase prices have fallen in Riga, generating an automatic decrease at the small gang saws. Currently, forestry resources are sold mainly in the form of round timber and pulpwood, but a small amount of lumber of various dimensions and sizes (square beams, laths, boards, etc.) is sold mostly on the local market.

3.3.4 Water and fisheries

River Daugava flows through the Town of Livani and Turku pagasts (community) (7.7 km). Nereta, a tributary of the Daugava, and Atasa, a tributary of the Nereta, crosses Turku pagasts. Alongside the Town of Livani flows Daugava which is crossed by its tributary Dubna. Livani has a lake, Lake Livanu, used for recreation.

In the community there are four lakes: Garais (17 ha), Silavu (12 ha), Sumanu and Masenu. There are also marshes: the Borovskas, Gainu, Masenu, and Peisinieku. The Gainu purvs covers an area of 1,112 ha and it is distinguished as a high marsh without a band of forest. A nesting place for rare birds (whimblers, golden plovers, cranes) has been recorded in the marsh.

Rozupes pagasts is crossed by Dubna River with its tributaries, Feimanka and Osa, as well as Sumanka and Borovka, the tributaries of Osa. There are marshes in the and Petermuizas, a part of the Steporu marsh, and a part of Krievu or Jersikas marshes.

The lakes in the communities and the town are privately owned, and the owners decide whether or not the population can use the lakes. Fishing in Daugava is allowed by granting special licences to fishermen who

want to sell their catch. Others may catch fish without a licence to meet their own needs.

Since the lakeshores are used for recreation, problems arise because there are no areas set aside for relaxing and swimming. It is possible to swim with the owner's permission. An official decision, the "Regulations on the protection of the coastal zones of water reservoirs", states that a 4 m wide strip of land along the lakeshores cannot be used for any purpose other than fishing and recreation.

The people of Livani should open a special recreational area by the water.

3.3.5 Conclusions and problems

The farmsteads of the communities of Turku and Rozupes are developing at an approximately equal rate, and their products are sold in the same places.

There are three other horticultural co-operatives in these communities that grow agricultural crops, however their agricultural production is oriented only to meeting their own needs. These are the so-called "cabbage patches."

Protected territories in Livani

Gainu marsh (1113 ha); Skrebelu marsh (3768 ha) Archaeological monuments from the national list:

- Gavartine castle mound
- Lacu ancient burial ground
- Steku ancient burial ground
- Veiguru ancient burial ground
- Zepu ancient burial ground



Figure 3.6 Harvesting the crop at a cabbage patch. (Photo: Peter Ocskay)

The agricultural products are sold in markets and shops, both in Livani and elsewhere, in Latgale, for instance, in Jekabpils and Daugavpils, as well as in Riga.

Due to the low cost of land at the present time the market situation for agricultural producers is not favourable.

Under present conditions, specialisation would not be advisable because no unified solution for the problem of protecting agriculture has been shaped. At the moment pig-breeding is profitable but it is hard to foresee the future.

Greater opportunities for profit would arise if individual farms established co-operatives with each other. There are currently 859 individual farmsteads.

There is a larger market for products in Riga and its surroundings than in Latgale, because in Latgale, the purchasing capacity is low and the farmers grow agricultural products for themselves.