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**Development Issues of the
Balaton Region**

**by
Attila Buday-Sántha**

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Zoltán GÁL

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Read by Gyula Bora, Miklós Oláh.

Translated by Zoltán Raffay.

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1 Preface

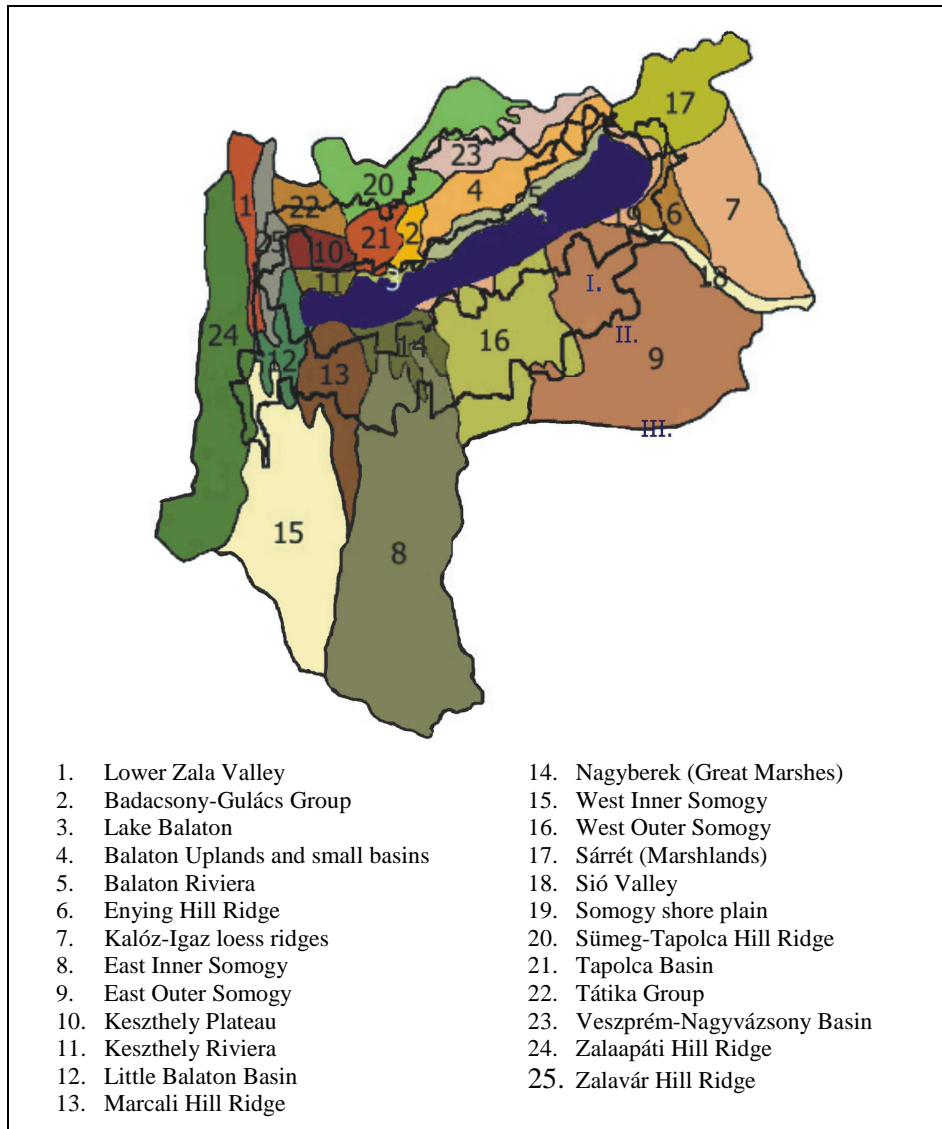
The Lake Balaton is one of the greatest natural treasures not only in Hungary but in Europe as a whole; it is not only one of the many lakes but a lake deserving a special attention due to its water of special quality, the varied environment and the economic value concomitant with the landscape value of the lake. The Balaton has one of the most spending endowments for bathing in Europe (shallow and warm freshwater, sandy beach); it is one of the biggest revitalised natural habitats in Europe, a bird paradise listed among the Ramsar habitats (Little Balaton), a centre of the European wine culture. Together with its special natural assets (volcanic cones) and architectural values (settlements, fortress ruins, mansions of the petty noblemen, castles of the aristocracy) it is a typical Central European region.

The development of the region, just like that of Hungary and the whole of Central Europe, have been characterised by belatedness and efforts made for catching up, which have only been partially successful by now. Looking at the history of the last century and a half, the same disequilibria and consequently the same tensions can be seen at the late 19th century, between the two world wars, in the 1930s, after World War II, in the 1960s, 70s and 80s and also these days (in 2007). The Balaton Region was an underdeveloped agricultural area of Europe, without any large city or an industrial centre, until the late 19th century; from the middle of the 20th century it was the ever stronger development of tourism and its economic effect that elevated the region from the other areas of similar character and development level. The demands of tourism highlighted in a concentrated way all those demands that were already considered as natural, organic parts of everyday life, tourism and the management of the settlements in the more advanced regions of Europe. As tourism was the primary factor determining the development of the region, the majority of the problems are also connected to tourism and these problems are interrelated, they have a mutually reinforcing effect. Century-old problems are the following:

- 1 Infrastructure is deficient.
- 2 The pace of development in the service sector lags behind the growth of demand.
- 3 The average spending of the tourists is low.
- 4 The season is short.
- 5 The demands of the different sectors of tourism (youth, health, bathing, cultural, family, hiking etc.) are mixed and occasionally exclude each other.
- 6 The high prices are not proportionate to the level of the services.

Figure 2

Sub-areas within the Selected Holiday Region of the Lake Balaton



Legend: I. – Boundary of lake shore settlements; II. – Boundary of the Selected Holiday Region of the Lake Balaton (Balaton Region); III. – Boundary of the water catchment area of the Lake Balaton.

Source: A Balaton Üdülőkörzet 1996–2002 [The Balaton Holiday Region 1996–2002]. Veszprém County Directorate of the HCSO, Veszprém, 2003. p. 6.

- 7 The behaviour of the local population (service providers and hosts) towards the guests, and their tourism skills (hospitality, hygiene, foreign language skills) are inadequate.
- 8 The developments implemented in the regions are not only insufficient but also lack harmonisation, so their regional effects are too weak.
- 9 The marketing of the Lake Balaton is inadequate; the Balaton has not been introduced on the tourism market as a single brand or product yet.
- 10 In land use, spontaneous processes are dominant, the level of land use, landscape development and –management does not meet the requirements of international tourism.

If we wish to find the reasons for these problems, the designation of the region in question is hindered by the fact that the lake and its environment, the catchment area of 5,755 km² is a single unit from the hydrological point of view, but the region is divided as regards public administration, management, economy, development level, culture and even physical geography (*Figure 2*). There are heterogeneous characteristics, conditions and interests around the Lake Balaton. The strongest integrating element among the areas with different endowments is the lake itself and the destiny of the lake, and also the results of tourism, the primary economic sector relying on the Lake Balaton. The significance of these economic and social factors and their effect on the development of the area is strong in the direct neighbourhood of the lake, where they promoted and still promote the birth of clearly visible common interests. As soon as in the late 19th century, social and non-governmental organisations were created for the articulation of these interests. This cohesive power, however, rapidly decreases and almost completely disappears as we get farther from the lake – despite the fact that the effect of these areas on the destiny of the lake and the quality of the water is not negligible.

The common interests along the lake and the direct impact of these areas on the conditions of the Balaton resulted in the recognition of the necessity of a single management and development of the lake more than one hundred years ago. This finally led to the designation of the Selected Holiday Region of the Lake Balaton (in 1979) and the handling of the lake as an independent development region since 1997. The biggest part of the tensions palpable in the region is still caused by the fact that this spatial designation, in the absence of real competencies and tools, is only good for the moderation but not the elimination of the problems occurring in the field of development. Both the catchment area and the holiday region are divided from the aspect of administration and management; they belong to three regions with very limited competencies presently, and three counties that are parts of three different regions. The altogether 164 settlements in the territory of the Selected Holiday Region of the Lake Balaton belong to 14 different statistical micro-regions, but these settlements, neglecting the boundaries of the statistical micro-regions, have created a total of 18 municipal asso-

ciations. In addition to the excessive fragmentation and very low efficiency of territorial management, another reason for the tensions in the region is that the Balaton region is the only region in Hungary, apart from Budapest, that is in the foreground of international interest day by day, so both the local management and the local population have to continuously face the problems coming from the inadequate development level.

Because of the above-mentioned reasons, our surveys are primarily focused on the Selected Holiday Region of the Lake Balaton, the so-called Balaton Region, but we occasionally have to look at processes that took or take place in the whole of the catchment area.

2 Characteristics and history of the Balaton region

2.1 The physical geography of the Lake Balaton

The Lake Balaton is one of the biggest freshwater lakes in Europe, a dominant element of the Hungarian landscape. Its surface at an average water level is 593 km², its shore has a total length of 235.6 kilometres, its total mass of water is 2 billion m³. Its full catchment area is in Hungary, making 5,775 km², 10.3% of which is the actual surface of the lake. The distance of the Lake Balaton from Budapest on road is 92 kilometres for the eastern and approximately 177 kilometres for the western shore.

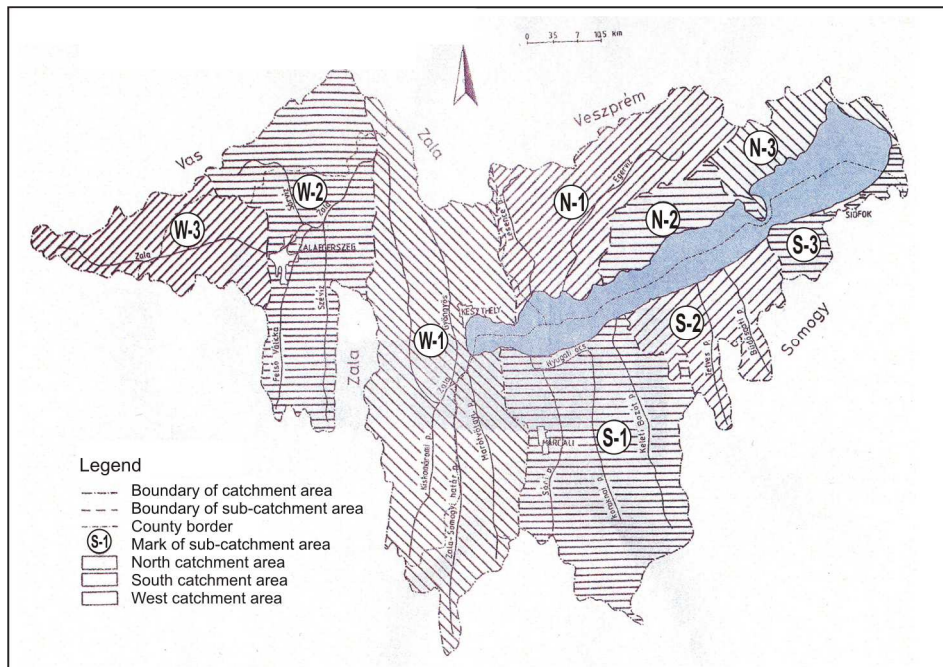
The Balaton has a length of 78 kilometres and an average width of 7.6 kilometres. Its biggest width is between Balatonalmádi and Balatonaliga (12 kilometres), the narrowest distance between the two shores, only 1.5 kilometres, is between Tihany and Szántód. Its average depth is 3.25 metres, the deepest point, 12.2 metres, can be found at Tihany. Due to the shallow character of the Lake Balaton, its mass of water is small compared to its surface (e.g. the Lake Geneva, a lake of similar size – 582 km² – has a volume of 89 billion m³). As a consequence of this, the temperature of the water in the Lake Balaton is strongly influenced by the environment and follows the changes of the temperature in the environment: in hot weather the whole volume of the water quickly gets warm up to 28 °C (the average summer temperature of the water is 22–25 °C), in cold weather it cools down just as quick. In the wintertime, according to the observations made since 1925 the average period of ice coverage is 57 days (ranging from 14 to 107 days), the average thickness of the ice cover is 24 centimetres (it was 50 centimetres in the winter of 1953/54). The shallow water has a weak thermo-regulating capacity, and even that can only be felt at the direct shore. The quick changes of the temperature of the water of the lake can be best understood

if we look at the miniature model of the Balaton: it would be a 72-metre-long object, with a width of 7.7 metres and a thickness of only 3.3 millimetres.

The bottom of the lake quickly deepens at the northern shore, reaching a constant depth of 3–4 metres in the proximity of the shore. In front of the south shore the water is extremely shallow in a 300–500 metre, in some places a 1,500 metre wide stripe, where the depth does not exceed 0.5–1.2 metres. In natural circumstances it gradually gets shallower and shallower towards the sandy beach.

Figure 3

Water catchment area of the Lake Balaton



Source: Balaton nyugati vízgyűjtő térségi meliorációs tanulmányterve [Amelioration study of the western water catchment area of the Lake Balaton.]. AGROBER. Budapest, 1984.

The catchment area of the Lake Balaton is made by a western, a southern and a northern part (Figure 3). The Zala River, collecting the streams of the western catchment area, supports almost 60% of the total water input of the Lake Balaton. In addition to the Zala there are approximately 30 permanent and 20 temporary streams supplying water to the Balaton, besides the numerous springs of limited water output under the surface of the lake. The bottom of the

Lake Balaton is divided into four basins, the Keszthely, the Szigliget, the Sze-mes and the Siófok Basin. The restored Little Balaton is connected to the Keszthely Basin, which covers a part of the bottom of the “ancient Balaton” that has been mostly filled up by the alluvia of the Zala River by now. The biggest part of the water supply of the Balaton arrives at the Keszthely Basin, making the water slowly flow from the western basin to the eastern one. More than half of the alluvium transported by the streams is deposited in the Keszthely Basin, so the quality of the water gradually improves towards the eastern part. The pressure of the prevailing north, northwest, south-southeast winds in the Balaton Region can initiate a north-south flow, when the water rising with the wind is flowing back in the opposite direction as the wind pressure decreases, making the whole water volume of the lake sway. The pressure of the wind creates waves that are usually 50–60 centimetres, in storm sometimes 150 centimetres high and continuously destroy the south shore. The south shore of the lake is also strongly destroyed by the drifts of ice crashing to the shore. The bottom of the lake would move one metre southeast per annum in natural circumstances, with the destruction of the shore induced by the water flow. The water rising as an effect of the north to south flow of the water builds sand-bars in front of the shore, from the soil washed away from the south shore, while the more subtle substance flows back to north under the surface and is sedimented in the form of ooze at the reeds of the north shore, filling up some sections of the shore. According to tested measurements, the movement of the shoreline in the last 200 years is approximately 300 metres e.g. in the Keszthely Bay, between Keszthely and Gyenesdiás (*Bendefy–V. Nagy*, 1969, p. 152.). The destruction of the south shore by the water made it necessary to build shore-protecting establishments, with stones imbedded in concrete, in the 1960s and 1970s. These concrete shores have been a hindrance since then to the self-purification of the water and the deposition of the ooze on the lake shore.

The shallow water of the Lake Balaton is stirred to the bottom by the strong winds and the storms, allowing the colloid size alluvium concentrated in the ooze to get into the water again. This is one of the reasons for the colour of the water of the lake, which is never as clean as that of the mountain lakes; it is rather opaque. The “Balaton water” has a special quality. Chemically the water is alkaline, with Ca and Mg hydrocarbonate content and a pH value of 8.4. The streams running into the lake, with their high calcium, hydrogen-carbonate and carbon-dioxide content reach in the lake a balance with the carbon-dioxide content of the air, and the surplus calcium is precipitated in the form of CaCO_3 , making silky, opaque and alkaline “Balaton water”. A significant attribute of the water and the ooze of the Lake Balaton is the low bacterium content, even as close as 200 metres from the sewage inflows no significant increase in the number of bacteria can be demonstrated.

One of the special features, beauties of the water of the Lake Balaton is the richness and the constant change of the shades of colours. This is partly due to the high amount of alkalia in the water and partly a function of the illumination, and the quantity of the substances solved in the water. Accordingly, the colour of the water of the Balaton can be dark grey in storm, or any shade of green from opaque greenish-grey to light green in calm weather.

In its natural condition, the Lake Balaton a lake without an outlet, whose water supply is provided by the precipitation falling in the catchment area, and the biggest loss is caused by evaporation. The average annual amount of precipitation in the catchment area is 650 mm. The amount of evaporation in the area is 900–950 mm/annum, one and a half times higher than the amount of precipitation. Without the water supplied from the catchment area the Lake Balaton would dry out in about ten years. As some 770 mm from the total evaporation loss occurs in the seven months from spring to autumn, the water level is determined by the amount of precipitation in the spring months. The highest water level is usually registered in May. As the breakdown of the precipitation is extremely uneven and the summer weather is rather changeable, too, it is very difficult to set a water level in May that will provide a sufficient depth in then whole of summer but does not lead to rising water level and the flooding of the south shore. The draining of extreme water levels in a short time is not possible, because of the capacity of the lock in Siófok and the inadequately built out and managed Sió Canal. The balance of the incoming and out-flowing waters is positive in 96% of the cases, i.e. in 96 years out of 100 it is necessary to drain some water from the lake. The artificially regulated water level makes it necessary to drain approximately 400–500 million m³ of water every year, but in dry years the water level decreases below the desirable level even without draining, whereas in wet years almost 1 billion m³ of water must be drained. Depending on the amount of water drained through the Sió Canal, the total amount of water of the lake is replaced in 4 to 5 years in general, although this time is different across the various basins of the lake.

The physical geographical features of the Balaton are determined by its location at the frontier of climatic zones: the continental zone with dry and hot summer and cold winter, the oceanic zone with a cooler and wetter summer and the Mediterranean zone with a very dry and hot summer but milder and wetter winter encounter here, consequently the weather can change unpredictably fast even within one year. The biggest danger of stormy Lake Balaton for yachtsmen and bathers is that wind-storm coming form the mountains of Balaton Uplands usually precipitates on the lake out of the blue and often becomes ruinous near the southern lake shore when it speeds up above the lake. The impact of the continental climate reaches the lake from the east (Siófok Basin), the oceanic impacts arrive from the west (at the Keszthely Basin), resulting in a palpable

difference between the mean annual temperatures and the amount of precipitation across the eastern and western shore of the Lake Balaton.

The Balaton is located at the meeting point of three physical geographical units. From the north the lake is bordered by the foothills of the Transdanubian Mountain Range, the Keszthely Hills and the Balaton Uplands, which partly protect the lake from the colder streams of air. From the west and the south the lake is surrounded by the Transdanubian Hill Ridge, while the Danubian Plain makes the border of the lake from the east and southeast. The encounter of regions of different character (mountain range, hill ridge and plain) makes the Balaton landscape very versatile, increasing its aesthetic value. The protection of the lake from the north, and the impact of the Mediterranean air masses coming from the southwest allow Mediterranean impact to be felt on the southern slopes of the mountains on the north shore. This creates especially good conditions for viticulture.

The different climatic effects have influenced the formation of the soil and resulted in the birth of different soil types. In the eastern and southeastern part of lake the climatic impacts allowed Chernozem soils to be born on the fertile steppe loess, in the mountainous and hilly areas forest soils made on different soil generating rocks can be found, while the soil in the deep valleys filled out with water is wet meadow soil. The soils in the areas covered by water for a long time and later filled up with alluvia or drained are marsh (kotu) soils. The encounter of mountainous and hilly areas, of plain land and water, the impact of the different climatic zones and the presence of soils of various chemical characteristics and fertility resulted in the birth of an extremely varied flora and fauna. The water and the direct environment of the Lake Balaton are home to 1,200 species of animals (including 278 species of birds and 54 species of fish) and 1,500 species of plants (*Illés*, 1981, p. 123, 125, 129). Unfortunately, in the late 1960s a distinctive animal that was also a good indicator of the water quality, the Danube crayfish (*Astacus leptodactylus*) became extinct. In 1978 the blue-green alga (*Cylindrospermopsis raciborskii*) of subtropical origin, a species absorbing nitrogen, appeared, and caused in the 1980s and 1990 alga proliferation affecting the whole of the lake.

Due to this extremely rich and varied environment, the human kind has been present in the region for at least ten thousand years. Especially in the last centuries the human activity has considerably altered the environment: the environment has been enriched by constructions (settlements and fortresses) and cultivated plants (viti- and horticulture), and impoverished by the quarrying of the mountains, the deforestations and the drainage of large wet areas. In the beginning the biggest change in the landscape was caused by the cutting down of the forests and the drainage of the marshes, the regulation of the streams and the ploughing of the grasslands and altering them into agricultural fields: these inter-

ventions gradually turned the natural landscape into an agricultural landscape, and where the types of soil were sensitive, they allowed erosion and deflation, both endangering the lake through the accelerated siltation. Since World War II, the most important factor altering the landscape has been the development of settlements and even more so of the infrastructure related to holidaymaking (hotels, holiday homes, catering facilities).

Almost 50% of the catchment area of the Lake Balaton (mountains and steep hills sides) is strongly endangered by erosion, where the destruction of soil reaches 3 to 5 millimetres per annum (in vineyards up to 10 mm) and burdens the lake with hundreds of thousand tons of alluvium. Although the biggest part of the alluvium is deposited in the valleys and does not reach the lake itself, the siltation of the lake was estimated to be 0.2 mm per annum in the 1970s, but in some parts of the Keszthely Basin this reached 5 mm per annum. An annual 400–600 thousand tons of ooze is made from the alluvium of the inflowing streams, the dust falling into the lake, and the sedimentation of lime through biological processes (Kovács, 1985, p. 3.).

In order to protect the natural values of the Balaton Uplands, already in the 1940s the idea of the establishment of a Balaton national park was raised. It would have been necessary because the intensive quarrying (e.g. in Badacsony or Hegyestű) and also the local inhabitants caused a significant damage to the natural assets. In order to protect the natural values of outstanding importance, in 1951 the area of the Little Balaton was protected and in 1952 the Tihany Peninsula was declared a landscape protection area. This was followed by the protection of several areas in the Balaton Uplands (e.g. the basalt hills of the Tapolca Basin, the Kál Basin, the Pécsely Basin etc.). The Balaton Uplands National Park consisting of several areas with a total of 56,997 hectares, was established in 1997 (Figure 4). In 2002, the special natural value of the geyser cones of the Tihany Peninsula was awarded a European Diploma.

2.2 The administrative conditions of the Balaton region

Historically the Lake Balaton made the frontier zone of three counties: Zala, Veszprém and Somogy. These are still the three counties that share the lake and its environment, the catchment area and the holiday region. In 1996, with the territorial reorganisation of Hungary these three counties became parts of the three Transdanubian regions: Somogy is part of South Transdanubia; Veszprém belongs to the Middle Transdanubian region and Zala to the West Transdanubian one. In addition, the Selected Holiday Region of the Lake Balaton (Balaton Region) with its 164 settlements in the direct vicinity of the lake is a separate development region. The territory of the Balaton Region is divided among 14

statistical micro-regions: in Somogy county these are the Marcali, Fonyód, Lengyeltóti, Balatonföldvár, Tab and Siófok, in Veszprém the Tapolca, Ajka, Balatonfüred, Balatonalmádi and Veszprém, in Zala county the Keszthely-Hévíz, Nagykanizsa and Zalaszentgrót micro-regions. Of these 14 micro-regions there are only four where all settlements belong to the Balaton Region: the Fonyód, Siófok, Balatonfüred and Balatonalmádi micro-regions; on the other hand, in the Veszprém, Nagykanizsa and Ajka micro-regions only one settlement per micro-region is part of the Balaton Region. The self-governments of the altogether 164 settlements have created 18 Regional Development Associations.

Figure 4

Balaton Uplands National Park



Source: Directorate of the Balaton Uplands National Park. Csopak, 2005.

The catchment area of the lake (5,775 km²) is divided among 316 settlements; 3,769 km² of the catchment area belongs to the 164 settlements of the Selected Holiday Region of the Lake Balaton (52 settlements on the lake shore and another 112 settlements farther from the lake, in the hinterland). The lake shore area was basically deficient in towns. The first settlement to be awarded the town status was Keszthely in 1954, which was followed by the award of this title to Siófok (in 1968) and Balatonfüred (in 1971). The majority of the settlements now owing a town status have been awarded this title since the systemic change. Presently there are 16 towns in the area, 11 of which are located on the shore and five in the hinterland. The Region is characterised by a large number of settlements, with a

low average population. By their population the 16 towns are small towns (the smallest is Zalakaros with 1,700 inhabitants, the biggest town, Siófok has 24,000 inhabitants). The 148 villages of the region are divided into the following categories (2005 data): 20 of them have less than 200 inhabitants; the population of 44 villages ranges between 200 and 500; 40 of them have 500–1,000 inhabitants and 44 have more than 1,000 dwellers.

According to the territorial classification of tourism, on the other hand, 156 out of the 164 settlements of the holiday region belong to the Balaton Tourism Region. The division of the region among different administrative, planning and development regions results in different interests; the altering development emphases and ideas continuously confront each other, to the detriment of the whole of the Region.

2.3 History of the Lake Balaton

The Balaton is a young lake; it is estimated to have been born 12–20 thousand years ago. The depression making the bottom of the lake was born in several phases, creating the present basins of the Balaton, resulting in the birth of several lakes in the Pleistocene; the final bottom of the lake was created after the earth banks separating the lakes were washed away.

In its natural state the Lake Balaton is a lake without an outlet, a lake whose water level is determined and balanced by the amount of precipitation in the catchment area and the intensity of the evaporation. Accordingly, in the historical times the water level had ups and downs up to 3–4 metres, which of course affected the size of the surface. The final boundaries of the lake were the mountains in the north, the high loess bank in the east and the hill ridge in the south and the west, but in times of high water the lake deeply intruded into the valleys between the hills. The deepest part of the lake can be found in the south-eastern part of the bottom, in the proximity of Siófok, where in the times of high water the lake stepped out of its bottom and flooded the area that is the bed of the Sió River now, creating a marshy wetland without an outlet.

Although there had always been people around the lake – maybe even before the lake was born –, the first civilisation that built durable roads and settlements only appeared in the period between the 1st and the 5th century, with the conquer of the Roman Empire. The life of this civilisation was seriously disturbed by the irregular changes of the water level and the line of the lake shore, so they tried to stabilise the level of the water by cutting the shore section separating the lake from the marshes of the Sió River around the present Siófok. The Romans built a lock there by which they were able to regulate the water level of the lake (Emperor Galerius, around 292 A.D.). As a result of these works, in the Roman

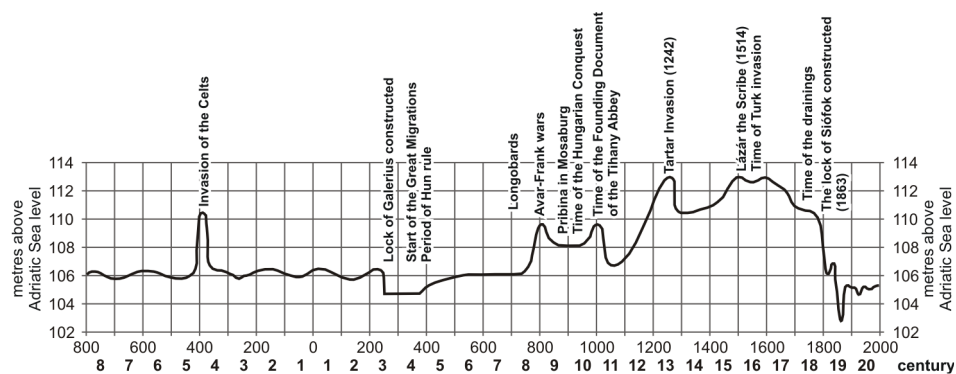
Times the size and depth of the Lake Balaton was similar to the present situation. In the times of the great migrations sweeping away the Roman province Pannonia and then the Roman Empire itself, the frequently changing population did not pay attention to maintaining the waterworks built by the Romans; these establishments were defected and the Balaton became an unregulated lake again. The Hungarian tribes settling here in the 9th century already encountered these circumstances, and instead of regulating the lake they adapted to the natural conditions for centuries, by the choice of their place of residence and the locations of their fortresses and monasteries. In many cases this adaptation proved to be unsuccessful, which is demonstrated by the ruins of villages and earth fortresses washed away by the water. There were two historical times when the situation was somewhat different: the Tartar invasion in 1241–41 and the Turk conquest after 1541, when the water level of the Lake Balaton was consciously increased by the stopping the outflow of the water around Siófok, in order to disturb the movements of the foreign troops. The biggest depth of the Lake Balaton was around 13.7–14 metres in the times of the Turkish occupation, but in the strait of Tihany the water reached a depth of 22 metres (*Bendefy–V. Nagy, 1969, p. 89*). At this time the whole of the Nagyberek in the south was flooded, together with the Tapolca Basin in the north. The fortresses on the hills of Fonyód and Szigliget became islands, and the Tihany Peninsula was also surrounded by the Balaton (*Figure 5*).

In the 18th century, after the war conditions ceased to exist, the rapid increase of the population resulted in a nature transforming programme that actually lasted until the end of the 20th century and resulted in the transformation of the Lake Balaton and its catchment area and the birth of the present conditions. In this work of transformation the primary objective was the replacement of the ancient forests and marshes around the Balaton with agricultural lands (plough lands, meadows and vineyards) suitable for the maintenance of the growing population. The fastest way to gain territories was the chopping down of the forests along the shores, which extended to the cultivable slopes of the hills by the late 19th century. Forests were replaced by plough lands good for crop production in the plain lands and vineyards on the hillsides. Parallel to the deforestations, the draining of the marshy areas started in the 18th century with the regulation of the streams. In the times of the cereals boom created by the lengthy wars of the 19th century, the partial draining of the lake was considered, in order to gain new plough-lands. A plan for the draining of the lake was made in 1762–65 by Sámuel Krieger – probably on the basis of Sámuel Mikoviny made in 1730 – and another one in the 1820s, by József Beszédes (*Bendefy– V. Nagy, 1969, pp. 97–98.*). The national reform assembly in 1827 made a decision on the draining of the Lake Balaton (i.e. the decrease of the water level). Fortunately, this plan was never implemented, probably because of the decrease of

the water level due to the arid weather of these times. The water management work accelerated in the early 19th century with the draining of the marshes of the Sió and Sárvíz rivers (resulting in a one-metre decrease of the water level of the Balaton in the 1830s), and the possibilities of the regulation and partial draining of the water of the Little Balaton were also seriously considered this time.

Figure 5

*Changes in the permanent water level of the Lake Balaton
(800 B.C. – 2000 A.D.)*

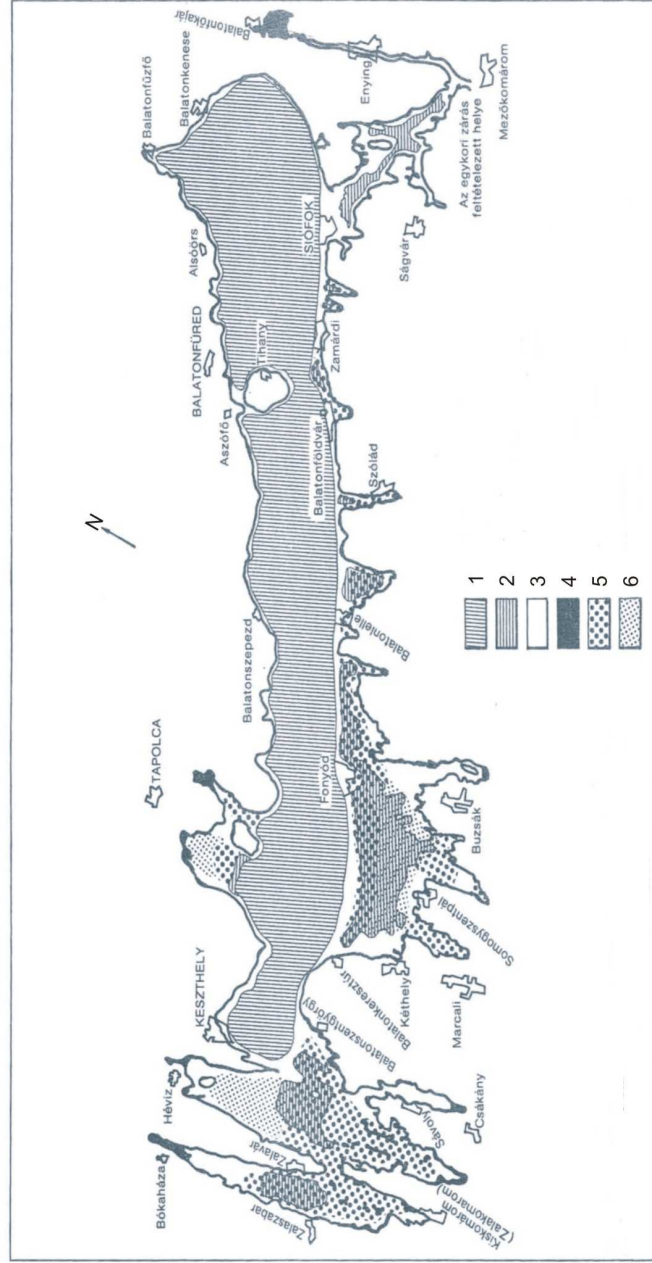


Source: Bendefy – V. Nagy, 1969. p. 52.

A radical change in the regulation of the water level of the Lake Balaton took place in 1863 after the construction of the Siófok lock: the lake lost approximately half of its water and its natural self-regulating character, and became a regulated lake (*Figure 6*). This change was justified by the construction of the Budapest–Nagykanizsa (Trieste) railway on the sand-bars along the southern shore of the Balaton, where the changes of the water level, the destruction of the shore by the waves and the ice drifts in the winter threatened the operation of the railway. The construction of the lock was also promoted by the Society for the Draining of the Lake Balaton. The construction of the Sió Canal and the lock at Siófok decreased the water level of the Lake Balaton by several metres, as a result of which the Little Balaton was ultimately detached from the main body of the Balaton, leaving a wet marshy area in the stead of the open water, connected to the lake by the Zala river flowing through the Little Balaton. In the river valley covered by impenetrable reeds, alder and ash, the Zala River partly widespreads, partly splits into arms by combining islets. In the area of Zalavár and Esztergály the river has disappeared kilometres long in the moorland (*Bendefy–V. Nagy, 1969, p. 24*).

Figure 6

The size of Lake Balaton since 1000 B. C. to date



Legend: 1 1865–1872; 2 Present medium water level of the Lake Balaton; 3 (450), 1850, (1872), 1000 B.C. – 292 A. D., (600–1000), (1100), (1803); 4 (1180), 1720 – 1760 1230 – 1350; 5 Areas of water protection (reservoir, reed lakes); 6 Areas designated for major filling up and depositing of ooze;

Source: Edited by Keresztesi, 986.

The concept for the regulation of the Zala River and the draining of the swamps of the Little Balaton was finally implemented one hundred years after the first efforts, in 1922. These works decreased the territory of the Little Balaton to a minimum, but the lands gained this way were usually only meadows and marshy areas of low economic value. However, the now faster flowing Zala River deposited the carried alluvia almost entirely in the Keszthely Bay, thus the siltation of the bay with ooze accelerated, which is best indicated by the changes of the shore line in the territory of the town of Keszthely.

The water level of the Lake Balaton was decreased by 4-5 metres by human interventions between the 18th and the 20th century. In this period the lake lost, in addition to the inland bays intruding into the valleys of the streams (e.g. the Hévíz Bay), the 114 km² territory of the Nagyberek, the 103.5-km² Little Balaton and the 30-km² Tapolca Basin. The construction of the Siófok lock actually created the present surface of the lake. The marshes of the Nagyberek were detached from the lake in the 1820s by the sand-bars built by the water, while the Szigliget-Tapolca Basin was filled up with the alluvia of the streams. Until the construction of the Sió lock, however, the Little Balaton was navigable with its average depth of 2–2.5 metres. After the draining of the Nagyberek and its gradual conversion into agricultural land the previous extremely rich bird fauna moved to the marshes of the Little Balaton, where their habitats were dramatically decreased after the regulation of the Zala River (in 1922): from the total of 1,400 hectares of the bay the open water is only 30 hectares, the rest is covered by reeds.

The destruction of the original flora covering the shores of the Lake Balaton and the whole of the catchment area (especially the deforestation) and the conversion of these areas into arable lands started intensive erosion, and to a more limited extent a deflation process. The erosion and the parallel siltation of the Lake Balaton were especially fast in the 18th and 19th century and were considerably moderated after the 1920s, only. The regulation of the beds of the smaller streams and the Zala River and the draining of the reedy and marshy areas with filter functions in the mouths of the streams resulted in the inflow of a large amount of water carrying a significant amount of alluvia and soil directly into the lake, without any moderation and pre-filtering, which started the filling up of the Balaton. As more than 50% of the water carried by the streams flow into the Keszthely Basin (which makes only 6% of the surface of the lake), the biggest part of the alluvium was deposited here, this basin took over the filter function from the Little Balaton and here was the “Balaton water” of special quality born, not in the Little Balaton. The burden of the Szigliget Basin, following the Keszthely Basin, was also heavy, as these two basins receive approximately 80% of all water flowing into the Lake Balaton. The annual siltation of the bottom of the lake was approximately 0.6–0.8 millimetre per annum

in the last seven thousand years, which grew to 6–8 millimetres between the late 18th and the early 20th century, and even 8–10 millimetres in the bed of the Zala River in the Keszthely Bay (*Bendefy–V. Nagy*, 1969, p. 89.). The significant decrease of the water level after the construction of the lock at Siófok (in 1863) broke up the natural hydrological balance of the lake, which would be about a metre and a half higher than the present level (at 106–107 metres above sea level – the Adriatic Sea –, as opposed to the present 104.5 metres). However, a new hydrological state evolved gradually, which indicated by the gradual decrease of the sedimentation of ooze (*Bendefy–V. Nagy*, 1969, p. 201.). The intensive siltation of the Keszthely Bay can also be attributed to the special stream conditions of the lake, as a result of which the sediment arriving at the other basins is also deposited here, in the Keszthely Bay.

The impact of the decreasing water level and the filling up of the bottom was already palpable in the late 19th century, first by the rapid penetration of the reeds and hair-weeds. The penetration of the hair-weed was already visible in the decade after the construction of the lock of Siófok, and reached an extent by 1890 that made the Parliament deal with the issue. This was followed by the establishment of the Balaton Committee by the Hungarian Academy of Sciences, whose researchers started to explore the reasons and searched for the solutions in 1892, under the leadership of Lajos Lóczy. By the 1910 the siltation of the lake bottom with ooze became a serious problem in the Keszthely Basin.

The first lock (built in 1863) only had a 12 m³/sec draining capacity, so the regulation of the water level of the lake in order to prevent floods was not possible in case of heavy precipitations. In 1891 the already deteriorated wooden lock was replaced by a concrete-based lock of 50 m³/sec capacity, the capacity of which was increased to 80 m³/sec only in 1977, after the enlargement of the Sió Canal. Even after the construction of the first lock and the extension of its capacity, the difference between low and high water was extremely large: it could reach 235 centimetres, depending on the weather (*Lukács*, 1931, p. 10.). In years of drought (e.g. in 1866 and 1885) the inhabitants living on the lake shore protested that the “Balaton was being stolen” by letting too much water go; in years with more precipitation they said “we are flooded like susliks (large central Eurasian ground squirrel, *Spermophilus citellus*)” (*Lukács*, 1931, p. 10.). Because of the uncertain amount of precipitation it is extremely difficult to decide how much water must be drained in spring to secure the adequate water level in summertime, so as soon as in the late 19th century the possibility of water supply from other catchment areas (Rába, Dráva, Mura or Danube River) was raised. Already then the conclusion was that it was not only expensive but absolutely unnecessary, apart from a few years in a century, and the change of the quality of the water was also a significant ecological threat.

Until the late 19th century the impact of the population, limited in number and mostly living from agriculture, was negligible on the lake. The fish of the water and even more so the reeds were sources of supplementary income, but were only able to sustain a limited number of people in themselves. The lake was hardly used even for transportation; in winter the ice was a bridge across which horse-draught carriages managed the exchange of goods between the north and the south shore. From the north shore it was mainly wine, fruits, stones, wood and reed that were transported to the south shore, in return for cereals.

The bathing culture of the area was underdeveloped. The origins of this culture date back to the 18th century; however, the inhabitants of the neighbouring settlements did not use the water of the lake but the medicinal waters of Balatonfüred for regular bathing. The inhabitants of the Balaton did not bathe in the lake, they could not even swim. There was only one exception, the short period after the harvest and the threshing of cereal crops when the inhabitants of the nearby villages travelled to the lake shore with their horse carriages for a day or two, in order to clear the dust and the glume and hull of the cereals.

The construction of the southern railway (in 1861) and within a few decades the railways in other directions (northern railway, 1910) made the Balaton more easily accessible, promoting the slow development of the bathing tourism. In the 1890s the construction of the hotels on the lake shore started (in Siófok, Keszthely and Balatonfüred), together with the establishment of baths and bathing settlements (Siófok-Balatonfűrdő Inc., Balatonberény, Fonyód, Balatonföldvár and later Máriafürdő). In many cases these were founded in the neighbourhood of railway stations built in formerly unused lands, on the sandbar between the rail and the lake shore or on the railway ditch.

The development of the bathing culture of the Lake Balaton accelerated after World War I. After the loss of the baths of the Adriatic Sea, the former Upper Northern Hungary and Transylvania, the medicinal waters in the new territory of Hungary and the Balaton were appreciated. As a result of this, bathing establishments along the whole south shore, from Siófok to Balatonmária, were built. The development of the bathing culture created new jobs and this resulted in the increase of the population of the lakeside settlements. In the absence of adequate infrastructure background, however, the mostly temporarily increasing population was already a threat to the water of the lake. This was indicated by the proliferation of the algae and the hair-weed starting in the 1930s.

A radical change in the life of the Lake Balaton only took place after World War II, starting from the 1950s (in the late 1940s the quality of the water of the Balaton was excellent in all respects). This was the consequence of the impact of several factors. Tourism started to develop rapidly in the 1950s. A significant change was the replacement of the former, one-day bathing sessions allowed by

railway lines running to the bathing resorts – usually in the weekends – by longer holidays lasting for several days or a week. The mass demand for holidays, the organisation of the holidays by the trade unions, the establishment of youth camps resulted in a boom of the number of summer holidaymakers in the 1960s. As an effect of the easing of the international political tensions, the travel conditions became more favourable too, and more and more tourists arrived at the Lake Balaton firstly from the neighbouring socialist countries – Czechoslovakia, Poland, East Germany –, then from the nearby capitalist countries, motivated by the low prices of the holidays (Austria, Germany, Italy). After the 1970s the Lake Balaton became a legal meeting place for the inhabitants of Germany torn into two parts.

Due to the increased popularity of the Balaton, more and more people wanted to get hold of a permanent holiday home suitable for family holidays. The chance for this was improved by the fact that the large agricultural holdings were allowed to divide and sell those areas that were unsuited for large-scale mechanised cultivation. The best areas for this were the less fertile lands in the vicinity of the shore that were more difficult to cultivate anyway, due to the presence of tourism, and also the former, derelict vineyards. On the too small sites, because of the bad infrastructure conditions, holiday settlements of rather inferior quality were built. The political effort to allow the working people to have holiday homes of their own seriously deteriorated the aesthetic value of the landscape and was also a serious threat to the quality of the water of the Lake Balaton.

Parallel to this, those wishing to build holiday homes on the outskirts of the settlements bought more and more sites and buildings in the vineyards and gardens, former cellars and pressing houses, and they either built new holiday homes on the sites or converted the existing buildings into holiday homes, often without any permission. The unregulated and often low quality building up of the outskirts did not only deteriorate the aesthetic value of the landscape and resulted in the elimination of former wine producing areas but also made the infrastructure provision of these areas more difficult (*Figure 7*).

Already in 1972 it was clear that the rapidly growing demand for holidays cannot be met by private holiday homes, only, because the capacity of the shore of the lake is too limited for this. Thus the different form of communal holidays were promoted, and only the construction of holiday hotels was allowed on the filled up shore of the Aranypart (“Golden Beach”) in Siófok. However, the desire to build private holiday homes was unstoppable, amounting to the construction of large numbers of holiday homes both in the inner parts and the outskirts of the settlements, often without permission. Due to the deficiencies of the infrastructure, in 1983 the construction of holiday lodgings and hotels etc. on sites without public utilities was prohibited, and the possibilities of building new private homes was also limited from 1984, with little success: the number of

permanent inhabitants in the settlements on the lake shore continuously increased, reaching its peak in 1985 with 131 thousand people.

In the Balaton Region the building of holiday homes was motivated not only by the growing desire for holidays but also by the possibility of a certain income: because of the unsatisfied demand for the summer accommodations, even the holiday homes of relatively low quality could be let to visitors. Also, because of the restrictions of the private enterprises – for political considerations –, the construction of holiday homes was a good investment because of the growing real estate prices, a possibility to preserve and increase the value of the incomes accumulated at some families.

With the development of tourism, the established hotels, company holiday accommodations and service units created more and more jobs and this accelerated the growth of the permanent population.

The development of infrastructure could not keep up with the boom of the population on the lake shore. In order to prevent the deterioration of the health conditions and provide the population crowded in the area, first of all the water pipeline and the commercial network had to be developed and beaches built out. Even in the lake shore settlements, the complete tapwater system was only built out by 1982. This pace of development could not be followed by the much more expensive development of sewage canals, the construction of sewage treatment and waste management plants, so the sewage flowed into the water either untreated or after a superficial purification, extremely increasing the pollution of the lake with organic substances, plant nutrients (N, P) and bacteria. The environmental stress of the population living on the lake shore was also increased by the settlement network almost completely occupying the whole shore by the 1980s, where the sewage, in the absence of sewage collection system, was simply deposited in the soil. The underground water of the sand shores, however, have a direct connection to the water of the Lake Balaton, thus the pollution finally reached the lake. Because of the insufficient infrastructure provision of the beaches, overloaded in the summer peak season, in the water of almost all beaches harmful bacteria of human origin could be demonstrated. The underdevelopment of communal infrastructure is best shown by the fact that in 1959 only three towns had canal networks (Keszthely, Balatonfüred and Siófok), with a total length of only 19 kilometres, and the sewage was deposited without any treatment in the reeds.

The intensive development of the countryside industry also started in the 1960s. Although this concerned few of the settlements on the lake shore, the sewage of the chemical plant of Balatonfüzfő was let into the Balaton for a long time (causing a serious pollution of the water), after the elimination of this pollution (when the sewage was pumped into the Séd Stream in Veszprém) the chemical industry caused such a smell pollution that deteriorated the value of the nearby

settlements, in fact, it even damaged grape and fruit production as the smelly ingredients absorbed by the fruits worsened their scent and taste.

The sewage of the dairy plant and slaughterhouse built in Keszthely and the Wine Plant of Balatonboglár also reached directly the lake, without any treatment. In Balatonfüred, in addition to the communal sewage, the shipyard, in Fűzfő the paper mill, and in Fenékpusztá the flax weaving plant and the furniture plant produced sewage that worsened the problems.

The largest scale industrial developments, however, were implemented in the non-lake shore towns of the catchment area. Among these Marcali and Tapolca are situated in the holiday region, while Nagykanizsa, Zalaszentgrót and Zalaegerszeg are outside that. The selected industrial development of Zalaegerszeg was a serious burden for the water quality of the lake, because the sewages of the cold-storage plant, the dairy and cheese plant, the poultry processing plant and the meat production plant, all very rich in organic substances, flowed into the Zala River only after a superficial pre-treatment and got into the Lake Balaton. The water of the lake was heavily burdened by the dairy plants of Marcali, Zalaszentgrót etc. The industrial developments of the countryside towns resulted in the rapid growth of the population of these settlements, consequently the volume of communal sewage increased as well. The capacity of the existing plants became insufficient for the treatment of the sewage, so sewage flowed into streams with practically no purification. The sewage of Zalaegerszeg and Zalaszentgrót completely polluted the Zala River carrying water into the Lake Balaton, and the sewage of Marcali also reached the Balaton almost directly.

The burden of the Lake Balaton was further increased, in addition to the communal sewages, by the growing amount of partly sporadic and partly diffuse pollutions of agricultural origin. In the 1960s, after the reorganisation of agriculture into large-scale holdings, the Hungarian agriculture adapted so-called industrialised technologies, which resulted in the intensive use of chemicals and machinery, and the construction of animal farms with a large number of animals and producing a large amount of liquid manure. Considerable sporadic pollutions were caused by the big animal farms built in the holiday region and the catchment area. The large pig and cattle growing farms using a liquid manure system in the holiday districts were especially dangerous, each producing hundreds of cubic metres of liquid manure every day, the major part of which got into surface waters, a smaller part into the underground waters – and ended up in the lake. According to surveys made in the 1970s, in the holiday districts alone a total of 129 animal farms operated, in not one of which a professional treatment of the manure was solved – in the absence of constructed manure deposition places –, and the outflow and leakage of a significant amount of liquid manure polluted the surface and the subsoil waters. The amount of liquid manure produced in the southern holiday area alone was estimated to be around 600 thousand cubic metres.

Around the cattle farms another source of serious pollution was the silo liquid flowing out.

The diffuse pollution of agricultural origin was caused by the chemicals washed out by the rainfall. The increase of the use of the chemicals was not followed by the creation of the conditions of professional storage. In the beginning, the rain washed out large amount of nutrients from the big heaps of fertilisers deposited at the plough lands. From the fertilisers dispersed on the agricultural lands a large-scale leakage of N could take place especially after the mulching done in late winter. The major part of the fertiliser pollution was due to either the rain washing out the fertiliser ploughed into the soil (N) or the erosion carrying the fertiliser away together with the soil (P). According to the surveys made, the whole of the region was not over-fertilised, but some holdings used much more fertilisers than it would have been necessary, while some used less (*Csernátóni*, 1982. p. 30.). The erosion was especially serious in the vineyards planted parallel to the hillsides, which was especially harmful as the vineyards often cultivated by large-scale holdings almost reached the lake of the Balaton, and the filtering effect of the vegetation was absent because of the elimination of the forests and grasslands along the lake shore.

The water of the Lake Balaton may have been even more burdened by the pesticides drifted away by the wind or washed down from the plants or the soil by the rain. Some of the slowly degrading or very aggressive pesticides used in the 1960s (e.g. atrasin) can still be detected in the ooze of the lake bottom. Probably the pesticides caused the first mass decay of fish that took place in 1965.

The excessive burden of the Balaton with nutrients was thus due to both the pollution of the settlements and of the industry and agriculture. The primary sources of the degradation of the water may have been the communal and industrial sewages and the liquid manure that reached directly the surface waters and the lake.

The burden of the Balaton with plant nutrients was also increased by the prevention of the natural destruction of the shore in order to protect the holiday homes and hotels built on the sand-bar between the southern railway and the lake shore. This was done by stones embedded in concrete in the major part of the shore line. The concrete wall, however, stopped the water from running to the shore and depositing the polluting materials, which remained and rotted in the water. The protection of the water was inevitable, as the waves and the ice drifts destroyed more than one metre of soil from the south bank each year, but in some years the loss of the lake shore was more than 10 metres. Of the lake shore areas divided into sites in the 1930s, the 20-metre-wide alleys on the lake shore disappeared first, after this the majority of the sites on the shore were destroyed or flooded. The major part of the shore protection works was constructed along the shore section between Balatonfűzfő and Balatonberény, where there was no natu-

ral protection. In 1985, 31% of the 235 kilometre long Balaton shore was protected by concrete and another 12% by stone banks (Kovács, 1985, p. 2.). Experiences suggest that active shore protection is needed at a 110 kilometre section, i.e. 46% of the total length of the shore (of which 107 kilometres was completed until 2005), but the most practical technical form of this protection has been a subject of debates for decades. The self-purification capacity of the water was heavily deteriorated by the destruction of the reeds by the owners of the sites on the shore and the anglers in order to settle boat ports or fishing stands.

A drastic deterioration of the quality of the water in the Lake Balaton was first indicated by the massive fish decay in 1965 (600 tons of fish were killed). This was probably caused by the newly marketed pesticides that were extremely dangerous to the wildlife.

The Keszthely Basin, receiving 60–70% of the pollutions and alluvia carried by the surface waters, suffered from the penetration of hair weed already in the mid-1960s, and vegetation typical of the marshes (e.g. water chestnut) appeared in this part of the lake. By 1972 the water of the basin became hypertroph and the blue algae proliferating in the water killed the hair weed. The colour of the water turned green, caused by the proliferation of algae. The mass penetration of the algae was the first sign of the start of the dying of the lake and already threatened holidaymaking, causing skin and eye irritations for some bathers. This was still not enough to make the authorities, engaged with the creation of the basic infrastructure, carry out radical measures. This was promoted by another spectacular fish decay that took place in 1975. To this disaster sharp reactions were given, not only by the academics but also by the press and the public opinion of Hungary, not to mention the holiday home owners who were afraid of the depreciation of their investments. The government then assigned the Hungarian Academy of Sciences to explore the reasons for the deterioration of the water quality and define the measures necessary for the stopping of the dangerous tendency and for the restoration of the good water quality of the Lake Balaton. The examination found (in 1978) that the rapid worsening of the quality of the water in the Balaton was caused by the unlimited and concentrated communal, industrial and agricultural (liquid manure) sewages, and also by the diffuse pollution washed into the lake with the alluvia from the nearby areas and the agricultural lands. In addition, there was serious air pollution, burdening the Lake Balaton with some 400 tons of sedimenting dust every year. It was also stated that the main reason for the proliferation of the algae was the increase of the phosphor content in the lake, which directly built into the body of the algae and was a limiting factor for the proliferation of the algae, as the blue algae are able to satisfy their nitrogen need from the nitrogen of the air as well. The solution was the elimination of the big sources of pollution and the establishment of a protecting system similar to the natural system of protection of the lake, and also the at least partial removal of the alluvium

and nutrients that had already been in the lake. In order to achieve this, the following recommendations were made, among other things:

- construction of a sewage and rainwater canal system for the whole holiday region of the Balaton, construction of at least two-phase sewage treatment plants;
- on the south shore, the pumping of the purified sewage out of the territory of the catchment area of the Balaton, whereas in the north shore bordered by mountains the application of three-phase technology also removing phosphorus;
- closedown of the animal farms using a liquid manure technology and causing concentrated pollution, in the remaining farms a shift to the use of strawbed and the creation of the possibilities for the professional treatment of the manure;
- creation of the possibilities for the professional storage and use of the fertilisers and pesticides, causing just as dangerous concentrated pollution;
- in order to decrease the diffuse pollution from the agricultural areas, afforestation or grassing in the too steep plough lands susceptible to erosion, and a complex amelioration of the damaged areas suitable for agricultural production;
- full purification of the industrial sewages and the prohibition of the location of industrial plants dangerous to the environment;
- in order to decrease noise and air pollution, the moderation of the traffic on the shore, construction of speedways managing transit traffic farther from the lake;
- establishment of waste deposits safeguarding the professional deposition of communal waste;
- prevention of the unregulated and unplanned building up of the holiday region;
- protection of the reeds assisting the self-cleaning of the water and the creation of the possibilities of professional reeds management (regular reed cutting in the winter);
- closing down of the quarries decreasing the aesthetic value of the landscape, recultivation and afforestation of derelict quarries.

An important part of the recommendations was the slowing down and sedimentation of the surface waters arriving at the Balaton. In order to achieve this the following was recommended: restoration of the Little Balaton for the cleaning of the Zala River; construction of reservoirs on the streams running into the Lake Balaton where the streams can deposit their alluvia; establishment of filtering reed areas at the mouths of the streams where the vegetation can absorb the floating substances and the nutrients solved in the water. For the removal of the ooze on

the lake bottom, rich in nutrients, ooze dredging was recommended, to prevent the phosphorus from being solved in the water again. The recommendations placed a special emphasis on the cleaning of the water and the protection of the reeds absorbing the alluvium and the nutrients. The implementation of canalisation (sewage and rainwater canals) in the settlements, and the storing and sedimenting of the polluted rainwater flowing out from the settlements were also recommended.

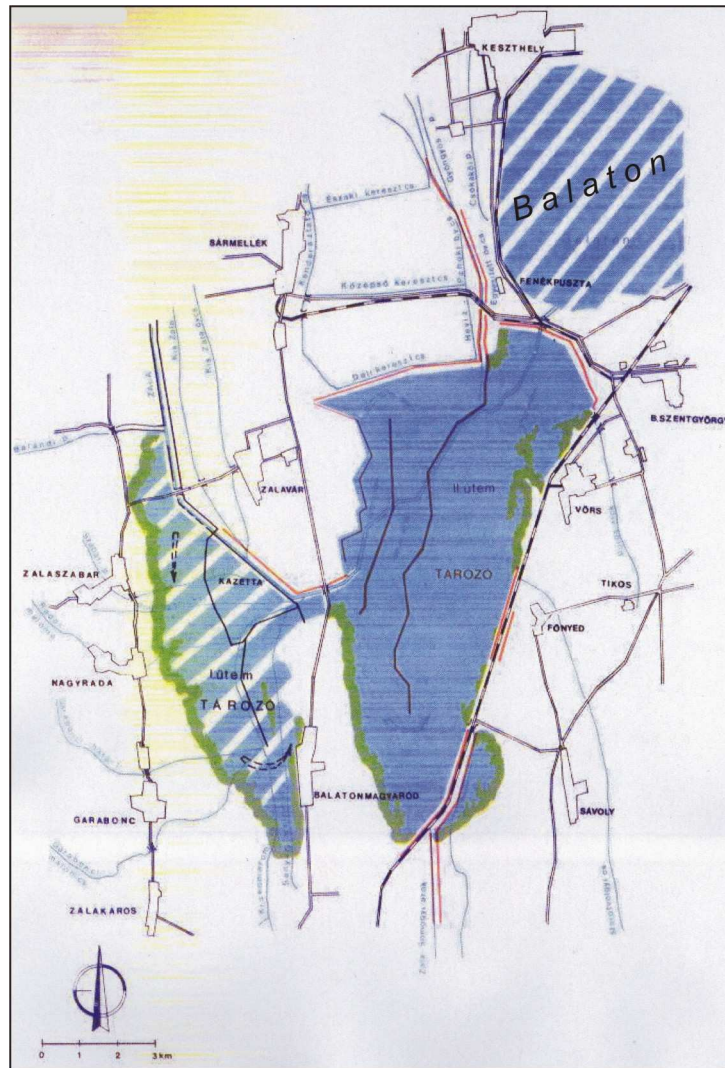
It was emphasised that the stress of the Lake Balaton by the holidaymakers should be counterbalanced by the development of holiday regions in the other parts of Hungary. These developments started all over Hungary, but because the other holiday regions were less attractive and less built out than the Balaton region, they did not serve as counterpoles considerably decreasing the stress of the Balaton.

The recommendations of the Hungarian Academy of Sciences were built into the long-term and ambitious development plan of the Selected Holiday Region of the Lake Balaton approved in 1979 and setting the tasks until 2010. The objective was to stop the process of deterioration until 1987 (grade A), to reach a continuous improvement by the total exclusion of the critical situations until 1995 (grade B) and to reach the water quality of the early 1960s again with further measures after 1995 (grade C) (Kovács, 1985, p. 2.). The protection of the water could not be postponed any longer, as the water showed the sign of eutrophication in all basins of the lake, starting from the Keszthely basin, and a very intensive blooming of the blue algae took place in the summer of 1982. In the 1980s, strict measures were made for the moderation of the damages:

- The construction of sewage collection system, and the construction and modernisation of sewage treatment plants started;
- The large pig farms using a liquid manure technology were closed down;
- The agrochemical centres of regional tasks, where the professional conditions for the storage of the fertilisers and pesticides were adequate, were built out;
- The use of liquid fertilisers requiring a closed technology became widespread in the region, in the hillside vineyards and orchards the empty spaces between the rows of plants were grassed, in order to stop erosion;
- The construction of the first phase of the Little Balaton reservoir was started in 1983 and finished in 1985 (*Figure 8*);
- The reservoirs collecting the water of the streams running into the Balaton were built at Marcali and Monostorapáti, together with filtering areas;
- Complex amelioration works were started in the catchment area of the lake, in the Zala valley, the Tapolca Basin, and terraces were established on the steep hill sides of the Badacsony in order to prevent erosion;

Figure 8

Map of the protective system of the Little Balaton



Source: A Balaton környezetének védelme [Protection of the Balaton Environment]. Magyar vízgazdálkodás. 1981. Vol. I. p. 4.

- The purification of industrial sewages was done;
- Construction restrictions came into effect in areas without public utilities;
- Extended alder forests were planted in wet areas and valleys occasionally flooded, in order to filter the waters flowing into the lake;
- Large-scale ooze dredging was done in the Keszthely and the Szigliget Basins;
- Several quarries were closed down and some of the derelict quarrying areas were regenerated and forested.

The basic problem was the economic crisis already visible in Hungary in the 1980s, which significantly limited the amount of financial resources available for the protection of the Lake Balaton. In the time of the systemic change taking place in the 1990s not only the economic crisis deepened but also the attention turned away from the Balaton. The situation became especially incomprehensible in the agricultural areas covering 80% of the territory of the region, where the disintegration of the large state holdings and the privatisation of the land created a very large number of new owners, with different interests and skills. The division of the territories among the new owners often questioned the meaning of the former investment developments (e.g. irrigation systems, water drainage ditches). Consequently the formerly started developments slowed down or even came to a halt.

This is demonstrated by the following facts:

- The construction of the sewage system was finished only in 2006 even in the settlements on the lake shore, and majority of the settlements in the hinterland have still not been equipped with such a system;
- The modern regional waste deposits have still not been built (they are expected to be implemented by 2010);
- The 2nd phase of the Little Balaton reservoir has still not been completed, it is expected to be finished by 2010 (as opposed to the originally planned date of 1995);
- The alleviation of the burden of the road running along the south shore, carrying a heavy international traffic, is expected by 2007, with the completion of the M7 motorway;
- The majority of the reservoirs for the storage and sedimentation of the water and the filtering areas have still not been built and the continuous cleaning of the existing ones is inadequate too, so they are slowly filled up with alluvium;
- The rainfall reservoirs planned to be built along the shore are still missing;
- Only a fraction of the areas designed for afforestation have actually been forested.

The water of the lake indicated again in the early 1990s that the developments that had been made were insufficient, and as it had been indicated before, the puffer capacity of the 1st Phase of the Little Balaton reservoir came to its limit in less than a decade. The uncertainty was increased by the fact that the pollution carried by the inflowing streams was still considerable; also, a large amount of nutrients had been accumulated in the ooze of the lake which could be solved in the water again at any time. The deterioration of the quality of the water that had stopped in the 1980s, took a new momentum in the 1990s, indicated by the repeating fish decays (of eel in 1991 and bream in 1994). In the summer of 1994, the worst quality ever in the history of the Lake Balaton was registered, the algae proliferated in the whole mass of water to an extent that the lake became hypertrophic. This made the government deal again with the issue of the Balaton and defined in the framework of a so-called Balaton Action Plan the tasks of the respective ministries and the municipalities, together with the deadlines. The action plan actually consisted of tasks approved a decade ago but mostly not implemented (draining and treatment of sewage; waste management; water regulations and amelioration; construction of Phase II of the Little Balaton reservoir; ooze dredging from the lake bottom; forestation of the area etc.) (*Figures 9 and 10*).

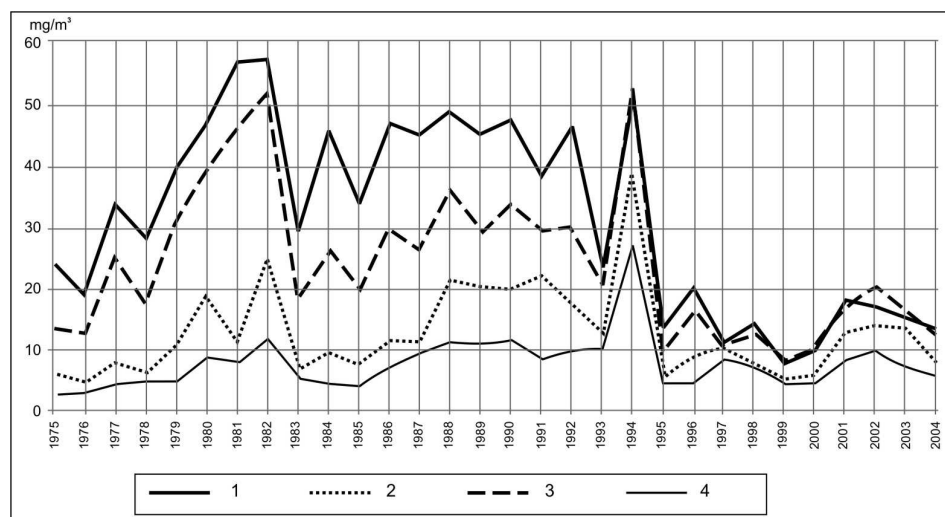
In the years after 1994, not only the development of the sewage collection system in the settlements on the shore and in the major towns in the catchment area (Marcali, Zalaegerszeg, Tapolca etc.), together with the construction of the three-phase sewage treatment plants, contributed to the improvement of the quality of the water but also the economic crisis that decreased the use of fertilisers and pesticides by some 60–70%. Also, animal husbandry almost ceased to exist in the Balaton region. The industrial plants were closed down (e.g. the dairy and meat processing works of Keszthely), or their production declined significantly (cold storage plant in Zalaegerszeg), resulting in the decrease of industrial pollution. The Little Balaton is more and more suitable for its water cleaning function after the partial instalment of the 2nd phase (Ingó swamp). On the other hand, serious problems are caused by the worsening economic conditions of the region after the drastic fall of tourism. The quality of the water considerably improved by the late 1990s, became mesotrophic as opposed to the hypertrophic state of the early 1990s, approaching the water quality indices of the early 1960s. After the late 1990s a slight worsening of the water quality took place again, partly due to the extremely low water level. According to the water quality surveys conducted in 2005, the water of the Lake Balaton is oligotrophic in the eastern (Siófok) Basin and mesotrophic in the other three basins. As the external pollution fell back considerably, the quality of the water of the lake is more and more influenced by the internal processes (solution of the formerly absorbed substances). The Little Balaton is performing better and better in its pre-filtering function, in 2004 it held back 82% of the floating alluvium, 72% of all nitrogen and 26% of all phosphor

carried by the Zala River (Katona-Őrsi, 2004, p. 22.). The quality of the water of the Lake Balaton was acceptable (class 3) in 2004, from a microbiological aspect it had a splendid quality (of class 1 and 2). The quality of the water in the beaches showed similar indicators, it was acceptable (class 3) from most aspects and good (class 2) as regard microbiology (Katona-Őrsi, 2004, pp. 31–32.). It is still a problem that the majority of the streams running into the lake carry polluted water (Table 1).

In order to prevent the appearance of other threats, the programme started in the 1970s must be continued, by the completion of the construction of the sewage collection system and the treatment of the sewage, first in the holiday region of the Balaton and then in the whole territory of the catchment area.

Figure 9

Chlorophyll A – Annual averages

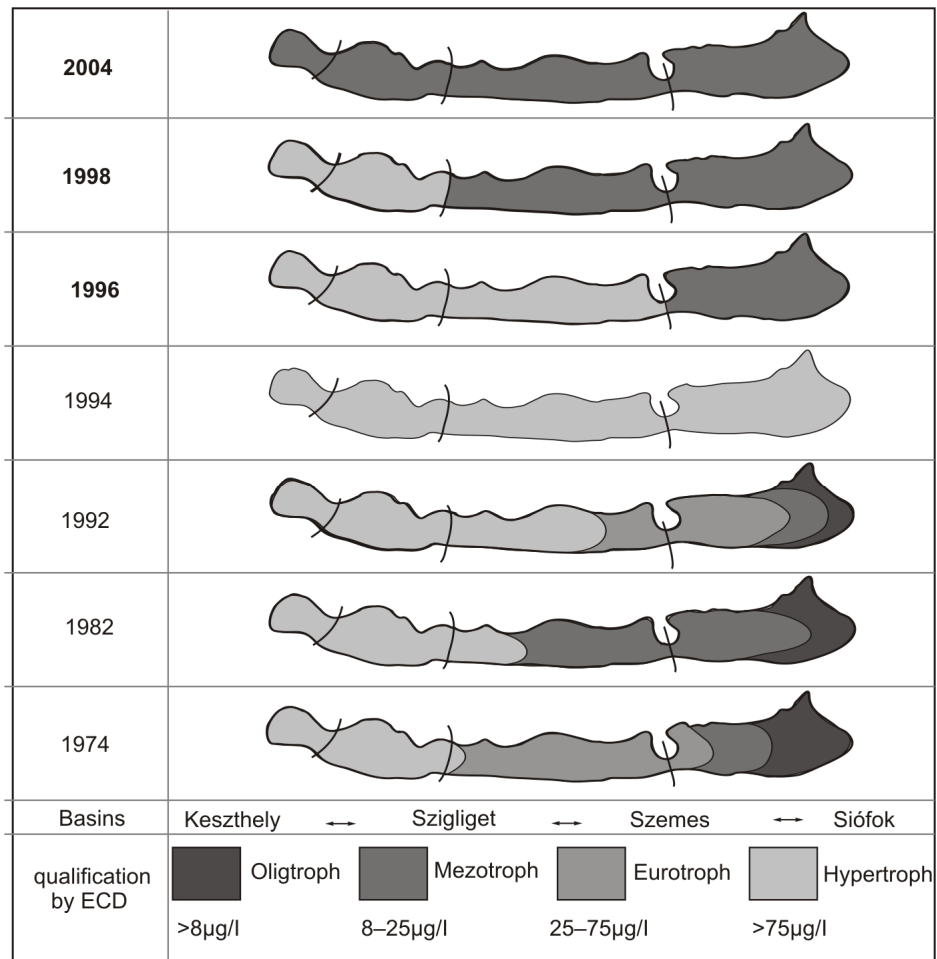


Key: 1 – Siófok Basin; 2 – Szemes Basin; 3 – Szigliget Basin; 4 – Keszthelyi Basin.

Source: Katona-Őrsi, 2006.

Figure 10

Changes of the water quality of the Lake Balaton



Source: Katona-Őrsi, 2006. p. 26.

Table 1

Total of pollutions reaching the Lake Balaton

Year	Rivers	Direct sewage	Washed from urban areas	Directly washed from other areas	Atmospheric pollution	Estimated total load
Nitrogen load of the Lake Balaton (in tons)						
1975–79	1599	229	118	200	590	2736
1985	2331	72	115	230	561	3309
1990	964	23	104	128	591	1810
1995	1266	35	207	236	1836	3580
2000	699	4	135	200	1448	2485
2004	1032	4	125	157	1448	2766
2004, %	37.3	0.1	4.5	5.7	52.4	100.0
Phosphor load of the Lake Balaton (in tons)						
1975–79	157	32	58	18	62	327
1985	171	7	57	70	19	324
1990	72	2	47	38	34	193
1995	77,1	0,8	41,4	70,7	10	200
2000	36	0,3	33	73	12,4	155
2004	36.6	0.5	31	58.2	12.4	139
2004, %	26.4	0.4	22.4	41.9	8.9	100.0

Source: Katona – Örsi, 2006. p. 23. Based on the appendix

The proportion of homes linked to the sewage collection system must be raised to 95% in the lake shore municipalities and to 72% in the settlements of the hinterland until 2013. In the whole of the catchment area, the large regional waste management and deposit plants must be built. The construction of reservoirs must be continued, together with the establishment of natural filtering systems and the development of reed management. The instalment of the full 2nd phase of the Little Balaton reservoir, the Fenék Lake is of special importance (Phase 1 of the Little Balaton, the Hídvég Lake has a surface of 18 km², that of the 2nd phase, the Fenék Lake 50 km²), as the Little Balaton with its approximately 70 km² territory would be able to filter out all pollutions coming with the Zala River. On the north, east and west shore the burden caused by transit traffic must be decreased, just as it has happened on the south shore.

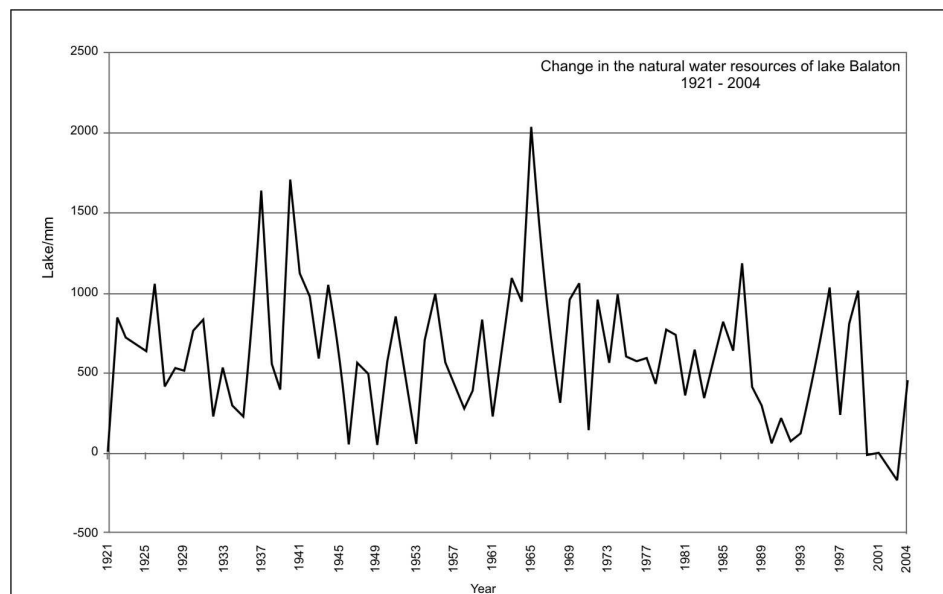
In the whole catchment area of the Lake Balaton – similarly to the whole of Hungary – at least 10% of the agricultural lands (and 30–40% of the gardens) is unutilised. These uncultivated areas have become derelict and degraded, they are sources of diseases and damage the aesthetic value of the landscape, and they reflect negligence and a low level of culture. The professional forestation of the

lands has never kept up with the pace of their abandonment, and the consciously directed forestations actually ceased to exist in the decade following the systemic change. The forests are the most durable, most effective and most cost-saving tools of the protection of the water, elements of the landscape with the most positive impact on the aesthetic value of the regions and also representing a significant economic value. The aesthetic value of the landscape would be increased by foresting the abandoned agricultural lands (especially the former vineyards, gardens, grasslands and pastures of the south shore) and the steep hill sides in the Zala valley. The total of the areas concerned reaches 10,000 hectares in the holiday region and exceeds 20,000 hectares in the total catchment area.

Due to the lasting drought, the water level of the Lake Balaton on the Siófok water gauge at a height of 104 metres above sea level reached the lowest value in the 20th century history of the lake, at 30 centimetres, in 2004 and the Balaton showed the signs of drying out (*Figure 11 and 12; Table 2*).

Figure 11

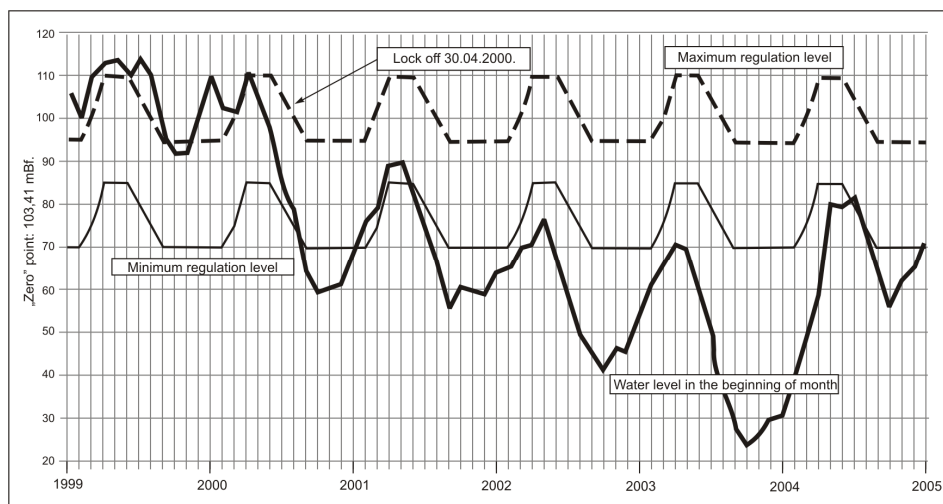
Change of the total stock of water in the Lake Balaton, 1921–2004



Source: Katona–Örsi, 2006. Figure 7.

Figure 12

Water levels at the beginning of the months and the intervention zone



Source: Katona-Őrsi, 2006. Figure 1.

Table 2

Daily water levels of the Lake Balaton from 1 January 2000 to 1 July 2005

Date	Water level (cm)
1 January 2000	110
1 July 2000	85
1 January 2001	70
1 July 2001	75
1 January 2003	65
1 July 2002	60
1 January 2003	50
1 July 2003	50
1 January 2004	30
July 2005	96

Source: A balatoni turizmus fejlesztési koncepciója és programja. .
 [Development concept and programme of the tourism of the Lake Balaton], Appendixes. LT. Consorg Kft. Balatonfüred, 2005. p. 5.

The arid weather of the last decade and the repeated extremely low water level of the Balaton suggested that a higher level of the water than presently should be kept in the lake in order to preserve the quality of the water. This purpose was already served by raising the highest permitted water level from 100 to 110 centimetres at the Siófok gauge in 1997.

The Balaton Region can only be set on a track of long-term development if, in addition to the natural values, the quality of the water and the diversity of the wildlife, the economic foundations are also provided. This takes complex, harmonised and state-of-the-art economic improvement, and within that especially tourism, cultural and health care developments that provide a good quality of life in the whole region and attracts highly skilled inhabitant and the location of high-level services.

3 Population, employment and incomes in the Balaton region

3.1 Demographic situation of the Balaton Region

The Act No CXII of 2000 specifies 164 municipalities in the Selected Holiday Region of the Lake Balaton, of which 16 are towns. Within this group, the category of the “shore settlements” involves a total of 52 municipalities, while that of the “non-lake shore settlements” has 112 municipalities. The number of population in the holiday region did not change in 1990–2001, it remained at 255 thousand; it has been decreasing since then.

The population of the whole of Hungary decreased significantly in the period in question. In the early 1990s the crisis following the systemic change, the increasing impoverishment of the population and the uncertainty of existence, together with the increase of unemployment resulted in the worsening of the health situation of the population, which is especially visible in the high mortality rates of men. Life expectancy of men fell back by 1994 to the level in 1960, and the mortality rate of middle-aged men tripled compared to the figure of 1960. An improvement in this respect only started in 1996. Parallel to this, the number of marriages decreased and the number of divorces grew, also, people get married and women give birth to the first child later, which radically decreases the number of births. The decrease in the number of births became significant after 1995, when the number of births per one hundred women fell to 1.28; in 2000 it grew to 1.32 and has been stagnating at this level since then. The number of births remains below the number of deaths; accordingly the population of Hungary is continuously decreasing. The magnitude of the loss of population is moderated by

the immigrants coming from the Hungarian-inhabited regions of the neighbouring countries, but this process only counterbalances the decrease of the population.

The demographic indices of Hungary are also influenced by the decreasing internal migration, movements. In the 1990s the process of people moving from villages to towns slowed down, in fact, a process in the opposite direction became typical. Some of the people leaving the towns moved back to their villages after the loss of their jobs, also, many tried to make an easier living by moving to the villages. Both groups were motivated by the hope of a cheaper living and a higher degree of self-subsistence in the villages. For the majority the decision proved to be a fatal mistake, as the job opportunities in the villages were even worse and the increasing travel costs made it almost impossible to have access to the jobs in the towns. The movement from the towns to the villages is most of the times explained by the phenomenon of suburbanisation, i.e. when people move from the town to the nearby villages but keep their jobs and use services (kindergarten, school, health care, trade) in the city. At the turn of the millennium, the movement of the population between the villages and the towns was balanced.

In the changes of the number of population and the migrations of the population both the consequences of the economic and social crises (e.g. a drastic increase of deaths, a flight to the villages and self-subsistence) and the tendencies typical of the Western European countries (decrease in the number of births, growing age of people marrying and having children, suburbanisation) can be seen at the same time. The phenomenon of suburbanisation can be best seen in the small town of Keszthely. The well-off layer of the population moves to the more pleasant areas of the nearby villages (Cserszegtomaj, Gyenesdiás), causing a decrease of population in Keszthely and a rapid growth of population in the surrounding villages.

The population of the Balaton Region started to decrease after 2000. As the national tendencies are also valid here, the preservation of the number of population was due to the positive international migration balance of the region, but even that proved to be insufficient to counterbalance the constant loss of population (*Figure 13; Tables 3 and 4*).

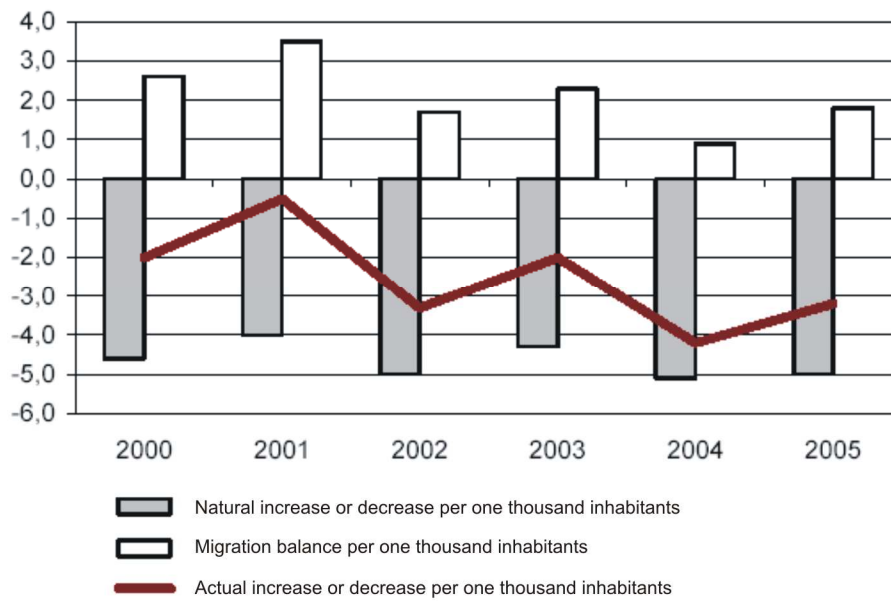
The largest towns of the region (in number of population) in 2005 were Siófok (23,791 inhabitants), Keszthely and Tapolca (21,367 and 17,000 inhabitants, respectively). The smallest town that at the same time shows the highest growth of population is Zalakaros, presently with a population of 1,686.

The number of children per family has decreased in the Balaton region even faster than the national average; in 2000 there were only 126 children per 100 women, as opposed to the national figure of 135. This index, however, shows considerable differences between the urban settlements on the lake shore and the rural ones farther from the lake. In the rural areas farther from the lake the

traditional old values are still stronger, which is shown in the higher number of births, among other things (Table 5).

Figure 13

Change of population per one thousand inhabitants in the Balaton Holiday Region



Source: Tourism in the Selected Holiday Region of the Lake Balaton in 2000–2005. Veszprém Directorate of the Hungarian Central Statistical Office, Veszprém, p. 9.

Table 3

Permanent population in the settlements of the Selected Holiday Region of the Lake Balaton (2005)

	Lake shore settlements (inhabitants)	Hinterland settlements (inhabitants)	Total	
			(inhabitants)	(%)
Somogy county	60,678	52,077	112,755	44.6
Veszprém county	49,503	40,132	89,635	35.4
Zala county	37,482	12,976	50,458	20.0
Total (inhabitants)	147,663	105,185	252,848	
(%)	58.4	41.6	100.0	100.0

Source: Tourism in the Selected Holiday Region of the Lake Balaton in 2000–2005. Veszprém Directorate of the Hungarian Central Statistical Office, October 2006.

Internet source: <http://portal.ksh.hu/pls/portal/docs/page/veszprem/kiadvanyok/elemzesek/2006ev/balaton2005.pdf> p. 55.

Table 4

Number of population in the Selected Holiday Region of the Lake Balaton

Area	1990		2001		2005	
	thousand	%	thousand	%	thousand	%
Towns	137	54	135	53	135	53
Villages	118	46	120	47	118	47
Region total	255	100	255	100	253	100

Source: Hablicsek, 2003. p. 10; The Balaton Holiday Region. 2000–2005. Veszprém County Directorate of the Hungarian Central Statistical Office 2006. Internet source.

Internet source: [http://portal.ksh.hu/pls/portal/docs/page/veszprem/kiadvanyok/ elemzesek/2006ev/balaton2005.pdf](http://portal.ksh.hu/pls/portal/docs/page/veszprem/kiadvanyok/elemzesek/2006ev/balaton2005.pdf). p. 55.

Table 5

Average number of children per family in the Balaton region

Specification	Average number of children per family in the Balaton region	
	1990–1994	1996–2000
Lake shore settlements	1.60	1.24
Other settlements	2.00	1.49
Balaton region total	1.73	1.36

Source: Hablicsek, 2003, Manuscript. p. 10.

Among all towns in the Balaton Region, the lowest fertility could be observed in some towns on the lake shore (Balatonalmádi: 0.95; Balatonfüred: 1.03; Fonyód: 1.13 and Balatonlelle: 1.16), while the highest figures of this index were measured in Lengyeltóti (1.69) and Tapolca (1.31), both towns being at some distance from the shore of the lake (*Hablicsek*, 2003, p. 10.).

On the regional average, the age of giving the first birth rose from 25.8 years to 27 years between 1990 and 2000.

Life expectancy is higher in the settlements in the proximity of the lake shore than in the settlements of the hinterland, which is due to the better economic situation and health care.

The positive balance of international migrations has allowed the preservation of the number of the population in the Balaton Region – without the international

migrations, the number of population would have decreased by 5,000 already in the 1990s.

To sum it up, the low and still decreasing level of live births and the growing average age result in the ageing of the Balaton Region. The unfavourable development of the age pyramid of the region is influenced by the fact that the more skilled youth move out from the region, due to the housing and job conditions inadequate for them, and to the fact that the significant part of those moving in from Hungary or abroad are pensioners who settle down in the settlements on the lake shore (e.g. in Keszthely). In the future, even the rise in the number of live births cannot preserve the number of population if the moving into the region decreases – not least because formerly the moving of the youth from the villages to the towns was typical, whereas today we can witness the gradual moving away of the skilled youth, mostly those with higher education diplomas, from the region, including the towns of the Balaton Region (Keszthely, Tapolca etc.). This tendency is expected to continue in the future, because 5% of the local population plan to leave the region in the short run (*Oláh*, 2006, p. 31.). These are not only regional phenomena, of course; the whole of Hungary is characterised by the ageing of the population and the growing share of the employment of the skilled youth in Budapest or abroad.

3.2 Training and education

The average level of education of the region's population exceeds the national average – this is demonstrated by the lower share than the national average of those who only finished the eight years of the primary school or even less. The share of those with finished higher education is around the national average, largely due to the outmigration. There are only a few municipalities that are exceptions to this rule, including Keszthely (a centre of education and health care), Balatonfüred (a health centre), or Tihany (a research centre). The concentration of the institutions of education is shown by the fact that more than 50% of the expenditure of the settlements on education in the Balaton Region is realised in only 5 towns out of the 164 municipalities: Keszthely, Siófok, Marcali, Tapolca and Hévíz. The secondary school network of the region is developed and matches the market demands and the economic structure of the region. Secondary education of commerce, hotel and catering industry is available in Fonyód, Keszthely, Siófok, Tapolca, Balatonfüred and Zánka, the demand for viti- and horticulture experts is met by the trainings taking place in Balatonfüred and Balatonboglár.

University level training in agricultural sciences is done in Keszthely, a college level training of tourism in Siófok and Tapolca (in the latter town environ-

mental and health training is available too), higher education of informatics is provided in Balatonfüzfő, while Keszthely is home to environmental training. Although the University of Veszprém is outside the Balaton Region, its impact is strong in the whole region, due to the trainings of chemical industry, tourism, environmental protection and teacher training.

At each level of the school education, one of the most important tasks is the development of the language trainings (especially of German and English), as the language skills of the inhabitants working in the service sector (hotels, catering industry, medical treatments, trade) is inadequate for a high-level tourism service.

3.3 Employment of the labour force

In 2000 the number of inhabitants in the employable age was 156,081, of whom 106,800 people were economically active, which is a 69% economic activity rate (c.f. the national average of 70%). In the last decade the employment level declined significantly, to 62%, the number of the unemployed is around 10,000 (2001). The low employment and high unemployment level is an especially serious problem in the densely populated parts of the south lake shore. The activity rate and the unemployment rate are somewhat better now than the national average. The main problems of employment are as follows:

- The majority of the unemployed have finished only 8 classes of the primary school, or even less. In the settlements of the hinterland of the Lake Balaton they make almost 50% of the unemployment;
- Employment is strongly seasonal. The demand for labour force in the season can only be met by the inclusion of labour from outside the region – the majority of whom are unskilled, e.g. students –, while the seasonal workers are usually unemployed outside the holiday seasons. In the settlements on the lake shore, the number of the unemployed is doubled off-season, unemployment rate increases by 4–5%;
- The supply of jobs requiring higher qualifications is relatively little, which increases the unemployment rate among the highly skilled women in the first place;
- In the high tourism season the number of those employed illegally or semi-legally is extremely high;
- In the tourism season the employment of foreign employees is high and still growing, both in legal and illegal employment;
- The wages are low because of the over-supply of labour force in the season, even lower than the national average;

- The approximately 10,000 real estate owners employ some 12,000 persons in their households mainly for gardening or housekeeping, usually illegally (*Kovács E.–Oláh M.–Bokor I., 2005, p. 3.*);
- Seasonal employment is a work opportunity mainly for those who live on the lake shore or in the proximity thereof, those who live farther from the shore are less concerned.

3.4 Incomes

The average taxable income was only 86% of the national average in 2000, by which the Balaton Region has an around-average position among the Hungarian regions: only Central Hungary, West Transdanubia and Middle Transdanubia feature higher taxable incomes. It is more likely, however, that the incomes in the Balaton Region are higher, as the construction activities on the lake shore, the trade and tourism services (e.g. letting of rooms) or wine sales offered an opportunity to receive significantly higher untaxed incomes than in other parts of Hungary. This is reflected by the indices indirectly showing the incomes (e.g. average flat size, equipment of the houses, number of cars and telephone lines etc.), which are even better than in more advanced regions.

The region, however, is extremely heterogeneous as regards the amount of income per capita:

- The incomes of the population on the north shore are significantly, 30–40% higher than of those living on the south shore;
- Those who live on the lake shore have a considerably, 20–40% higher income than those in the hinterland have;
- The incomes on the lake shore and in the towns are higher than incomes earned in the villages.

The main reason for the differences in the incomes is that tourism and the services required by tourism are mostly concentrated in the lake shore settlements, primarily in the towns. The earnings made in the region, however, have different impacts on the income positions of the respective counties (*Table 6*).

Table 6

Incomes in the Balaton Region and the counties around the Lake Balaton

Regions		Taxable income per person (thousand HUF)	Position in the order of the Hungarian counties
Somogy	Including settlements of the Balaton region	270.0	16
	Without settlements of the Balaton region	264.8	17
Veszprém	Including settlements of the Balaton region	359.5	7
	Without settlements of the Balaton region	371.4	5
Zala	Including settlements of the Balaton region	334.0	8
	Without settlements of the Balaton region	340.3	8
<i>Balaton Region</i>	<i>With whole counties</i>	<i>299.1</i>	<i>12</i>
	<i>With parts of the counties</i>	<i>299.1</i>	<i>12</i>

Source: Balaton Régió stratégiai fejlesztési program helyzetelemzése és SWOT aktualizálása (Munkanyag) Balatoni Integrációs Kht. Siófok, [Strategic Situation Analysis of Strategic Development Programme of the Balaton Region 2002–2006.] 2005. p. 11.

4 Economy of the region

4.1 The economic development level of the Region

The investments realised in the region in the 1960–1985 period and the boom of tourism raised the income generating capacity of the Balaton Region to a level considerably exceeding the national average, especially in the settlements on the lake shore. As a result of the economic decline following the systemic change (in 1990) and the drastic decline of tourism, the development of the region has slowed down, and the Balaton Region is quickly losing its former economic advantage measured by the GDP per capita, compared to both the national average and the so-called countryside average (i.e. the national average calculated without Budapest), as a consequence of the relatively faster development of the other regions. The surveys of Lőcsei, Hajnal and Németh, Sándor (*Lőcsei–Németh*, 2006. p. 12.) clearly demonstrate that the development rate of the Balaton Region lagged behind both the national average and the average of the counties making the region in 1994–2004, decreasing the share of the Balaton Region from the GDP production of Hungary from 2.9% in 1994 to 2.5% by 2004. By this decrease in the GDP, in the order of 21 counties including Buda-

pest and the Balaton Region, the so-called “Balaton Region” would have the 14th position (*Table 7*).

Table 7

Estimated volume of the economic capacity of the settlements in the Balaton Region (GDP, in million HUF)

Area	1994	2000	2004	2004 in % of 1994	1994	2000	2004
	Estimated GDP production (billion HUF)				GDP per capita in % of the national average		
Counties of the region total, in per cent of Hungary	8.2	7.9	7.8	–	83.2	79.7	78.9
Actual territory of the Balaton Region	126.4	343.0	507.2	401	117.4	104.0	99.0
Of which: Somogy	52.6	141.0	213.1	405	108.3	95.2	92,8
Veszprém	42.8	127.0	174.0	407	111.7	108.0	95,7
Zala	30.9	74.9	120.0	388	149.4	118.0	118,6
Lake shore	99.3	258.0	377.5	380	162.0	138.0	127,0
Hinterland	27.1	84.5	129.7	479	58.4	59.5	60,3
Towns	82.4	216.0	313.7	381	141.9	122.0	114,1
Villages	44.0	127.0	193.5	440	88.7	83.3	81,4
Actual territory of the Balaton Region in per cent of Hungary	2.9	2.6	2.5	–	–	–	–
Actual territory of the Balaton Region in per cent of Hungary without Budapest	4.4	4.0	3.8	–	–	–	–
Actual territory of the Balaton Region in % of the three counties	35.2	32.9	31.9	–	–	–	–

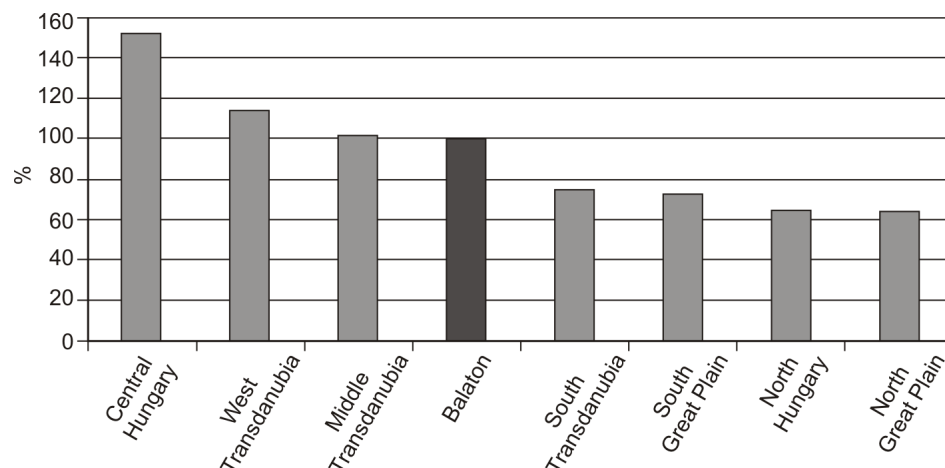
Source: Lőcsei – Németh, 2006. Comipilation based on p. 11. and p. 15. o., Tables 1. and 3.

The position of the Balaton Region in the order of the counties by the GDP per capita is much better, the region has the 5th position here, but the slowing down of development is indicated by the fact that the Balaton Region came second after Budapest in 1994–1996. As a result of the slowed down development, while GDP per capita in the Balaton Region was 17% higher than the national average in 1994, it was only 99% of that in 2004 (nevertheless still 26% higher than the national average without Budapest – c.f. the 45% advantage in 1994) (*Figure 14*). The fall is even more striking in the settlements of the lake shore, where GDP production per capita exceeded the national average by 62% in 1994 and “only”

27% in 2004. If we compare the indices of the Balaton Region to the average of Hungary calculated without Budapest, we can see that the indices of the region as a whole (125.8%) and of the settlements on the lake shore (161.3%) or of the towns of the region (145%) are higher than that, only the development level of the settlements in the hinterland (76.6%) is below the countryside average. In the long run, however, the advantage of the region seems to be vanishing. Among the three sub-regions of the selected holiday region of the Lake Balaton, the lowest amount of GDP per capita can be found in the Somogy sub-region (the south shore), the highest in the Zala sub-region (the west coast). Despite the different pace of development in the respective sub-regions (the Veszprém and the Somogy ones featured faster development), the disparities in GDP production are still considerable and the proportions within the region have not changed significantly.

Figure 14

GDP per capita in the Hungarian regions (national average = 100%), 2000



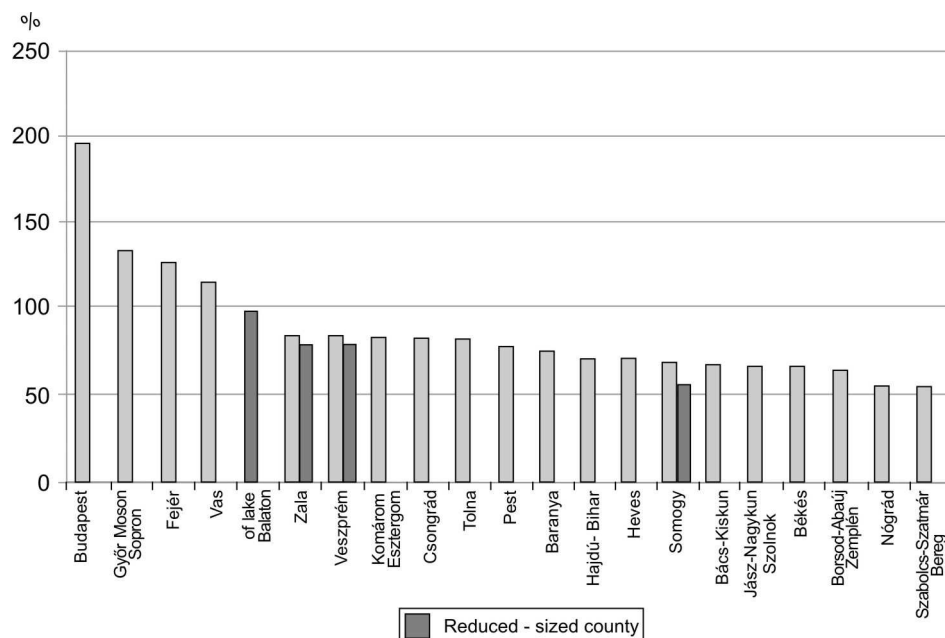
Source: Lőcsei – Nemes Nagy, 2002. p. 6.

The slowing down of the development of the Balaton Region is also indicated by the decrease of the share of the Holiday Region from the GDP production of the three counties involved, from 35.2% in 1994 to 31.9% in 2004 (Lőcsei–Németh, 2006. p. 11.). Of the total population of the three counties, approximately one-fourth of the inhabitants in each county live in the Balaton Region, while the proportion of the Balaton Region part from GDP production in the respective counties were as follows: 30% in Veszprém, 47% in Somogy and 22% in Zala county (Lőcsei–Németh, 2006. p. 12.). The weight of the parts of the counties belonging to the Balaton Region is indicated by the fact that without

them the positions of the respective counties in the order of the Hungarian counties by GDP production would be quite different: Zala would have the 17th position instead of the 13th, Veszprém would fall from position 12 to position 18, Somogy from position 18 to position 20. These figures demonstrate that the parts of the respective counties belonging to the Balaton Region are more developed than the averages of the respective counties (*Figure 15*), but also the fact that the weight of the Balaton Region within Hungary and the respective counties is continuously decreasing, and the centres of development are now outside the holiday region (*Lócsei-Németh, 2006. p. 12.*).

Figure 15

*GDP per capita in the Hungarian counties and the Balaton Region
(national average = 100%), 2000*



Source: Lócsei – Nemes Nagy, 2002. p. 6.

The economy of the Balaton Region is considerably concentrated. Seventy-four per cent of the GDP of the region is produced by 52 settlements on the lake shore, and 62% of that in the 16 towns. The disparities decreased from 1994 to 2004, due to the faster development of the settlements in the hinterland and the villages, nevertheless the differences are still considerable. In 1994, the GDP production of the settlements on the shore was 3.7 times higher than that of the settlements in the hinterland, and towns produced 1.9 times more GDP than vil-

lages did; these figures decreased to 2.9 and 1.6 by 2004, respectively. These figures are slightly more favourable if we look at the production of GDP per capita, due to the smaller number of population in the settlements of the hinterland and the villages, but the differences are still significant: 2.1 times between the settlements on the lake shore and in the hinterland and 1.4 times between the towns and the villages. The amount of GDP production is thus determined primarily by the distance from the lake and secondarily by the status of the given settlement (town or village) (*Lőcsei-Németh*, 2006. p. 12.).

The breakdown of the settlements of the region on the basis of their development level is relatively stable. In 2004, of the 50 settlements exceeding the regional average (in GDP per capita) 43 were lake shore settlements (of the total of 52 such settlements) and only 7 were settlements in the hinterland: six in Veszprém county (north shore) and one in Zala. In the latter group, the above-average position of Zalakaros is due to the medicinal spa, of Kékkút to the income made from mineral water. In the other five villages, Kapolcs and four tiny villages around it (Taliándörög, Vigántpetend, Óbudavár, Salföld) it is tourism and the summer festivals that have significantly improved the living standards of the population.

The Balaton Holiday Region is a development region organised not around a big city but a lake, where the pace of economic development is determined by the development of the services connected to holidays. Those villages that cannot join tourism and do not have special natural endowments, either (mining or mineral water) cannot keep up with the development and are getting into a more and more unfavourable situation (e.g. Siójut, Zala, Kapoly and Lulla in Somogy county, Lesenceistvárd, Lesencefalu, Kisapáti in Veszprém county etc.).

4.2 Directions of economic development

The inhabitants of the water catchment area of the Lake Balaton lived from agriculture for centuries, until the 1960s. The region had an urban deficit and an underdeveloped industrial sector, let alone a few settlements, e.g. Balatonfüzfő (chemical industry) or Balatonfüred (ship building). On the other hand, the lake also secured a living for a very few people, only. A significant change occurred in the 1960s, with intensive industrial development (dairy-, meat processing-, grape and wine- and poultry processing industry) and the booming development of tourism that forced the rapid development of the service sector. This was the period when, after the reorganisation of agriculture into large state-owned estates, the industrialised production of agriculture started, which resulted in the drastic decline of the agricultural earners and the demand for the education of the agricultural employees. The economic weight of agriculture (e.g. the number of the employees in the sector) continuously decreased in the whole of the

region, which was considerably accelerated after the systemic change by the disintegration of the agricultural holdings and areas and the loss of the markets of agriculture. From the 1960s it became clear that, owing to the good endowments of the Balaton Region, it was tourism and the connected services that were suitable for the production of the largest amount of new value (GDP) and accordingly should become special development priorities. The experiences of the half century since then also show, on the other hand, that the *given region is too big and the incomes of tourism are not enough to develop the whole of the region (the hinterland), also, the number of population is too big for one sector – tourism – to provide employment for all.* This will remain the case in the future, even if tourism is further developing and tourism season is prolonged – not last because 90% of tourism is concentrated in a few-kilometre stripe along the shore and in the settlements on the shore, and the development of the wellness and health tourism in the background settlements can only moderate the spatial disparities of tourism in the region. This means that the development of both industry and agriculture are definitely necessary, in addition to the development of the services. The desirable situation would be if the respective sectors mutually reinforced each other, creating a demand for one another. The activities most organically connected to the needs of the region can be construction industry, manufacturing of building blocks and garden equipment and furniture, ship- (boat-)building – but not only these. It is very important for tourism to have a range of services as wide as possible, from health care through financial services to bicycle repair. It is important to see that *presently there is not one single sector that can provide the total employment and finance the maintenance of the region in a civilised condition.*

One of the biggest economic problems in the region was and still is that the interests of the respective sectors have never been reconciled in a way that the development of each sector should result in better conditions for the other sectors as well and have a multiplier effect in the whole of the region. There is no relationship e.g. within tourism, among the development of the hotel chains and the production of vegetables and fruits in the region; the purified sewage of the Balaton Region is removed from the region – at high cost –, although a part of it could be used for the irrigation of the vineyards and orchards of the region.

4.3 Economic organisations

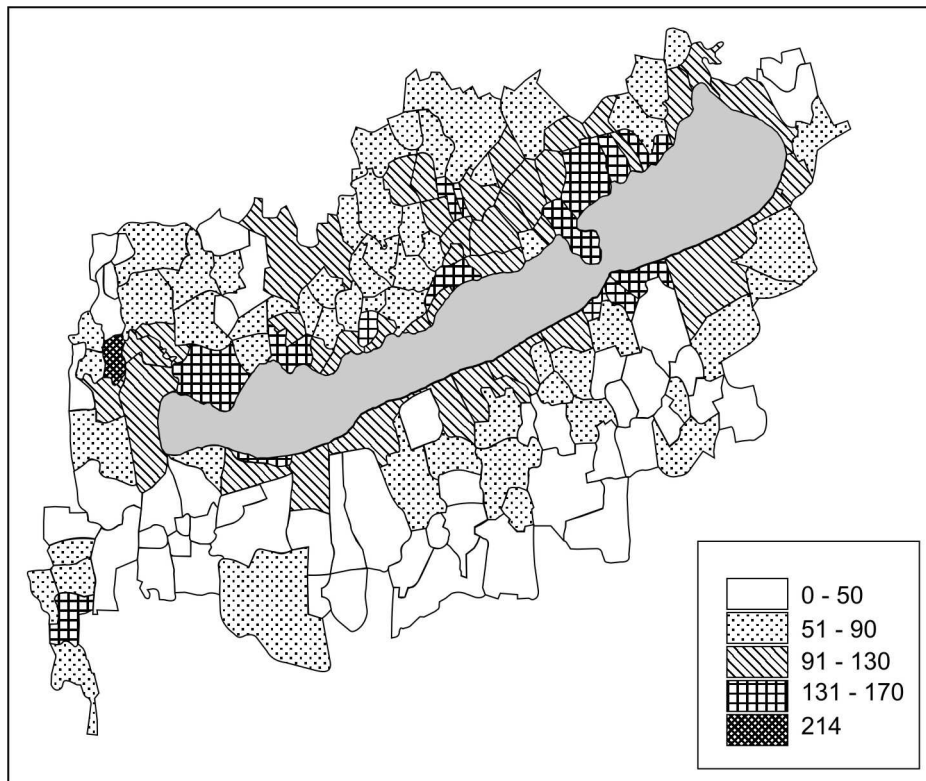
The Balaton Region was the part of the socialist world system where the businesses could freely operate two or three decades before the systemic change, already. This was mainly due to the fact that after tourism became a mass phenomenon within a decade, the service demands of the tourism season, which was actually limited to only three months of the year (in reality not more than 4 to 6 weeks annually) could only be satisfied by a mass of small businesses adapting to the situation. The systemic change taking place in the late 1980s changed this situation inasmuch as the private enterprises became activities enjoying state support and a higher prestige, but many businesses became the only source of living, as well, after the elimination of jobs (*Figure 16*).

The economic development of the region and the volume of the incomes of the inhabitants are determined by tourism. Consequently, the development level of the settlements in the region are influenced by the distance from the lake shore, the size of the given settlement (the towns are in a better situation in the whole of the region) and the better (e.g. Keszthely and Hévíz) or worse (e.g. the area of Lengyeltóti) endowments of some micro-regions. The only exceptions to this rule are the settlements with old bathing traditions or medicinal baths (Hévíz, Zalakaros), with individual natural assets (Tihany), or a special water that is a specific economic asset (e.g. Kékkút – mineral water).

The business opportunities offered by tourism and the decades of entrepreneurial traditions explain the highest figure of businesses per 1,000 inhabitants in the whole of Hungary in the Balaton Region in 2003 (109 businesses per thousand inhabitants), after Budapest (109 businesses per thousand inhabitants). The countryside average, i.e. the national average calculated without Budapest is only 62 businesses per thousand inhabitants, which is significantly exceeded by the Balaton Region. Of all businesses operating in Hungary, 3.7% can be found in the Balaton Region. In the early 1990s, the former large state-owned entities were disintegrated and after a profile clearing, the respective units were separately privatised. This resulted in the doubling of the number of businesses by the end of the decade; the number of companies grew by 4 to 5-fold, that of the private enterprises to one and half-, twofold. The increase of the number of private enterprises was also forced by the considerable decrease in the number of workplaces. Partly this explains the 35% share of the private enterprises, above the national average; the other reason is the profile of the businesses (e.g. catering). Self-employment was especially needed in the settlements of the hinterland, struck by a lack of jobs anyway; this explains the high number and proportion of enterprises in this region.

Figure 16

Number of operating businesses per 1,000 inhabitants in the Balaton Holiday Region, 31 December 2002



Source: A Balaton Üdülőkörzet 1996–2002. [The Balaton Holiday Region. 1996–2002. Veszprém County Directorate of the Hungarian Central Statistical Office], Veszprém, 2003. p. 12.

In the holiday season, the local businesses are supplemented by businesses from outside the region, which are present in 31% of the settlements of the holiday region. Of all businesses from outside the region, 97% operate in the settlements on the lake shore, leaving only 3% to the hinterland. The consequence is that on the lake shore the number of businesses (132 per 1,000 inhabitants) is well above the national average, whereas it is around that in the settlements of the hinterland (74 businesses per 1,000 inhabitants), which is still relatively high, owing to the demand of tourism radiating to the settlements of the hinterland.

Szántód is the only settlement where the businesses external to the holiday region outnumber the local ones. Forty per cent of the external businesses come from Budapest, followed by entrepreneurs coming from the non-holiday region settlements of Veszprém county, then Baranya and Pest county, and the non-holiday region parts of Zala county. The majority of the businesses coming to the holiday region are from Budapest and Transdanubia. The areas most favoured by the external businesses are Siófok and Balatonfüred. Ninety-seven per cent of the businesses coming to the region work in one settlement, only, but a few per cent of them operate several units in one settlement or have built out their business activity in several settlements (*Dombi, 2004, p. 18.*).

In the settlements of the shore stripe, 64% of the private entrepreneurs were active in real estate, leasing and services assisting economic activities, whereas the proportion of trade made 15%, that of catering 5% (*Belyó, 2000. p. 255.*).

The majority of the businesses are small businesses with less than 10 employees and a shortage of capital, unable to carry out significant developments. This is one of the reasons why approximately 2,200 small businesses active in the accommodation and catering industry had to be liquidated between 1999 and 2003, due the hectic character of tourism.

The total number of businesses working in the region was 26,562 in 2003, but this number exceeded 28 thousand in the peak season, in which a significant role was played by the approximately 2,000 businesses seated outside the Selected Holiday Region of the Lake Balaton and mostly operating in the high season, only.

The breakdown of the operating businesses by economic sectors in 2004 was as follows:

Trade and repair	21.5%
Real estate	19.8%
Accommodation and catering	16.2%
Construction industry	11.9%
Industry	7.0%
Transport, storage, post and telecommunication	4.8%
Agriculture, forestry, game and fishing	4.7%
Financial mediation	2.7%
Health and social care	1.9%

Source: Balaton régió helyzetelemzés és SWOT aktualizálása [Strategic Situation Analysis of Strategic Development Programme of the Balaton Region 2002–2006]. Balatoni Integrációs Kht. 2005. p. 21.

The breakdown of the businesses by sectors is uneven across the Balaton Region: in the settlements on the lake shore, approximately 60% of the businesses deal with real estate, leasing and services assisting economic activities. The higher share of businesses in construction industry, on the other hand, is typical in

the settlements of the hinterland, where significant constructions took place in the last years, as opposed to the lake shore where restrictions apply. Surveys showed a lack of services assisting economic activities (e.g. bookkeeping), as these tasks are usually done by businesses from outside the holiday region.

The employment of the inhabitants of the region is exacerbated by the fact that the industry of the region has never been developed. Although many branches of industry are present (chemical industry, paper industry, shipbuilding, textile industry, manufacturing of telecommunication devices, mills, wine and champaign production, bottling of juices and mineral water etc.), the industrial plants employ a small number of labour force and have local significance, with the exception of the Nitrokémia Co. in Balatonfüzfő. Sixty-seven per cent of the settlements of the region are home to some industrial activity, but almost half of the employees work in three towns: Marcali, Keszthely and Balatonfüzfő. Industry employs only 12,000 people. Approximately 20% of the industrial employees work in service-related jobs (water production, water management, energy supply etc.), chemical industry (Nitrokémia Co. in Balatonfüzfő) employs 25% of industrial workers, whereas some 10% of the labour force is employed by the rapidly developing sector of telecommunication devices manufacturing. Only the production of beverages has a product range typical of the region (wines, BB Champaign, Sió juices, mineral water of Kékkút and Fonyód). The favourable effects of the chemical industry concentrated in Balatonfüzfő in employment and the annihilation of the hazardous waste produced in the region is counterbalanced by its direct threat to the environment and tourism, also, its smell is rather disturbing for both the local population and the tourists.

4.4 Tourism

Tourism is a leading economic sector in the Balaton Region, a sector that elevated the region from among the other regions of similar development level. The history of tourism at the Lake Balaton goes back to just over a century. By the late 19th century, the several decades of peaceful economic development resulted in the birth of a bourgeois layer – especially in Budapest – who had the means and also the demand to spend time on sport and longer holidays for the regeneration of their health. The Lake Balaton offered a splendid opportunity for this, due to the proximity to the capital city and its natural beauties. The construction of the southern railway, the Budapest–Nagykanizsa line (in 1861) “brought the lake close” to Budapest, and then the construction of the northern line between Budapest and Tapolca (in 1910) and the side-lines in the north and

the south provided a better accessibility of the lake from all directions. This was the time when the construction of inns, boarding houses, hotels and of private accommodations and family villas started for the reception of guests. The attraction of the region was increased by the steam ship traffic starting in the 1880s; ports were built in the major settlements on the lake shore. Until World War I, however, the total number of holidaymakers was only a few tens of thousands; the contemporary statistics registered approximately 25,000 guests arriving at the Lake Balaton in 1900 and 55,000 in 1910.

Between the two world wars, the growing demand for holidays and the mutilation of the territory of Hungary, with the concomitant loss of the former bathing resorts resulted in the growth of the number of holidaymakers to 230,000 by 1937. In the 1930s, in addition to the domestic demand, the interest of foreigners in the Lake Balaton significantly increased. In 1937, the number of foreign guests exceeded ten thousand; most of the visitors came from Austria (5,363 guests), Germany (4,340 people) and Czechoslovakia (1,695 guests). The majority of the guests were received by six bathing resorts of selected importance: Siófok, Földvár, Fonyód, Keszthely, Balatonfüred and Balatonalmádi.

The attraction of the Balaton was increased by the growing popularity of water sports (swimming, rowing, and sailing). Sailing clubs were founded, boathouses built and sailing races organised. The most important sailing race of the Balaton, the "Blue Ribbon Race" was first organised in 1936. With the partition of the lands along the lake shore, the organised and demanding construction of the holiday settlements started, together with the construction of beaches and alleys on the shore.

The number of holidaymakers dropped to 70,000–80,000 after World War II, then the gradual improve in the living standards, the organised holidays of the trade unions (after 1948) and the development of youth tourism resulted in a mass demand from the late 1950s. By the summer of 1972, in addition to the 120,000 permanent inhabitants there were another 320,000 holidaymakers staying for a longer time at the Lake Balaton and another approximately 140,000 people who only visited the lake on the weekends (Balaton, 1984. p. 18.). In the summer of 1982, the number of permanent residents was already 125,000, and there were 410,000 holidaymakers and approximately 140,000 weekend visitors in the settlements along the Lake Balaton. In some settlements on the shore, the summer population was 5 to 7 times higher than the number of permanent residents (Balaton, 1982. p. 18.). In summer weekends and when the weather was fine, the number of population on the shore was estimated to be around 800,000 – 1 million. The growing demand for holidays was followed by the increase in the number of holiday homes: in 1910 there were approximately 1,900, in 1927 3,236, in 1941 8,000, in 1970 14,500, in the 1980s 40,000–50,000 and already some 70,000 by 2000 (Lukács, 1931. p. 58; Illés–Kovács, 1983. p.

35.; Oláh, 2003. p. 6.). The Lake Balaton was popular with foreigners because of the relative cheapness of holidays, the good accessibility of the bathing resorts, the more liberal atmosphere of Hungary compared to the other socialist countries, which was not only a novelty for the citizens of the socialist states but also provided a legal and safe opportunity of encounter for the citizens of the two German states divided by political borders. All these factors contributed to the rapid growth of foreign tourists.

A break in the growth of the number of holidaymakers occurred after the systemic change (*Tables 8 and 9*). After the stagnation of the quality of the water in the 1980s, a very rapid deterioration took place in the early 1990s, spectacular indicators of which were the repeated fish decays (of eel and silver carp). The water of the lake became hypertrophic, showed the sign of the ageing of the lake, which was enough for the foreign travel agencies to launch counter-propaganda. Simultaneously, there were much less organised trade union holidays, domestic tourism declined too, a significant part of the population felt their situation uncertain in the crisis following the systemic change (high unemployment, mass reduction of jobs), their solvency and demand for holidays considerably decreased. Due to the uncertainty caused by the systemic change, and partly to the appearance of foreign criminals, crime grew by leaps, including the growing number of stealths on the beaches, burglaries and car stealths. The mass of the unskilled entrepreneurs did not improve the quality of the services, either, but increased the prices, and the new entrepreneurs often tried to raise their profit by cheating the guests. These negative phenomena were very much off-putting both for the Hungarian and the foreign guests. Another fall in the number of visitors was caused by the fact that the winning, solvent layer of the systemic change, not only in Hungary but also in the neighbouring countries of origin (Poland, Romania, Czechoslovakia) used the new possibilities and preferred the travels to the west or the seaside resorts. The German reunification eliminated the former position of the Lake Balaton as a meeting place of the East and West Germans. This is well indicated by the fall of the number of guests nights spent by German tourists at the commercial accommodations: from 4.2 million in 1989 to 2.9 million in 1990, 2.1 million in 1992 and 1.6 million by 2004. Simultaneously there was a decrease in the number of foreign guests visiting the Lake Balaton: from 834 thousand to 473 thousand; meanwhile, the number of guests nights spent by them dropped from 6.5 million to 2.7 million (*Michalkó-Vizi, 2006, p. 37.*) (*Table 10*).

The tourism of the Lake Balaton is determined by the guests coming from four countries: Germany, Austria, the Netherlands and Denmark. They account for 85% of the turnover of the commercial accommodations, within that the Germans alone make some 60%.

Table 8

Number of foreign tourists using commercial accommodations (in thousand)

Specification	1980	1986	1990	2000	2005
Number of guests	825	1,008	725	823	976
Of which foreign	473	686	561	419	386
Number of guest nights	6,188	7,897	5,341	3,735	3,941
Of which foreign	3,358	5,492	4,280	2,457	2,189

*Without B&B.

Source: Statistical yearbook of the HCSO. 1980. p. 350.; Tourism yearbook of the HCSO 1986. pp. 240–256. Statistical yearbooks of the HCSO, 1999. p. 258., 2005. p. 291.

Table 9

Turnover of commercial accommodations in the Balaton Region (in thousand)*

Specification	1980	1986	1990	2000	2005
Proportion of foreign tourists (%)	57	68	77	51	40
Proportion of foreign guest nights (%)	54	70	80	66	56

Source: By the author after HCSO data.

Table 10

Number of German guests at the commercial accommodations of the Balaton (1989, 2004)

Specification	Number of guests nights spent by Germans		Share of the guests nights spent by Germans within all foreign guest nights, in per cent	
	1989	2004	1989	2004
Balaton	4,236,965	1,592,423	65	59
Hungary total	6,898,473	3,439,627	40	33

Source: Michalkó –Vizi, 2006, p. 37.

The fall of the tourism of the Lake Balaton is not demonstrated by the figures of the commercial accommodations and B&B establishments, because formerly the number of guests at company-owned holiday houses was about the same as the number of guests at commercial accommodations; by the closedown of the company-owned establishments, this layer of tourists significantly decreased. The impact of this can be seen not so much in the

turnover of the commercial accommodations, rather in the declining demand for the local services (catering, beaches etc.). The same is true for the also significantly decreasing youth tourism. These tendencies could not be counterbalanced by the growth in the number of private holiday homes. Examples for this are the data of 1986 (*Table 11*).

Table 11

Tourism of the Lake Balaton in 1986

Specification	Commercial accommodations	Accommodations in other holiday facilities	Total
Number of guests	1,008,039	761,277	1,769,316
Of which: foreign	686,021	53,699	739,720
Number of guest nights	7,896,683	7,833,948	15,730,631
Of which: foreign	5,492,100	572,076	6,064,176

Source: Statistical yearbook of tourism. 1986. HCSO, Budapest, pp. 250–256.

The decline in the organised trade union and youth holidays considerably increased the seasonality of tourism and its susceptibility to the weather, because in bad weather the tourists left the lake shore holiday resorts.

Looking at the number of holidaymakers at the Lake Balaton, we can say that the radical decline in number of guests, including the continuous decrease in the number of German guests who make the bulk of the guests, is a crisis phenomenon of tourism. This of course is also manifested in the declining share of the Balaton from the tourism incomes of Hungary: in the 1980s the Lake Balaton accounted for some 30% of the tourism revenues in Hungary; in 1990 this was still 27–29%, to drop to 21% by now. Parallel to the very significant developments (e.g. large-scale hotel developments in Siófok, Balatonalmádi, Balatonfüred, Zalakaros, Hévíz and Kehidakustány) improving the conditions of tourism, the Lake Balaton was depreciated at the international level (*Table 12*). A promising sign is that after the nadir in the 1990s, due to the improving economic performance of Hungary, the increased prices of foreign holidays, and not last the introduction of the travel cheques available for a wide layer of the Hungarian population, the number of Hungarian visitors is growing again. However, the growth in the number of private holiday homes cannot counterbalance the decline in the number of foreign tourists and the guests nights spent by them. A serious problem is the failure to stop the decrease in the number of German guests or to substitute them with guests coming from other countries.

Table 12

*Change in the number of accommodations in the Balaton Region,
1998–2004 (beds)*

Specification	1998	2004	Change (in per cent, 1998 = 100.0%)
Commercial accommodations	86,719	93,170	107
Private accommodations	120,477	148,682	123
Total	207,196	241,852	117

Source: A balatoni turizmus fejlesztési koncepciója és programja [Development concept and programme of the tourism of the Lake Balaton.]. Appendices. LT Consorg Kft. Balatonfüred. 2005. p. 14.

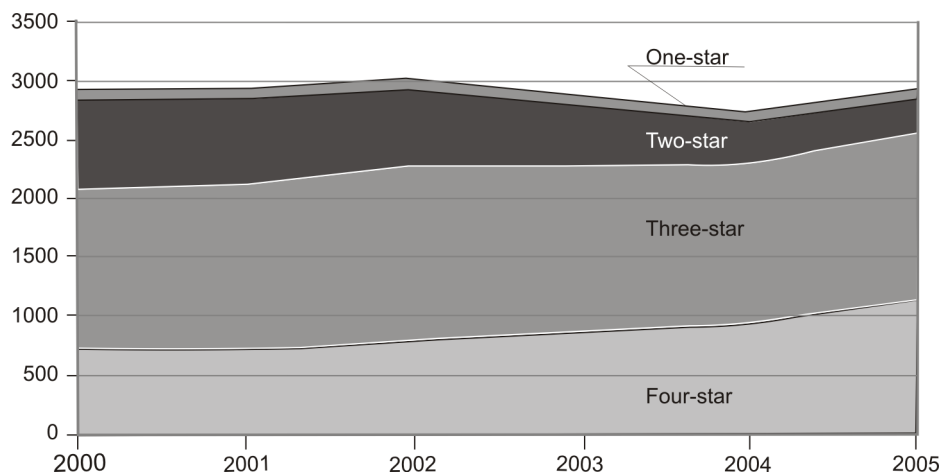
Sixtus Lanner, an Austrian expert of regional development, who travelled around Hungary in 2005 and published a paper on his studies, has an opinion that partly explains the decreasing number of tourists. “Tourism is one of the pillars of rural development. The region of Lake Balaton has exploited it for decades, and even now is not able to keep up with development. Spare bedroom facilities have had much room for improvement yet. Hosts have got used to accommodating tourists among each other and hoping that they will be satisfied with the amenities, so several families use one common bathroom at these accommodations. The hosts are even not prepared to realise that tourists do not accept this, and they are just surprised when western guests do not show up.” (Lanner, 2005, p. 14.). Although this picture is rather one-sided, as there was no adequate demand for high-class accommodations, either, a significant number of foreign guests must have had experiences like those described above.

Both the Hungarian and the foreign guests have become more demanding; an increasing share of them uses commercial accommodations, including four-star hotels, while the proportion of B&B is continuously decreasing. The role and turnover of tourist hostels and campsites offering low level of service have especially depreciated (*Figure 17*).

The Balaton Region is the second most important tourism region in Hungary, after Budapest. According to the statistics of 2004, 16% of the Hungarian and foreign tourists (a total of 10.1 million people) visited the lake that concentrates 28% of all commercial accommodations, in which 23% of all guest nights are spent. Among the commercial accommodations, the capacity of the private accommodations is outstanding (66%): private accommodations at the Lake Balaton accounted for 49% of the turnover of all private accommodations in Hungary in the case of Hungarian guests, in the case of foreign guests their share was 67% (*Table 13*).

Figure 17

Number of guest nights by type of hotel



Source: A Balaton üdülőkörzet idegenforgalma 2000–2005. [Tourism in the Balaton Holiday Region. 2000–2005. Veszprém County Directorate of the Hungarian Central Statistical Office] Veszprém County Directorate of the HCSO, Veszprém, p. 25.

Table 13

Weight of the Lake Balaton in the tourism of Hungary (2004)

Specification	Hungary	Balaton Holiday Region	Weight of the Balaton (%)
Hungarian and foreign visitors total (million)	62.7	10.1	16
Capacity of commercial accommodations (beds)	336,494	93,170	28
Turnover of commercial accommodations (thousand guest nights)	18,899	4,369	23
Of which: foreigners (thousand guest nights)	10,508	2 539	24
Capacity of private accommodations (beds)	196,011	148,682	66
Turnover of private accommodations (thousand guest nights)	3,094	1,510	49
Of which: foreigners (thousand guest nights)	1,633	1,097	67
Total revenues from tourism (billion HUF)	1,000	210	21

Source: A balatoni turizmus fejlesztési koncepciója és programja [Development concept and programme of the tourism of the Lake Balaton.]. Extract. LT Consorg Kft. Balatonfüred. 2005, p. 3.

Approximately 95% of the accommodations can be found in the settlements on the lake shore; the majority of the capacity in the hinterland is in the two resorts with medicinal waters, Hévíz and Zalakaros. Recently the turnover in Alsópáhok, a village in the vicinity of Hévíz, and in Kehidakustány has been rapidly growing. Within the commercial accommodations, the capacity of three and four star hotels, wellness hotels, boarding houses and holiday homes has been expanding fast since 1999, whereas that of the one and two star hotels, tourist hostels and camping sites is decreasing. Tourism is strongly concentrated spatially, the 10 most popular resorts (all on the shore or in the resorts with medicinal waters) concentrate more than 70% of the registered turnover of guests in the Balaton Holiday Region (*Table 14*).

The tourism of the Lake Balaton preserved its strongly seasonal character until 2005, the three summer months make 60.4% of the total turnover of the year (*Mester–Polgár–Kiss, 2006, p. 65.*). The time spent by the guests in the commercial accommodations and the private accommodations was almost the same in 2004, the difference being only 0.5 guest night for the favour of the private accommodations.

The average length of stay of the guests is continuously decreasing at the commercial accommodations: in 2005 the average stay of foreign guests was 5.7 nights, of Hungarians 2.9 nights, in the average of all guests it reached 4 nights, only (*Table 15*).

The ratio of foreign and Hungarian guest nights considerably changed from 1998 to 2004. The fall in the number of guest nights spent by foreign tourists, however, could not be fully compensated by the increase of the Hungarian guest nights. The ratio of the Hungarian and foreign guest nights changed from 1:3 to 1:1.5 (*Table 16*).

According to the surveys, only 5–6% of the permanent residents, i.e. approximately 14 thousand people with a total of some 5,600 houses were involved in the letting of private accommodations, and no more than 13–15% of the population had access to the revenues from catering industry (*Oláh, 2003, p. 6.*). The local people dealing with the letting of private accommodations live in the settlements on the lake shore.

According to the official statistics, the major part of the letting of private accommodations is not done by the permanent local residents but the owners of the 15,000–16,000 holiday homes. According to the data of the HCSO, there are 11 guests for one host annually, two guests for one bed and a total of 13 guest nights. Compared to the data of the 1980s, after the turn of the millennium the turnover of private accommodations decreased much more than the guest nights spent in the commercial accommodations (*Figure 18*).

Table 14
Turnover of the commercial accommodations in the 10 most popular holiday resorts, 2005

Spatial unit	Guests			Guest nights			Average length of stay, nights	
	number (thsd)	in % of data	of which: share of foreign guests	number (thsd)	in % of data	of which: share of foreign guests	total	of foreign guests
Hungary	7,064	–	48.8	19,737	–	54.6	2.8	3.1
Balaton Holiday Region	1,125	100.0	37.3	4,456	100.0	53.4	4.0	5.7
of which:								
Siófok	209	18.6	40.1	676	15.2	54.6	3.2	4.4
Hévíz	172	15.2	51.2	915	20.5	68.8	5.3	7.2
Balatonfüred	112	10.0	56.4	472	10.6	72.9	4.2	5.5
Zalakaros	87	7.7	24.3	323	7.2	42.5	3.7	6.5
Keszthely	56	5.0	43.6	189	4.2	55.7	3.4	4.3
Tihany	50	4.4	40.1	165	3.7	61.7	3.3	5.1
Zánka	39	3.5	9.5	125	2.8	22.7	3.3	7.8
Balatonföldvár	30	2.7	35.9	111	2.5	46.4	3.7	4.8
Balatonszemes	29	2.6	18.4	107	2.4	26.9	3.8	5.5
Alsópáhok	26	2.3	19.0	111	2.5	37.0	4.3	8.4
10 settlements total	110	72.0	-	3194	71.6	–	–	–

Source: A Balaton üdülőkörzet idegenforgalma 2000-2005. By the author after the data of the Veszprém County Directorate of the HCSO (Veszprém, 2006).

Table 15

*Average length of stay at the commercial accommodations
(average number of guest nights, 1998–2005)*

Specification	1998	1999	2000	2001	2002	2003	2004	2005*
Balaton	5.1	5.1	4.8	4.8	4.6	4.5	4.3	4.0
Hungary	3.1	3.1	3.1	3.1	3.0	2.9	2.9	2.8

* Preliminary data.

Source: Mester – Polgár – Kiss, 2006. p. 64.

Table 16

Turnover of the accommodations in the Balaton Region, 1998–2004

Specification	Number of guest nights		Change (1998=100.0%)
	1998	2004	
Total turnover of commercial accommodations	4,636,925	4,369,000	94.22
Of which: Hungarian	1,397,750	1,830,000	130.92
foreign	3,239,175	2,539,000	78.38
Total turnover of private accommodations	2,215,476	1,509,000	68.11
Of which: Hungarian	316,503	412,000	130.17
foreign	1,898,973	1,097,000	57.77
Total turnover of all accommodations	6,852,401	5,878,000	85.78
Of which: Hungarian	1,714,253	2,242,000	130.79
foreign	5,138,148	3,636,000	70.76

Source: A balatoni turizmus fejlesztési koncepciója és programja [Development concept and programme of the tourism of the Lake Balaton.], Appendix. LT Consorg Kft. Balatonfüred. 2005, p. 10.

Local experts, however, have serious doubts about the reliability of the registered data of turnover at the private accommodations; the considerable amount of untaxed revenue from unregistered supply of accommodation is divided among the 70 thousand holiday home owners, including 10 thousand foreign owners.

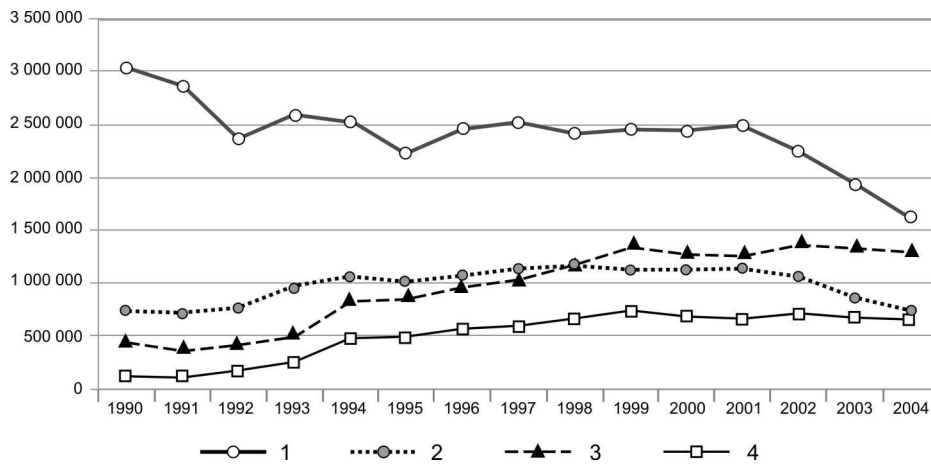
Calculated this way, one-third of the actual revenues of Hungary from tourism is still produced around the Lake Balaton (according to local calculations), and the total value of this third can be as much as approximately 5 billion Euros in better years (Oláh, 2003, pp. 7–9.).

Contradictory processes were going on in the Balaton Region after 1998. Parallel to the growth in the number of accommodations (the total number of commercial accommodations was 86,700 in 1998, 102,000 in 2005; that of the private accommodations was 144,700 in 1999 and 158,500 in 2005), there was a

decreasing demand for accommodation. The fall in the number of guests at the accommodations stopped in 2000, but the loss of the foreign guests using the accommodations for longer time could not be compensated by the growing number of Hungarian guests visiting the Lake Balaton for a few days only (Figure 19; Table 17).

Figure 18

Number of guest nights in the Balaton shore commercial accommodations and hotels, 1990–2004



Key: 1 – Foreigners at commercial accommodations; 2 – Foreigners at hotels; 3 – Hungarians at commercial accommodations; 4 – Hungarians at hotels.

Source: Mester-Polgár– Kiss, 2006. p. 68.

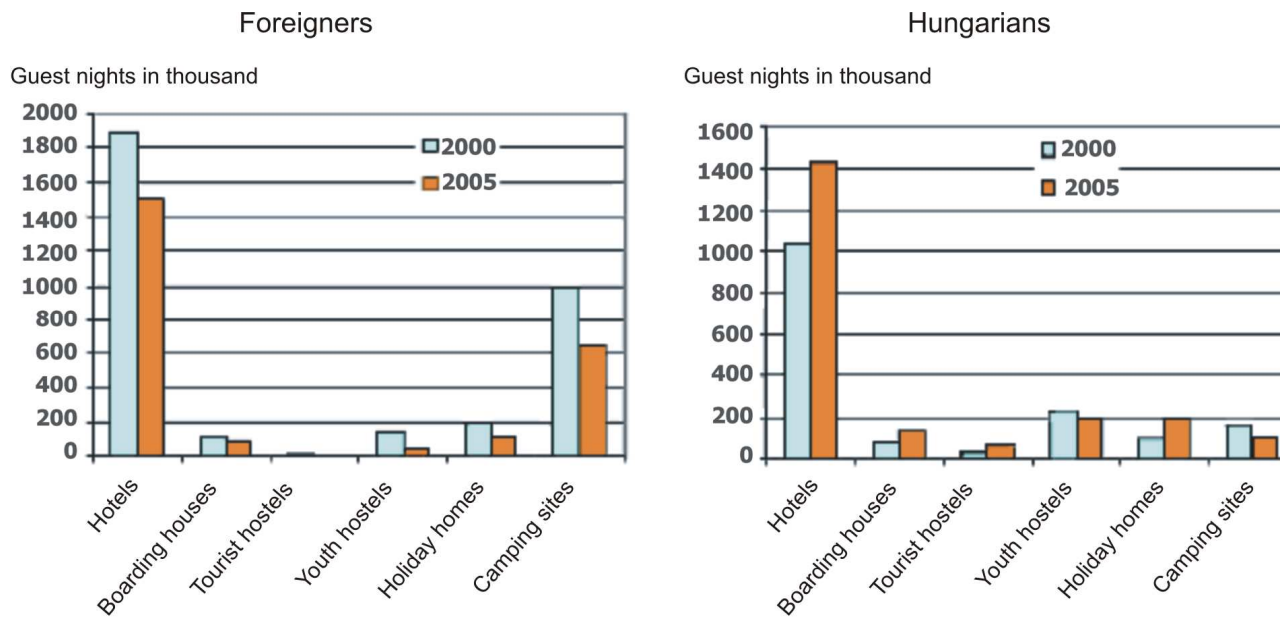
The decline of the national importance of the tourism at the Balaton is demonstrated by the fall of the turnover of commercial accommodations within the total of Hungary from 16.9% in 1998 to 15.8% in 2005; the proportion of the guest nights spent in region within the total of Hungary fell from 24.7% to 22.5% in the same period. In the Selected Holiday Region of the Lake Balaton, 7.1 million guest nights were spent at all accommodations in 2000, which fell to 5.8 million by 2005. In 2005 the decline in the number of guest nights continued, together with the shortening of the average length of stay, to not more than 3.78 days. The biggest turnover and the largest number of guest nights at the settlements on the lake shore were registered, in decreasing order, in Siófok, Balatonfüred, Keszthely and Tihany (Figure 20).

The statistical surveys done until 2006 reveal a further decline in the number of foreign guests, which cannot be compensated by the growing number of Hungarian guests, due to the significantly shorter average length of the

holidays

Figure 19

Number of guest nights in the commercial accommodations, by type of accommodation, 2000, 2005



Source: A Balaton üdülőkörzet idegenforgalma 2000–2005. Veszprém County Directorate of the HCSO, Veszprém, 2006, p. 24.

Table 17

Change in the number of guests and guest nights at commercial and private accommodations (2000–2005)

Year	Number of foreign guests (thousand)	Number of Hungarian guests (thousand)	Number of guests total (thousand)	Number of foreign guest nights (thousand)	Number of Hungarian guest nights (thousand)	Number of guest nights total (thsd)
2000	786	562	1,348	5,101	2,024	7,126
2001	801	571	1,372	5,142	2,039	7,181
2002	753	653	1,406	4,573	2,293	6,866
2003	710	664	1,374	4,165	2,284	6,449
2004	637	706	1,343	3,637	2,243	5,880
2005	587	828	1,416	3,303	2,536	5,839
2005 in % of the year 2000	74.7	147.4	105.0	64.7	125.3	81.9

Source: A Balaton Üdülőkörzet idegenforgalma 2000–2005 [Tourism in the Balaton Holiday Region. 2000–2005. Veszprém County Directorate of the Hungarian Central Statistical Office]. Veszprém, 2006, pp. 68–69.

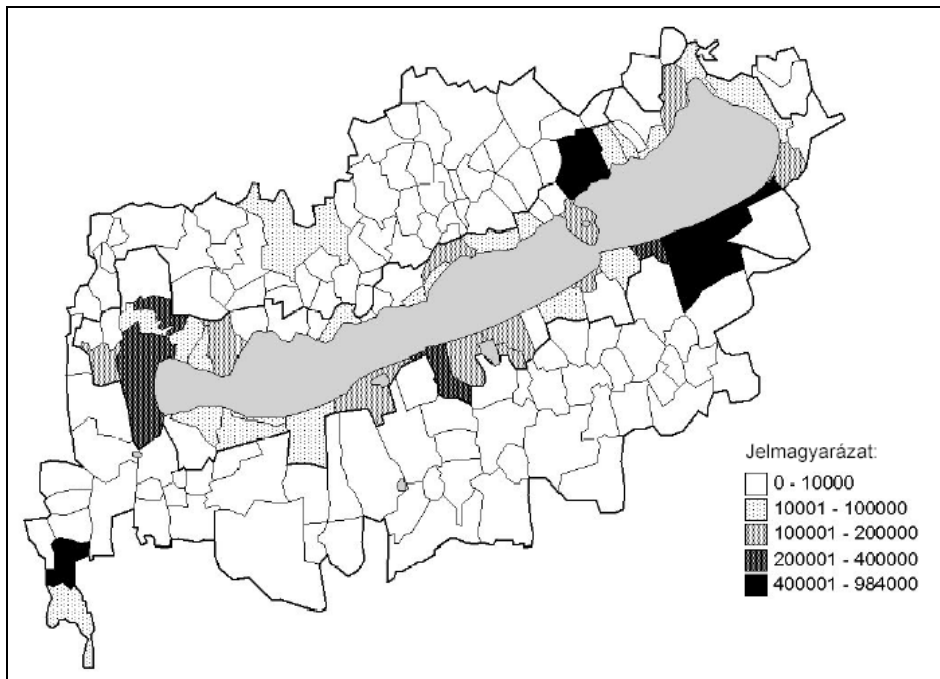
made by Hungarian guests. The decline in the number of tourists in the commercial accommodations is especially striking on the north shore, whereas a slight increase was registered on the south and the west shore. This can be partly due to the growing traffic at the airport of Sármellék (70 thousand passengers in 2006), and also to the better accessibility of the south and the west shore. Approximately seventy per cent of the tourists using the commercial accommodations see the lake shore settlements as destinations, whereas the majority of those visiting the hinterland travel to the two resorts with medicinal water, Hévíz and Zalakaros (*Figures 21 and 22*).

Interestingly, the structure of the expenditure of the tourists arriving at the Lake Balaton differs from the national average. The better spending capacity of the region is referred in the touristic expenditure structure: 36% accommodation costs, 64% were spent on food, cloths and other services, in contrast to the national average of 56% and 44%. The registry of the actual number of tourists and the amount of revenues is made difficult by the significantly increased number of illegal (mostly Hungarian) travel agencies and the accommodations working in the black economy. Tourism revenues are also decreased by the use of the free travel available for people aged 65 or more by the foreign tourists too, thus they do not use the services of the Hungarian travel agencies.

The development of the tourism in the Balaton Region is blocked by the lack of considerable foreign investments in tourism in the region. While the share of foreign capital in the hotel industry in Hungary as a whole was approximately 39%, in the Balaton Region it was not more than 10%, and even that was mostly concentrated to the resorts with medicinal waters. A more expressed presence of the foreign capital is expected in the development of the Lake Balaton from 2007.

Figure 20

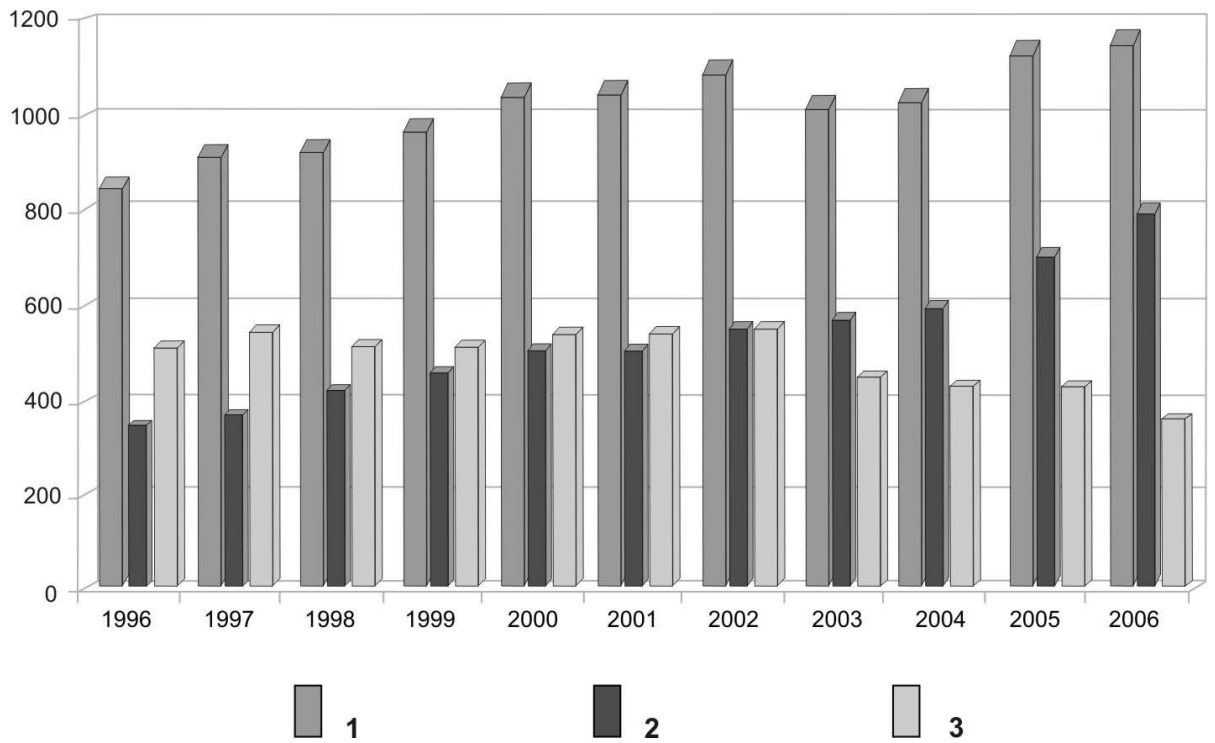
Total number of guest nights spent in the holiday region, 2005



Source: A Balaton Üdülőkörzet idegenforgalma 2000–2005 [Tourism in the Balaton Holiday Region. 2000–2005. Veszprém County Directorate of the Hungarian Central Statistical Office]. Veszprém, 2006, 2006, p. 20.

Figure 21

*Number of guests at the commercial accommodations of the Balaton Region,
1996–2006*

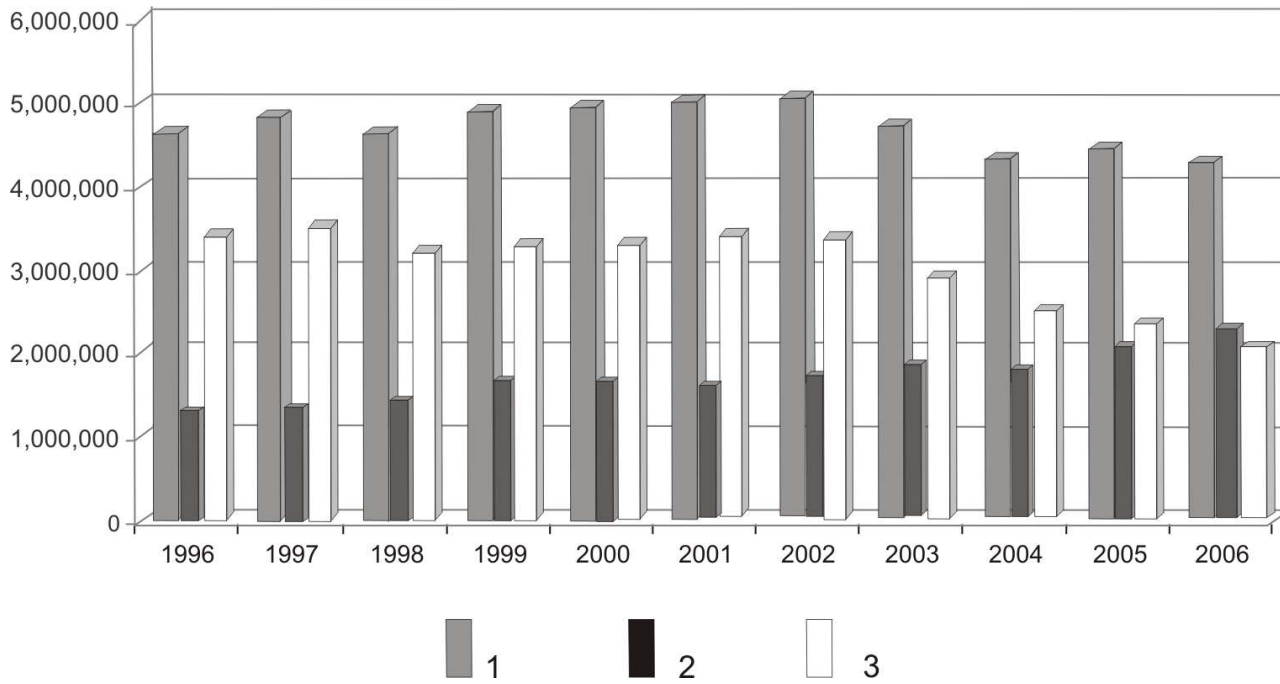


Key: 1 – Number of guests at commercial accommodations. Of which: 2 – Hungarians; 3 – foreigners.

Source: Oláh, 2007, p. 3.

Figure 22

Number of guest nights at the commercial accommodations of the Balaton Region, 1996–2006



Key: 1 – Number of guest nights at the commercial accommodations. Of which: 2 – Hungarians; 3 – foreigners.

Source: Oláh, 2007. p. 3.

4.5 Agriculture

4.5.1 Significance of agriculture in the Balaton Region

Agriculture is of vital importance for the region. The agriculture of the Balaton Region is very important in the utilisation of the agricultural potential, in employment and in keeping the lands in a cultivated condition. At the same time, agriculture is a significant threat to the quality of the water of the lake and to tourism, through promotion of erosion and deflation, through the hazards of animal husbandry (carcasses and liquid manure) and the pollution of chemicals (pesticides, fertilisers). For agriculture, tourism is both an economic advantage as the population arriving at the lake is an important local market – due to the bigger purchasing power of the tourists – and a threat, because the labour absorbing effect of tourism increases the production costs and the wages; also, the environmental inspections more serious than in other parts of Hungary require the farmers to meet more rigorous environmental norms and force them to implement more expensive investments.

The most precious natural and also economic asset of the Region is the water of the Lake Balaton; tourism has the biggest economic potential in the area. Agriculture must adapt to tourism, the conditions of farming must be set with keeping the needs of tourism in mind. The agricultural endowments of the region are around average, if not worse (the average golden crown value of the plough lands is only 17.5), but the region is extremely heterogeneous, allowing almost any kind of agricultural activity to be pursued (field crops, vegetables, viti- and horticulture) in excellent conditions. The only agricultural potential of the region that has an international recognition is the production of quality wines, however, in order to increase its economic importance the markets should accept the costs of the quality and the extra expenses occurring in order to meet these quality standards.

The respective parts of the Balaton Region offer extremely varied opportunities for agricultural production. Splendid agricultural endowments are in the loess plain, with extremely fertile soils, in the south-southeast part of the Balaton Region (Balatonkenese – Siófok). The loess soils in the southern water catchment area, around Fonyód and Marcali are also very fertile. Soils of worse quality can be found in the hilly area of Tab south of the lake; also, the soils of the Zala hills in the western part of the water catchment area are eroded and less easily cultivable. With the exception of grapes, soils of the lowest quality, least favourable for agricultural production, can be found in northern part of the region, the Balaton Uplands (shallow, less fertile soils) and in the former swamps, drained in the southern part of the catchment area (wet peat and marsh – kotu –

soils). The studies of the 1970s (*Bora–Kulcsár, 1979, p. 14.*) already demonstrated that the structure of agricultural production in the Balaton Region showed no significant differences from the national average (with the exception of the Balaton Uplands where the production of corn and sugar beet was insignificant on the shallow and less fertile soils), and no special features, characteristic of the Region could be detected (e.g. the share of vegetable and fruit production was even lower than the national average). The explanation for this phenomenon is the fact that the production structure was set in accordance with the central regulations, and the agricultural cooperatives and state farms tried to produce crops for which higher amounts of central support were available. In the last decades there were no regulations that selectively and continuously supported either the use of the agricultural advantages of the region (e.g. production of grapes and quality wines in the mountainous areas, or vegetable and fruit grown directly for the local markets) or developments for the extensive use of the marshlands and the soils in the Balaton Uplands (almond plantations, extensive beef and mutton production etc.).

Consequently, the agriculture of the Balaton Region – similarly to all other parts of Hungary – was characterised by intensive developments (increase of the size of the plantations, amelioration and improvement of the soils, intensive use of chemicals, establishment of large animal farms) and by an extensive transformation after the systemic change (decrease of the size of plantations, orchards and vineyards, the almost complete closedown of amelioration interventions, growth of the areas left uncultivated, a radical decrease of the use of chemicals). In the plough lands the large-scale production of cereals was typical, animal husbandry almost completely ceased to exist. Before the systemic change, an evidently positive phenomenon – although underutilised compared to the possibilities – was the forestation of the steep hillsides and the stream valleys (with alder), but it almost completely stopped after the 1990s, in fact, a significant part of the formerly professionally planted and maintained forests deteriorated in quality, due to the lack of adequate management.

The presence of a lake shore and the weaker production capacity explains the proportions of land use different from the national average: a high share, well above the national average, of forests (85,435 hectares), fish ponds (1,740 hectares) and reeds (3,032 hectares). The only sector of agriculture with excellent endowments in all parts of the water catchment area is viticulture; the vineyards cover more than 6,000 hectares in the holiday region. Lower than the national average is the share of orchards (only 1,674 hectares), despite the very good endowments, and the share of plough lands (94,666 hectares), whereas the size and proportion of grasslands is around the national average on the whole (approximately 11%). A large number of fish ponds were built as soon as in the early 19th century in the Balaton Region, but a significant part of them were

filled up with sediments and ceased to exist, due to the lack of adequate management. The presently operating fish ponds cover a total area of 1,654 hectares; it is still significant in a national comparison. Most of the ponds can be found south of the Balaton (a total of 1,210 hectares); in the western and northern parts of the water catchment area there are 303 and 141 hectares of fish ponds, respectively. The large difference between the south and the north shore in this respect is caused by the lowest quality and rocky soils on the north side, having much less plough lands and fish ponds but a significantly higher share of vineyards, grasslands and forests.

Vegetable and fruit production could have had an outstanding importance in the supply of the Region. There were splendid areas for the production of all kinds of fruits in the Balaton Region. In the 1960s and '70s, huge fruit plantations were carried out in a campaign, partly motivated by the authorities and partly for the acquisition of the supports available for plantations. In the campaign-like plantations, the destiny of the plantations was often determined by the inadequate selection of the places of cultivation, the low quality of the plants and the inadequate preparation of the soil for the trees; also, there was a shortage of well-trained experts for the maintenance of the orchards. All these factors resulted in low yields, and fruit growing had a deficit. The majority of the farms tried to get rid of the orchards that only produced a loss for them. One of the reasons of the economic failure of horticulture was the lack of infrastructure conditions (the fruit sorting plants and the cold storage plants were not built parallel to the plantations of the trees); also, the market relations of the producers were not established. The chains of shops necessary for direct sales were missing, there was no large-scale marketplace in the Region, and the harvest of the fruits could not be adapted to the short and, due to the weather, extremely uncertain holiday season. This made the majority of the farms – especially after the over-production crisis in the 1980s – finish fruit production, the whole production of fruits was concentrated in a very few large farms in the Balaton Holiday Region. These farms had long-term processing contracts with the canning factories and liquor factories, or exported their products. The biggest producers on the north shore were a company in Nemesvámos (production of sour cherry liquor and sweets), the Holding of Balatonboglár (nuts and hazelnuts), and the State Farm of Siófok. The latter, in order to decrease the losses, built an own canning factory and juice plant, and created an own brand called Sió, producing extremely popular and very high quality juices. In the Selected Holiday Region of the Balaton, the largest orchards operated in the territories of these three companies, and a fruit production culture, keeping production still alive, was born in these three firms. During the privatisation following the systemic change, the former large companies were divided into smaller economic units whose market positions and regional impact became practically negligible.

A factor contributing to the failures of fruit production was the shortage of labour in the holiday season, making labour expensive; also, the sector of viticulture and wine production, with its better conditions and great traditions, was a serious competitor for fruit production. This led to the gradual disappearing of fruit production from the shore of the Lake Balaton and its concentration in a few large farms outside the holiday region of the water catchment area, where neither viticulture nor tourism was competition (e.g. the state farms in Kutas, Nagykanizsa, Zalaszentgrót and Zalaegerszeg, or the co-op of Vése), occasionally creating very important production areas, e.g. a pears growing area around Nagykanizsa.

Vegetable production had a situation similar to that of fruit production. After some initial attempts, local vegetable production lost its significance and was not able to permanently integrate into the vegetable trade of the Region. The development of vegetable production too was held back by the lack of cold storage plants, the lack of a large-scale marketplace in the region and the lack of direct commercial relations. Vegetable production thus either had to produce for the canning factories or sell their products in the large-scale marketplace in Budapest, whereas the shopkeepers purchased the vegetables for the supply of the Balaton shore in Budapest or the Great Hungarian Plain.

Vegetable and fruit production were the clear signs indicating that the agriculture of the area was unable to integrate into the supply of the Balaton Holiday Region; agriculture has never played and still does not play a dominant role in the area. The only sector for which the possibility is given in this respect is viticulture and wine production. The unprepared, undemanding and narrow-minded tourism “experts” are condemned for this situation. Tourism of the triumvirate of accommodation-bathing-roadhouse has not pushed an advantage of that the former co-operatives, as exotic farms, could mean for westerners, and tourist experts also have not made local relationships while purchasing fresh products. This paradox was also perceptible by Sixtus Lanner, previously mentioned Austrian expert.

“... Lake Balaton is a tourist region: there were beautiful cherry-trees in the gardens and in the lands, fructifying fantastic cherries. No one picks them and hotels serve fruit salad of tinned fruits. Everything can be bought in the local Spar supermarket. Except for cherry.” (*Lanner, 2005, p. 16.*)

4.6 Viticulture and wine production

Viticulture and wine production, going back to almost 2000 years in history, is the most important agricultural activity in the Selected Holiday Region of the Lake Balaton. Besides water, vine is the primary element shaping the landscape;

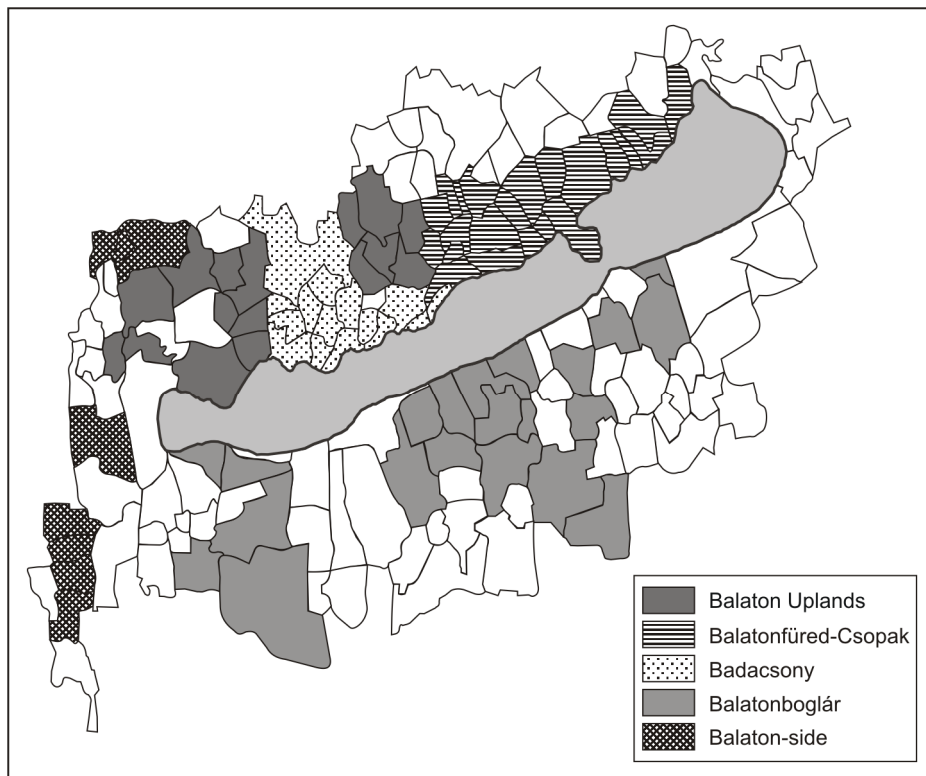
viticulture is an economic activity, a source of living or supplementary income and an attraction for tourism, on the one hand; and a tradition, a part of local culture and a decisive element of the regional identity, on the other hand. It is also a hobby. Viticulture and wine production are one of the most capital- and labour intensive branches of agriculture that cannot be sustained only for the sake of tradition and the preservation of the landscape; it only becomes feasible if the economically competitive forms of viticulture and wine production, meeting the requirements of the 21st century, are created. The natural endowments for this are splendid, as 84.4% of the potential total of 32,075 hectare area of the vineyards in the wine regions of the Balaton Region are 1st class areas, of which only 10,744 hectares – i.e. just over 30% – are actually areas covered by vineyards. Both the milder, sunlit slopes of the mountains on the north side and the warm hillsides on the south shore are very good for grapes, but the southern slopes of the hills in the Zala valley also offer good opportunities for the planting of large vineyards. The difference is that the shallower and less fertile soils on the north shore can only be utilised in a competitive way – as opposed to the other areas – by producing quality grapes and wines. Viticulture this is an economic opportunity and an economic must at the same time, which is reflected in the high proportion of vineyards from all arable lands in the north part of the region. This is largely due to the fact that the wines produced in the Balaton Region are better in quality than the average, with a considerable and historical recognition not only in Hungary but also abroad (especially in the German-speaking areas), which makes their marketing easier. The historically most renowned place of wine production in the Balaton Wine Region is Badacsony, but there are other areas where wines of similar quality can be produced – e.g. Szent György Hill, Keszthely Mountains etc. (*Figure 23*).

The present situation of viticulture and wine production can be realistically judged by the processes that have taken place over the last 100 years. For centuries, especially in the Balaton Uplands, the production of grapes and wine was a major source of living for the population. Consequently, the sector was characterised by the large number of farmers and the limited spatial concentration of the activity. The vineyards covered the biggest areas by the late 19th century; then, after the phylloxera epidemic taking place at that time, the areas more difficult to cultivate and producing smaller yields – approximately 2,200 hectares on the mountain- and hillsides – were not re-planted (*Weininger– Kántor*, 1998. p. 16.). This deficiency was mostly recovered by the new plantations at the foothills and in the crop-growing fields. Due to the economic crisis following World War I, and then agricultural policy of the one and a half decades following World War II, resulting in divestment of capital from agriculture, viticulture was abandoned in large areas, especially on those farther from the settlements, with worse accessibility and endowments, and producing lower

yields, but many times also in the areas with the best potentials. The renewal of the plantations was neglected, too. After the reorganisation of agriculture into large state-owned farms, the state farms could not manage effectively the newly acquired small-scale vineyards, leading to the abandonment of further areas, especially smaller plots that were more problematic to cultivate.

Figure 23

Wine growing areas in the Balaton Region, 2003



Source: A Balaton üdülőkörzet 1996–2002 [The Balaton Holiday Region. 1996–2002. Veszprém County Directorate of the Hungarian Central Statistical Office], Veszprém, 2003, p. 43.

The plantation of large-scale vineyards started in the 1960s, and it was especially the 1970s and '80s whose plantations still determine the grape and wine culture of the region. The plantations led to the establishment of large, contiguous vineyards with up-to-date product structure and cultivation methods. A process of specialisation and concentration started in the region, as a result of which the farms with good endowment for viticulture developed their grape and wine sector,

while others abandoned this activity. The scale of concentration is well reflected by the proportion of the five largest holdings of the total area of vineyards in the respective water catchment areas in 1982:

- North catchment area (Veszprém county) 70.6 %
- South catchment area (Somogy county) 79.6 %

The holdings with the largest areas in the region were the following:

- State Farm of Balatonboglár 1,050 ha
- State Farm of Badacsony 849 ha
- Co-operative of Nemesvámos 576 ha
- Co-operative of Zánka 484 ha
- Co-operative of Nemesgulács 436 ha

The increasing spatial concentration was evidently advantageous for viticulture and wine production. This is proved by the fact that parallel to the significant decline in the area of vineyards nationally and the liquidation of a large part of both the large and small plantations, in the Balaton Region the territory of vineyards grew and the yields of grapes in the region considerably exceeded the national averages. Also, the share of the Balaton Region from the export of wines was well above its share from the territory of all vineyards.

In the 1980s, the farms paid more and more attention, in addition to the quantitative growth of production, to the quality requirements, including both the selection of the production areas and the development of the wine processing techniques. A problem for the quality of the wines, still valid today, was that the large holdings created their new plantations in the milder slopes or plain areas, easily cultivable with machinery, as opposed to the hardly cultivable mountain- and hillsides. Some farms attempted to cultivate the steeper slopes again (e.g. the macro-terraces of the Grapes and Wine Research Centre of Badacsony, or the grassed plantations of the State Farm of Badacsony in Badacsonylábdi, perpendicular to the slopes). This was limited, however, by the approximately 50% extra cost of the plantation and cultivation of the steep areas, the return of which was uncertain, due to the possibly better quality but lower yields. A significant part of these areas were finally abandoned, in the lack of cultivation karst bush forests grew in their stead.

In addition to large-scale farming, small farms have always been important in the region. On the one hand, large areas remained in private property; on the other hand, from the 1970s, specialised farmers' associations implemented large-scale plantations especially in the southern catchment area, in which the raw material for the large wineries was produced. In the areas cultivated by the farmers' associations, the members joining the association cultivated the areas allocated to them as a part-time activity. It was a very big advantage for small-

scale production that both the demand of the large wineries and the enormously grown tourism created a certain market for the grapes and wines produced.

Viticulture and wine production has been the sector to date that has most organically joined the supply of the Balaton Region. It is attributable to a large part by the ever growing market created by the extremely rapidly growing tourism after the 1960s. Both the large and the small holdings used this opportunity. The large holdings and farmers' associations established and operated commercial wine cellars (e.g. the State Farm of Balatonboglár), wine bars and catering facilities, producing a continuous income. Some large holdings created regular chains in the Balaton Region (e.g. the 29 wine bars of the Co-operative of Nemesgulács) and also all over Hungary, in the larger places of consumption (Budapest, Győr, Pécs etc.). The large holdings wanted to pursue the largest possible range of activities in the grapes and wine sector. The State Farm of Badacsony produced a popular beverage called "Traubiszóda", the State Farm of Balatonboglár produced pasteurised wine juice and sparkling wine, marketed under the brand name B.B.; also, the latter produced and marketed Martini after an Italian recipe.

The small holdings usually sold their wines through the farmers' associations, but they also supplied a considerable amount directly to the catering facilities; in addition, the consumption of the tourists visiting the cellars was significant.

Tourism contributed to the better recognition of the wines of the Balaton Region both in Hungary and abroad. An important part of this was due to the significant growth of the East German export.

Another very important fact contributing to the development of the grapes and wine sector of the region was the fact that from the 1970s, the large- and small-scale grapes and wine production were not competitors to each other; instead, they organically supplemented one another.

The brief overview of the past demonstrates that a still palpable problem in the grapes and wine production of the region is the decline of quality. The reasons for this were manifold:

- Above all it has to be emphasised that neither the Hungarian nor the foreign markets acknowledged the better quality by willing to pay higher prices. They demanded an average quality, significantly below the quality typical in the Balaton Region, so the extra expenses of quality wine production (lower yields, longer period of fermentation etc.) did not return. Although the Western European (Austrian and German) buyers were keener on quality – which they did not pay for, either –, they did not market the wines transported from the region in barrels and tankers as Balaton wines, they used them to upgrade their wines of inferior quality. This way not only the introduction of the Balaton wines to the markets was undone,

but the wines of the Balaton Region became active, although absolutely innocent, participants in the wine scandals of Germany and Austria, which did a lot of harm to the image of the Balaton Wine Region.

- The farms were only able to produce cheaper wines by abandoning viticulture on the mountain sides, more expensive to plant and cultivate, and creating plantations in the so-called outskirts formerly used for cereal production. This way, although the possibility for the production of wines of high quality were given, the Balaton Wine Region lost its advantage, coming from the better quality of the steep mountain sides, over the other wine producing areas.
- In order to reach high yields and an expected quality, many species of grapes were planted, which in turn made it difficult to market large quantities of single quality as the market demands grew. Despite the fact that more than 50% of all vineyards in the Balaton Region produced a classic type, Italian Riesling, and the French world brands (Chardonnay and Sauvignon) were also planted in large areas, together with other types of red grapes (e.g. Merlot, Cabernet etc.) to meet the market demands, several types of grapes producing lower quality wines arrived at the Balaton Wine Region, which should not have been planted here. Simultaneously, several quality grapes (e.g. the Kéknyelű), founding the fame of the Balaton Wine Region, almost completely disappeared.
- The adequate processing and storage capacities were not built out parallel to the large-scale plantations of grapes. Typical for this is the fact that formerly the desirable ratio of grapes production and storage was set at 1:1.3–1.5, nevertheless there were years when the capacity was not enough to receive the yield. This way the objective was the as simple as possible processing and the soonest possible sales of the grapes harvested, which further deteriorated the quality of the produced wines. Although this was accepted by the market that demanded cheaper wines, this was harmful for the recognition of the Balaton wines that need a long riping time.
- The low prices did not make the direct sales of even the good wines reasonable; lower quality and cheap wines from Zala county and the Great Hungarian Plain were imported to the Balaton Wine Region and the local wines were used to improve their quality. The mass sales of these wines made production profitable.

The positions of the grapes and wine production, slowly strengthening in the 1980s, became uncertain again following the systemic change, and the permanent problems already present in the sector (lack of capital, the technical and

technology deficiencies of the sector) were supplemented by new problems. The following problems appeared almost at the same time:

- loss of the Soviet and Eastern European export markets;
- disintegration of the large holdings, and the privatisation of their territories and assets;
- decrease or complete closedown of the integrating activities of the former large holdings, annihilating this way the formerly certain market for the grapes and wines produced by the small holdings.

The privatisation of the territories and assets of the large holdings worsened the utilisation of the existing assets and increased the deficiency of certain assets (state-of-the-art processing and storage facilities, bottling facilities etc.) Privatisation increased the number of small holders (whose number was too high anyway), farming fragments of a hectare with a shortage of capital, who did not have either integration and market relations, or assets necessary for a high level viticulture and wine production. Privatisation made it possible to have precious vineyards for many people who had never grown grapes and did not even want to pursue this activity. During the privatisation of the vineyards on the shore of the Lake Balaton, real estate speculation was very important, where it was not the actual value of the vineyard but the expected value of the future residential or holiday sites on the same land that mattered the most. Consequently several unfavourable phenomena occurred, including the fragmentation of the vineyards perpendicular to the tillage direction.

Privatisation resulted in the division of the plantations that had been created with great efforts and in modern block forms among the new owners, and a large number of owners with very different interests appeared in the Balaton Region. The consequences, the deterioration of the vineyards, were visible very soon, after a year or two. The harmful effects could have been lessened by the cooperation of the new owners, if they had established collectives or producer groups for the cultivation of the areas, the processing or the marketing of the grapes grown. The party propaganda overrating importance of private property and economic independence preached the importance of individual success instead of cooperation, however, the conditions for getting on individually were missing for such a wide circle of owners, and this led to a long-term crisis lasting for a decade and a half. This crisis resulted in a selection process – still going on – of the owners, when several owners quit producing grapes and they either sold or leased their plots, or, in the worst case, left their sites to their own devices. The selection of the new owners was influenced by the fact that a major part of the privatised areas was given to elderly people who, coming from their age, were unable to cultivate their lands, whereas their children had other professions and often lived elsewhere. The concentration of the sites, reasonable

and desirable from professional aspects, is slowed down by the high speculation expectations related to the appreciation of the lands. This leads to a prolonged concentration process, but privatisation also led to the appearance of a new group of owners with enough capital – usually participating in the privatisation of the lands of the former state farms –, who used the selected support for plantation of vineyards before the accession of Hungary to the European Union, and carried out significant winery developments. Also, a group of owners with several hectares of lands emerged, who already process wine and bottle and sell them under their own names. These two groups are the main basis and the future of wine production. Actually these two circles, the large grapes and wine producing holdings (economic entities created from the units of the former cooperatives and state farms) and the small and medium-sized holdings also suitable for direct sales are the – much more limited than the previous – groups of owners on which the viticulture and the wine production of the Balaton Region can be built. The latter are able to create the wine producers' associations with state-of-the-art equipment and management, safeguarding the joint processing and standard quality (an example of this can already be seen in Zánka), that buy and process the grapes grown by the small-scale producers. A separate group is the group of those owners appearing after the liquidation of the producers' associations on the south shore whose role has been from the very beginning the production of goods, the supply of the wineries, and whose existence and survival can only be guaranteed by the integrating activity of the wineries, or, in the lack of such wineries, by the establishment of joint grapes and wine processing facilities.

Viticulture and wine production in the region can only be competitive if up-to-date and quality-oriented methods of production are applied; a condition for the survival of wine economy in the region is the restoration of the recognition and credit of the Balaton wines. The concentration process promoting this is advancing very problematically and slowly, which leads to the gradual deterioration and final defect of certain areas. It is very important, however, that

- areas of splendid endowments and easy to cultivate should not fall victims to real estate speculation;
- the re-labelling of wines produced in other regions and the mixing of the Balaton wines with other wines of lower quality, typical at the catering facilities of the Badacsony areas, should be stopped, as these phenomena do a lot of harm to the recognition of the Balaton wines. The north Balaton wine region can only be competitive with quality wines, and a precondition of this is credibility;
- the wine region, fragmented into five areas, should be able to appear at the Hungarian and foreign markets with a few characteristic wines typical of the Balaton Wine Region;

- organically linked to tourism, the internal consumption of the Balaton Wine Region should be increased, which requires the production and adequate supply of typical local wines of excellent quality (e.g. the Kéknyelű and Szürkebarát in Badacsony);
- special support should be found for the maintenance and enlargement of the vineyards on the steep slopes producing a special quality, where the “flagship wines” of the region can be produced;
- the Institute for Viticulture and Oenology in Badacsony, the professional and consulting centre of the Balaton Wine Region should be preserved.

To sum it up, the grapes and wine economy of the Balaton Region is still turbulent today. Signs of deterioration (derelict lands, ageing of the owners, unprofessional plantations of vines, lack of renewals etc.) and of modern goods production (competitive grape farms and wineries, promotion of quality, up-to-date bottling facilities, demanding labels and bottles, foundation of wine routes, organisation of wine weeks and wine fairs, slowly building out network of wine houses, cellars etc.) are present in the Balaton Wine Region at the same time. A good sign is the significant efforts made for the unification of the species assortment and for the improvement and re-planting, proliferation of the types of grapes founding the fame of the Balaton Wine Region (e.g. Italian Riesling, Szürkebarát, Kéknyelű, Cserszegi fűszeres). It is also very important that efforts have been made, in order to harmonise the professional work and the marketing activities of the five wine producing regions around the Lake Balaton, for the creation of a single Balaton Wine Region; the respective wine regions in themselves are not big and influential enough and do not produce enough wine to allow them to be competitive on the international markets. This objective is much more visible for the time being in the intentions than in the actually implemented operational programmes.

4.7 Forestry

One of the most important environmental elements in the surroundings of the Lake Balaton is the forests. The region was originally covered by forests, until in almost all cultivable areas forests were chopped in the late 19th century, in order to gain agricultural lands. After the phyloxera epidemics in the late 19th century, however, in the difficultly accessible, two steep areas the high costs of cultivation did not make it worthwhile to re-plant the dead vineyards; a total of 2,200 hectares of vineyards were left alone; on the impoverished and deteriorated soils of the former vineyards karst bush forests of negligible economic value developed.

As soon as before World War I, the Keszthely Mountains, the barren hill sides of Litér and Diszel and the sand soils of Fenyves were reforested. In the 1930s, in order to decrease the danger of landslides and improve the aesthetic value of the landscape, forests were planted on the hills of Fonyód, Boglár and Földvár, as well as on the Tihany Peninsula.

Following World War II, in 1962 an afforestation plan was made for the administrative area of the 128 settlements around the Lake Balaton, for a total of 229,000 hectares. In the framework of the long-term afforestation plan around the Lake Balaton, a recommendation was made for the afforestation of a total of 5,768 hectares, of which 4,200 hectares was implemented until 1975: 3,500 hectares of forests and 700 hectares of trees along roads, railways and in the outskirts.

In 1980 there were altogether 67,175 hectares of forests in the Selected Holiday Region of the Lake Balaton, the rate of forestation in the region was 19.6% on the whole, 23% on the north shore and 15.6% on the south shore. The rate of forests was low in all parts of the region, lower than should have been, given the unfavourable agricultural endowments; an even bigger problem was the almost complete lack of forests on the direct lake shore. Forests are very important not only for decreasing erosion but also for the moderation of air-, noise- and water pollution. The lack of forests is well indicated by a survey made in 1980, which demonstrated that forests could be found in no more than 34 kilometres along the 268 kilometres of the 12 major streams running into the lake (without the Zala river) (*Illés*, 1981, p. 215.).

The detailed physical plan of the Selected Holiday Region of the Lake Balaton, made in 1980, demanded afforestation and planting of trees in 12,500 hectares until 2010. In 1982 a long-term forest development plan was made for the Selected Holiday Region of the Lake Balaton, in which recommendations were made for the afforestation of 9,929 hectares. Of this, only 3,450 hectares have actually been forested. In the development programme of the water catchment area of the Lake Balaton, significant areas, including the beds of the streams, were forested from the 1980s. Following the systemic change and the privatisation of the lands, however, the afforestation slowed down considerably. Between 1980 and 1990, 3,450 hectares of forests were planted; in the decade from 1990 to 2000 this figure was only 1,600 hectares. It is especially bad that the forests protecting the high bank at Balatonkenese and the one separating the industrial site of Balatonfüzfő were not or only partially planted and practically no attention was paid to the afforestation of the derelict gardens and vineyards. The magnitude of the problem is demonstrated by the fact that around the turn of millennium, almost 50% of the former gardens and vineyards in the Balatonfüred area were left uncultivated (*Weininger-Kántor*, 1998, p. 16.). Another serious problem of the protection of the Lake Balaton was the lack of afforestation in the high banks of

the Zala River, extremely endangered by erosion, and the barren hillsides on the Balaton Uplands. In 2000 the rate of forests was 25.9% in the Selected Holiday Region of the Lake Balaton, but in the settlements along the lake shore only 12% of the territory was covered by forests. The pace of afforestation always lagged significantly behind the planned and necessary level. There were several reasons for this:

- In the 1980s even the management of the agricultural sector did not consider afforestations important from an economic aspect. The primary objective was the preservation and enlargement of plough lands (“cereal-centred thinking”).
- The holdings were eligible for supplementary state support for their least favourable areas. The afforestation of the worst lands resulted in the improvement of the average quality of the agricultural areas. This, however, would have led to the decrease or loss of supports, which the stakeholders did not want. It was easier to leave a land uncultivated and to let clover grow on it.
- The major part of afforestations was implemented on the south shore, where the better soils made it easier to grow good forests, whereas the plantation of forests was more expensive and riskier on the bad rocky soils on the north shore, so the holdings did not strive for afforestations.
- The growing of the new forests was always made difficult and risky by the excessive game population kept for hunting purposes. The population of big game is still significantly higher in the region than desirable (*Table 18*).
- The privatisation of the forests and the new small private forests of a few hectares resulted in incomprehensible ownerships. The owners possessing only a few hectares of forests or even less do not have a meaningful income from their forests; accordingly they do not care much about them. This means that the forests are not managed and maintained in a professional way, so the existing forests worsen in quality, too (*Table 19*).
- In the afforestation concepts, an exaggerated emphasis was given to the afforestation of the former plough lands, instead of planting forests in the derelict and deteriorated pastures, derelict gardens and vineyards. The later solution would not only bring more economic benefit but also lead to the increased agricultural potential of the region and a considerable improvement in the state of the environment.
- At the plantations of forests, the short-term interests of the owners are given a too big emphasis. It would be unfortunate if the forests consisting of indigenous trees were replaced by locust trees and energy forests.

Table 18

Game population in the Selected Holiday Region of the Lake Balaton (2000)

Species	Maximum sustainable population	Minimum sustainable population	Estimated population	Average number of games shot, 1997–2000
Red deer	2,576	877	4,174	1,534
Fallow deer	78	2	321	85
Roe deer	6,094	2,246	5,548	1,256
Mouflon	32	–	329	71
Wild boar	1,844	890	3,581	3,249
Hare	–	5,380	1,766	104
Pheasant	–	5,642	13,478	14,396
Partridge	–	1,835	281	–
Waterfowls	–	–	–	1,254
Snipe	–	–	–	453

Source: A Balaton Üdülőkörzet területén az erdő- és vadgazdálkodás, halászat-horgászat és a turizmus összehangolt fejlesztése [Harmonised development of forestry and game economy, fishing, angling and tourism in the area of the Balaton Holiday Region], Study assigned by the Balaton Development Council. Balatonfüred, 2000, pp. 56–57.

Table 19

Ownerships of forests in the territory of the Selected Holiday Region of the Lake Balaton (Hectares)

Ownership form	Proportion (%)
Forestry Co.	45.3
Other state-owned	17.7
Local government + other	0.2
Forest owners association + private	18.4
Unsettled	18.4

Source: A Balaton Üdülőkörzet területén az erdő- és vadgazdálkodás, halászat-horgászat és a turizmus összehangolt fejlesztése [Harmonised development of forestry and game economy, fishing, angling and tourism in the area of the Balaton Holiday Region], Study assigned by the Balaton Development Council. Balatonfüred, 2000, p. 16.

In the Selected Holiday Region of the Lake Balaton the forests would fully exert their economic, aesthetic and soil protection effects if efforts were made for the plantation of forests consisting of long-life indigenous trees. In the hills and mountains the hardwood trees living for 80–120 years, in the lower, wet areas

softwood trees living for 40–60 years should be planted. In deteriorated areas even pine trees as pioneer species could have an important role. Another condition for the complex use of the forests would be the establishment of large contiguous forests instead of the forest patches. There are many opportunities for that in the Selected Holiday Region of the Lake Balaton. Besides the forests serving economic purposes, aesthetic park forests should be planted in the holiday resorts (Table 20).

- Veszprém county 2,163 hectares
- Somogy county 6,274 hectares
- Zala county 1,090 hectares
- Total 9,527 hectares

Table 20

Areas suitable for afforestation in the territory of the Selected Holiday Region of the Lake Balaton (hectares)

County	Present agricultural use			
	Plough land	Grass	Other	Total
Veszprém county area	2,169	1,498	62	3,729
Zala county area	1,282	810	76	2,168
Somogy county area	1,880	2,286	899	5,065
Total	5,331	4,594	1,037	10,962

Source: *Source:* A Balaton Üdülőkörzet területén az erdő- és vadgazdálkodás, halászat-horgászat és a turizmus összehangolt fejlesztése [Harmonised development of forestry and game economy, fishing, angling and tourism in the area of the Balaton Holiday Region], Study assigned by the Balaton Development Council. Balatonfüred, 2000, p. 26.

According to the Balatonfüred Regional Development and Green Space Planning Office of the Hungarian State Forestry Service, in 2005 there were 85,435 hectares of forests in the region; the forestation rate reached 26.9 %. It seems to be a favourable index, but there are a few things that we have to take into consideration. The role of forests changed partly because the agricultural sector is continuously forced by the competitive pressure to abandon the lands of worst quality, and the abandoned lands can only be used by afforestation; also, the value of a selected holiday region (from aesthetic, air quality etc. aspects) in considerably increased by the forests, whereas the sight and the biological pollution of the uncultivated lands is simply unacceptable. We also have to mention that the best natural barriers to the sediment from erosion and to the dust pollution are the forests. Due to these facts, when defining the desirable rate of the

forests, we cannot start from the national average figures; in the Balaton Region, every opportunity should be used to increase the size of the forests. Another motivation of afforestation is the soil and climate in the non- or underutilised Somogy and Zala part of the region, which are splendid for forests; also, afforestation is the only economically sustainable land use in the north shore with worse endowments. The Green Area Planning Office recommended the following sizes of lands to be afforested in the Selected Holiday Region of the Lake Balaton in 2005:

4.8 Erosion

The erosion of the agricultural lands is a natural phenomenon, on the one hand, and a failure of economic policy and agricultural technology, on the other hand. On cultivated slopes, the disturbance of the vegetation covering the soil almost inevitably leads to the destruction of soil by erosion. The extent of erosion, however, is determined by the vision of economic policy and the level of the agricultural technique used. The measures of economic policy influence the long-term thinking of the land owners, the economical use of their lands; if their energy is not fully absorbed by the survival from year to year, they are able to deal with the preservation of the land. They may implement investments returning only in the long run (e.g. use of organic manure, lime treatment of acid soils, water management, creation of terraces on the slopes) that promote the preservation and improvement of the soils. The control (support) system of economic policy (agricultural policy) also determines what areas can be cultivated and in what areas should be used differently (e.g. afforestation of steep and hilly areas or areas lying deep, with high subsoil water level) by adequate support, what species of plants and in what order should be planted. The quality of farming and the equipment of the holdings determine if the farmers, even if they possess the adequate professional skills (in the creation of which agricultural policy plays a dominant role), have any chance at all to pursue soil-protecting means of cultivation (e.g. deep ploughing of the soils, application of direct sowing cultivation technologies).

The basic principles and technological solutions of soil-protecting farming have been known for a long time and the necessary tools are available in an ever improving quality. Hungarian agriculture had a clear vision and income positions in 1970–1985 that allowed the farmers to deal with soil protection issues, which was manifested in several measures (water management measures, deep ploughing of soils, lime treatment of soils etc.). It was actually the contradictions of economic regulations that only allowed soil protection to be considered only partially even in this period. One of the major problems was that agricultural policy was not rational enough, it was one-sidedly “plough-land centred”; it did not evaluate soil protection with the economic aspect of land use, what mattered was how

much plough lands could be enlarged and the specific yields increased. This did not inspire the farmers to change the structure of farming for the favour for soil protection (e.g. afforestation of derelict pastures and steep plough lands); only limited supports were available for soil protection measures. This explains that despite the measures made, the destruction of soil by erosion did not decrease; in fact, it occasionally increased in the big land plots.

The destruction of soil by erosion is one of the biggest dangers for the Lake Balaton and the other similarly shallow lakes, as the precipitation can transport an extremely large amount of nutrients from the fertilised agricultural lands by eluviation (nitrogen and potassium) or by the particles of soils carried by the water (phosphor). The streams and rivers transport these elements directly into the lake, which can start eutrophication processes. It is just as important and is organically linked to the previous issues that the inflowing precipitation fills up the lake bed with ooze, which is favourable for the proliferation of vegetation and accelerates the ageing and dying of the lake.

The water catchment area of the Lake Balaton is one of the most erosion-endangered areas of Hungary. More than 50% of the area is susceptible to destruction by erosion, approximately one-third of the plough lands and almost the total area of the vineyards with vine rows parallel to the slopes is seriously damaged by erosion. The annual destruction of the soil is estimated to be around 1 to 10 mm in these areas. This means that approximately 6 to 10 million tons of soil moves every year, of which only 1% is estimated to reach the lake – approximately 300–400 thousand m³ annually –, which is nevertheless a huge amount. Erosion occurs in all parts of the catchment area (north, south and west sides), but it is the biggest burden for the lake in the Keszthely Basin that receives 60% of the inflowing waters. This leads to the filling up of the small basin and the enrichment of the water with nutrients, which in turn leads to a constant threat of the start of eutrophication (*Figure 24*).

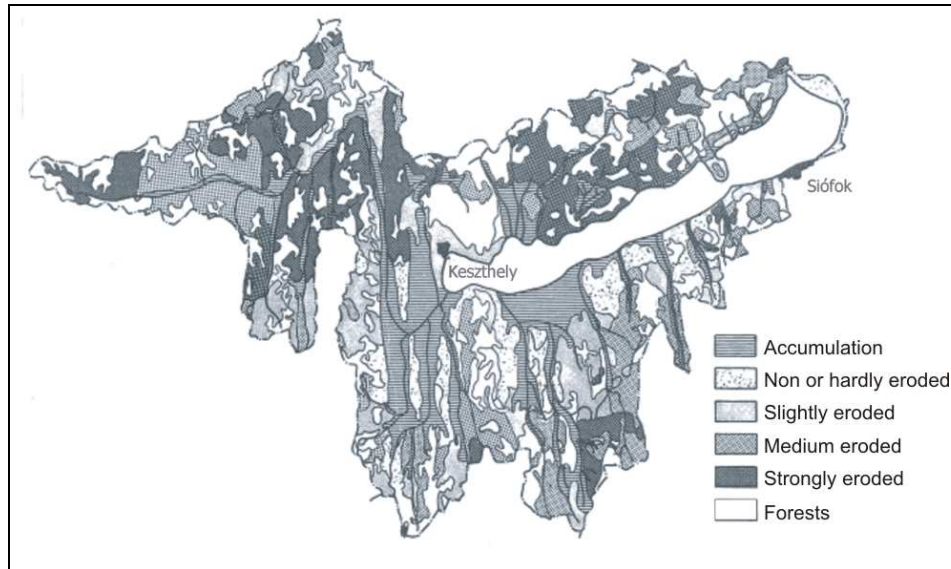
The areas most prone to erosion are the vineyards on the mountain sides where erosion damages can be decreased either by the establishment of terraces or the grassing of the land between the vine rows.

In erosion-threatened plough lands, if the fertility of the soils justifies cultivation and the size of the plots allows deep ploughing perpendicular to the slopes, regular deep ploughing and direct sowing techniques should be used, and possibly the proportion of those hoed plants whose cultivation promotes erosion should be decreased to a minimum (especially maize). In the too steep and less fertile areas, ploughing should be finally abandoned. The use of these areas could be grassing and extensive animal husbandry. The large proportion of totally uncultivated grasslands clearly proves that the grassing of new areas is only justified where large grasslands of possibly hundreds of hectares can be established, in accordance with the requirements of extensive animal keeping.

In all other areas afforestation can be the best solution both from economic and soil protection aspect, also, it provides a long-term protection of the Lake Balaton.

Figure 24

Erosion in the water catchment area of the Lake Balaton



Source: Illés, 1981. p. 41.

The region is in the forest zone, the areas not flooded by water used to be covered by prime forests almost completely down to the lake shore. The major element in the regeneration of the environment is the afforestation of all areas where agricultural cultivation is stopped. Like in the whole of Hungary, in the Balaton Region too the rate of afforestations lagged behind the pace of the abandonment of agricultural lands. This is bad for the landscape and the environmental conditions of the region. Especially important would be the afforestation of the slopes on the north shore (derelict gardens and vineyards), the uncultivated loess sides on the south shore and the steep hill sides all along the Zala River. In order to decrease the dust pollution of the Lake Balaton, it would be of special importance to plant forests on the low quality and underutilised grasslands created on the several thousands of hectares of karst areas. This is a must for the decrease of the sediment pollution of the Lake Balaton, as well. The importance of afforestation for soil and water protection purposes is demonstrated by complex economic and ecological surveys that necessitate the afforestation of approximately 60,000 hectares in the whole of the catchment area

(taking the steepness of the slopes, the hydrology, the composition and the chemical features of the soils and the costs of cultivation into consideration). The situation, however, would only be favourable if these areas were covered by forests, already.

Presently the rate of forests in the water catchment area exceeds the national average, but the majority of the forests can be found in the north and west parts of the water catchment area, the share of forests is low on the south shore. Another problem is that the gallery forests directly in the south zone, most important for water protection, have completely been eliminated, which is also detrimental for the aesthetic value of the region – not least because derelict, weed-covered areas can be seen in also the areas most visited by tourists.

4.9 Purchase of real estates by foreign citizens

“In the Selected Holiday Region of the Lake Balaton, 40% of all real estates (80% of them in the settlements on the lake shore) are holiday homes. Twenty-seven per cent of all holiday homes in Hungary can be found in the Balaton Region; 98% of these are owned by Hungarians. The average age of holiday homes is 26 years; that of the holiday homes owners is approximately 60 years.” (Lengyel, 2006, p. 8.)

After the systemic change, a large number of foreign citizens purchased real estates in the Selected Holiday Region of the Lake Balaton; the number of foreign holiday homes is estimated to be around 10,000. Most of the real estates were bought between 1996 and 2001 (*Figure 25*).

The valuable study by Kovács, Ernő – Oláh, Miklós – Bokor, Ibolya (2005) gave us a realistic picture of the main characteristics of the often mentioned but hardly examined phenomenon. According to the given survey, calculating with an average family size of 2.9 people, approximately 30,000 foreigners live permanently in the 10,000 houses bought. The major part of the houses was bought by the foreigners in settlements on the lake shore or with medicinal spa, mostly in the towns. Of all real estates bought by foreigners, 43% can be found in the Somogy part, 37% in the Zala part and 20% in the Veszprém part of the Balaton Region (*Table 21*).

The overwhelming majority of foreigners are from the German speaking countries: 76% of them are Germans and 14% of them Austrians; the remaining 10% are citizens of 43 other countries (including the Netherlands, France etc.). Forty-seven per cent of the foreign citizens bought flats or houses, 17% of them purchased holiday homes, another 36% real estates of other categories (site, cellar etc.). Most of the foreign owners are middle-class, 36% of them have secondary school education and 28% of them have higher education diploma. The socio-economic status of the foreigners is well indicated by the fact that they

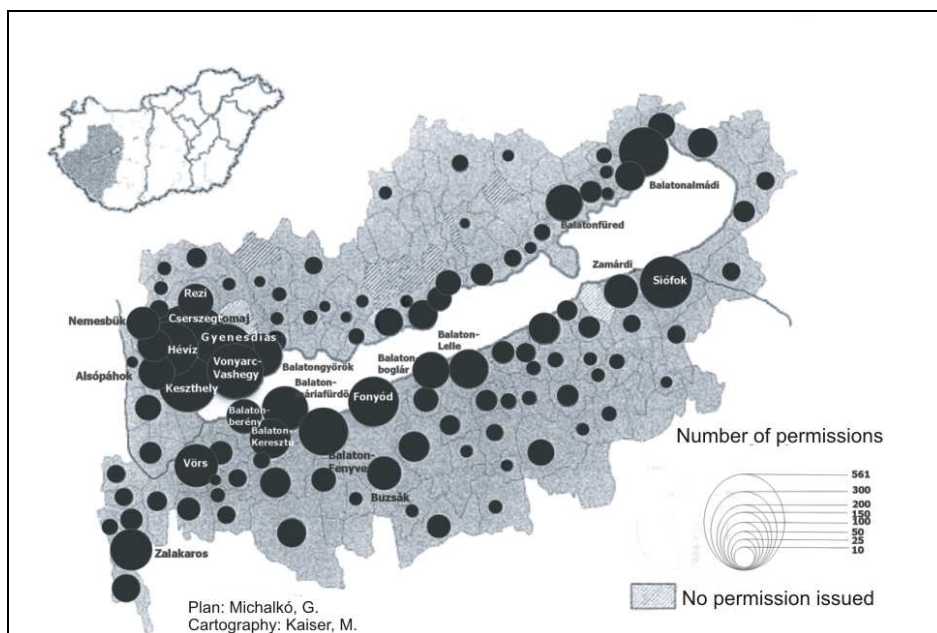
usually bought the non-expensive real estates; the average price was around 45,000 € (approximately 11 million HUF).

It is a recurring question what are the advantages and the disadvantages the mass purchases of real estates by foreign citizens and the presence of these people in the holiday region.

According to estimations, the purchases of real estates by foreigners brought some 0.5 billion €, and a further 145 million € flowed into the region by the renovations and constructions (calculating with 20,000 € on the average). This had a considerable impact on the real estate market otherwise declining after the systemic change and a positive effect on the demand for construction industry services, and also on the turnover of companies dealing with construction materials and interior design articles.

Figure 25

Number of permissions for foreigners to buy property in the Selected Holiday Region of the Lake Balaton



Source: Michalkó– Vizi, 2006. p. 38.

Table 21

Breakdown of residential homes in the Balaton Holiday Region (2001–2001, estimation)

Specification	Holiday homes (thousand)	(%)	Residential homes (thousand)	(%)	Real estates total (thousand)	(%)
Houses total	73.70	100.0	104.70	100.0	178.40	100.0
Hungarian owners	72.00	98.0	100.00	96.0	172.00	96.0
Foreign owners	1.70	2.0	4.70	4.0	6.40	4.0
Of which: German	1.29	1.7	3.57	3.0	4.86	3.0
Austrian	0.24	0.3	0.66	1.0	0.90	1.0

The number of foreign holiday home owners is underestimated; a figure around 10,000 is more realistic (the Author).

Source: A Balaton turizmus fejlesztési koncepciója és programja. [Development concept and programme of the tourism of the Lake Balaton.] Appendices. LT Consorg Kft., Balatonfüred, 2005, p. 8.

The average duration of stay of the foreign owners is approximately 4.6 months, thus they increase the number of population off-season, and create a demand mostly for commercial units, catering facilities, hair dresser's saloons, and physicians and other medicinal services. Their permanent expenditure is approximately one thousand € per month; in addition the estimated 10,000 real estate owners employ approximately 10,000-12,000 people as gardeners, repairmen, cleaners or caretakers, by which the local inhabitants get 22 million € per month (calculating with 150 €/person monthly expenditure). It is just as important that the real estates of the foreign owners are well maintained and well equipped.

The other side of the coin is that 64% of the foreign owners are estimated to receive guests as a business. According to the information based on self-assessments, in the foreign owned real estates some 680,000 guest nights are spent by the guests, on 165,000 guest days – it means an annual 15–20 million € untaxed income. The real estate capacity of the foreign owners is enough for up to 3 million guest nights, i.e. many times the number in the self-assessments. However, only 6–7% of the foreigners pay tax after the main activity, whereas the income of the businesses receiving guests and paying local tax is decreasing. Another problem at settlement level is that real estate prices are increased by the demand of the foreigners, which makes it more difficult for the local youth to buy a flat or a house, and this forces many of them to move.

The major problem then is that the foreigners do not have their share from the local contributions and this is why the self-governments are not too happy to have foreign citizens. The preparation and skills of the staff of the local self-governments, and the quality of the operation of the self-governments are also to blame for the contradictory situation. The lack of foreign language skills and the imperfect real estate registries prevent the local governments from having adequate information even on the owners in their own settlements.

The foreign owners are usually satisfied with their situation that meets their expectations, which is proved by an average score of 4.3 on a scale up to 5, given by them in the survey. Their unpleasant experiences, however, are of special interest. These are as follows:

- The products and services are too expensive for their quality.
- The service providers are undisciplined, unpunctual, not trustworthy and not reliable.
- The local society has changed since the real estate was bought, they have become selfish and envious, the service providers charge foreign citizens different prices.
- The neighbourhood is messy and dirty, the neighbours are too noisy and their animals are disturbing.
- Safety is not good enough.
- The office administration is lengthy and bureaucratic.
- The local transport system is inadequate.
- The neighbours are very difficult to get on with.
- The local people get up early even on the weekends, and thus they disturb the rest of the foreigners.
- The local inhabitants are not demanding.
- The water level of the lake is too low (this has been solved by nature since then).

The objections of the foreign citizens are not surprising, they listed phenomena that we all know and suffer from. The opinion of the foreigners is different inasmuch as they do not derive their problems from the general state of the country; they summarise their direct unpleasant experiences.

5 Development of the Balaton region

5.1 Is the Lake Balaton a natural or a regulated lake?

In the last 300 years, human activities were targeted at economically utilising the natural potential of the Lake Balaton and its environment. The result was the draining of the swamps and wetlands and the cutting down of the surrounding forests, by which the Balaton lost its natural filters preventing the filling up of the lake, and has been susceptible to huge burden of sediments from erosion and deflation. The decrease of the water level and the regulation of the lake resulted in a loss of 30% of the surface and half of the water of the lake; the breakdown and removal of the sediments arriving at the lake is blocked by the destruction

and fragmentation of the reeds, and the concrete walls built. In the early 19th century the complete draining of the lake was planned, in the great drought in the late 19th century (1866 and 1885) people complained that “water is being stolen from the Balaton” and the missing water should be replaced by water drained from the Dráva, Mura, Rába, Marcal or Danube River. When there were heavy rainfalls and high water levels and the buildings in the deeper lying areas became damp because of the high levels of subsoil water, this was the problem. The situation was quite the same a century later, the lasting drought in the first years of the 20th century revived the seriously considered plans for the artificial filling up of the lake. It was grotesque that in 2004 the lock of Siófok had to be welded, in order to prove that “water is not drained in secret” (no water was drained from the lake from July 2000 to July 2005), nevertheless the buffet and restaurant owners on the lake shore threatened to sue the government to recover their losses coming from the low water level. The Lake Balaton is “our servant”, we can say, we expect the lake to have clean and pleasant water, to attract many guests who spend their money here; we expect the lake to have a lot of big fish for the anglers, the Little Balaton to abound in birds to mesmerise the foreigners and give a romantic feeling when admiring the extended reeds. And what do we do to allow the Lake Balaton to meet our expectations? The state has done evidently much for its limited means, even if this has never been enough. In a period of 30 years, the conditions for a high-level tourism on the lake shore were created, mostly from state budget. The behaviour of the settlements is more contradictory; their measures and developments motivated by their short term economic interests led to the too dense building up of the lake shore; they did not care what impact the destruction of the reed, the natural filters along the lake shore would have on the quality of the water. And finally, how do the real estate owners and the inhabitants of the settlements on the shore behave? Their activity was also motivated by the direct profit. If somebody wanted to enlarge their sites or build a place for their car, they filled up the part of the lake in front of the shore; if they wanted a path for their boats, they destroyed the reeds; if they wanted to fish, they built a fishing stand in the reeds; if they wanted a big catch, they caught the fish gathering for spawning in the river mouths.

By the 1860s, the Lake Balaton lost its natural character, including the water occasionally flooding the lake shore, the several metres of ups and downs in the water level, by which the lake could get rid of the surplus vegetation and the sediments; later, the regulation of the Zala River and the construction of concrete walls on the lake shore created an ever more regulated lake. The *Lake Balaton can now be taken as a quasi-natural lake with a restricted self-regulating system*, as the level of the water is determined by the humans; marshes, reeds and a real water bird paradise can only be found where men want them to

be found. Presently the major task is the preservation of this quasi-natural condition. It can only be done if individual interests are restricted and the long-term interests of society are in the focus. The Hungarian state committed a serious crime when, in order to favour the interests of some groups or narrow layers of the population, it did not stop the privatisation of the community areas along the lake shore, or the building up of the Balaton shore and the mountains at the will of the owners, or the real estate speculations deteriorating the aesthetics of the landscape and resulting in derelict areas. Despite the efforts of nature protection, the former conditions cannot be restored without serious conflicts of interests. The former conditions were not stable, anyway; they changed from century to century. The possibly best solution is to try to create conditions that are natural enough for providing a habitat for the flora and the fauna and also allow the human, economic and natural interests to be taken into consideration. We cannot create extended marshes again, as it would be against the well-being of the people and against tourism; but it is possible to create large forests in the derelict areas, both serving human well-being (aesthetic and single landscape) and economic and natural interests (rich flora and fauna).

5.2 Selected aspects of the development plans

On the basis of its natural values, the aesthetic value of the landscape, the Selected Holiday Region of the Lake Balaton is one of the most important and valuable areas not only in Hungary but also in the whole of Europe. In order to preserve this value and simultaneously use the economic potential coming from the natural endowments, we do *not need to make extraordinary measures and developments, only ones that are needed all over Hungary*. The lack of these measures and developments is much more striking in the Balaton Region than in other parts of Hungary, because of the two-month concentration of the population in every year and the environmental threats and economic damages coming from the inadequate conditions for the reception of the mass of people. Accordingly, the solution of the problems is more urgent here than elsewhere in Hungary. The tensions that come from the discrepancy between demands and the development possibilities and are typical of the whole of Hungary, but have much more serious consequences in the Balaton Region. The Balaton Region is characterised by a century of lagging behind in developments (e.g. in Keszthely there was no tap water until 1941, in 1957 only three settlements – Siófok, Balatonfüred and Keszthely – had canalisation with a total length of 19 kilometres, only; the untreated sewage was flowing into the reeds). The region actually became a selected holiday region in a decade (1950s and 1960s), attracting hundreds of thousands of tourists without having the necessary conditions for their recep-

tion. The situation was exacerbated by the fact that neither the visitors nor the local population were aware of the fact the landscape and the water, i.e. the attractions themselves, had a natural tolerance and assimilation capacity that must not be exceeded, the preservation of which is everybody's interest. Everybody wanted to use the Lake Balaton, everybody wanted to exploit the lake, without having sacrifices, neglecting the most elemental norms of behaviour. It is not a new phenomenon but a problem at least 50 years old that the businesses making profit from the Balaton (approximately two thousand entrepreneurs, commercial facilities, hotels etc.) did not pay tax locally; the hosts – including the foreigners nowadays – deny 40–50% of their incomes, and the local population expects all developments from the state. The boom of the demands could not be followed by the developments to date; developments were only suitable for the decrease of the tensions and the prevention of the public sanitary threats coming from the deficient infrastructure. The developments were concentrated on the lake shore, within that in some selected settlements; this deepened the development disparities among the respective settlements and concentrated the guests even more to the lake shore zone. *The lack of harmony between the demands and the conditions, the simultaneously present lack of regulations* and the inconsistent behaviour of the authorities all contributed to the attitude of the people who wished to solve their problems on their own, occasionally using anti-social and anti-nature solutions. If somebody did not have a pier for their boat, they destroyed a part of the reeds filtering the water; if they did not have a fishing stand, they built one in the reeds; if they lacked sewage canal, they connected their cesspools to the rain-water canal, if they did not have construction sites, they built their new houses in the gardens or vineyards on the outskirts of the settlements, if they did not get a building permission, they built the house without permission, if there was no organised waste collection, they created waste deposits for themselves etc. The list could be many pages long. The biggest problem is that this anti-social behaviour has become accepted, so there is no strong community pressure that could change this behaviour after the formerly missing conditions are created. The regulations have still not stopped the ultimately selfish assertion of the individual interests, and the subordination of community interests to narrower group interests is still a problem for developments; e.g. for involving the occupied or sold out public areas, like the shore of the Balaton, into the developments.

Development plans have been made for the Balaton Region for several decades. A fundamental problem has been the *lack of coordination* for 50 years, the missing reconciliations of the county, municipal and sectoral interests. This is true for the development of tourism, transport, education, sports and culture. The lack of development resources is present as well as the implementation of parallel developments. The only exceptions from this are the large-scale state investments enforcing adaptation (e.g. road constructions, tap water and canalisa-

tion developments etc.). This is a problem today and probably in the future too, because no coordinating organisation with strong competencies, significant development resources and prudent management has been born in the region. Probably the only thing in the region on which there is a consensus is that the Balaton Region should become an independent statistical region instead of a planning region. Everybody expects the increase of the development resources from this, but a thing less often mentioned is how much it would actually strengthen cooperation, joint thinking and the capacity of making compromises.

A common feature of the development plans made so far is that the objectives have always been too ambitious in the given circumstances, and even the most important objectives (e.g. canalisation, development of sewage treatment, construction of roads, and installation of the Little Balaton reservoir) have only partially been realised, decades after the originally planned deadlines. This is also true for the most recent development plans. The “Strategic development programme of the Balaton Region”, determining the developments in the 2002–2006 period, and the “Detailed development strategy of the Balaton Region” and the “Detailed development plan of the Balaton Region” made for the 2006–2013 period are too ambitious, not realistic enough (e.g. they talk about bicycle roads all across the Transdanubian region, instead of creating the conditions for cycling around the Lake Balaton); the development resources are not concentrated enough, either (e.g. the possibilities of medicinal spa developments are raised in 6–8 places, instead of aiming at the development of two or three, possibly already operating spas, like Csisztafürdő or Nagyberény). The development plans list all the known solutions and principles of regional development (environment-friendly, sustainable, innovative, knowledge-based, clustering integration etc.), without actually clarifying the conditions for their implementation.

During the development of the Balaton Region, a key factor is the harmonisation of developments and the single appearance of the Lake Balaton on the tourism market.

Harmonisation is of special importance in the following areas:

- transport development and transport organisation, harmonisation of different means of transport (Regional Transport Association);
- development and provision of health services;
- development of education, training, culture and sports. There should not be a school in every settlement, but the schools in the central settlements should be equipped with sports facilities (e.g. gymnasium, swimming pool) that can be used for tourism purposes in the summer. The Balaton Region needs 2–3 major sports halls, covered tennis courts, equestrian facilities, major open-air stages, theatres etc.;

- establishment of yacht ports, boat ports and anglers' camps in order to create the conditions of tourism.

The harmonisation should also be done among the settlements on the lake shore and those in the hinterland, as they can well complement each other in certain activities.

As regards economic development, the noisier service and industrial activities (e.g. smiths, locksmiths, tinsmiths, car mechanics, auto body mechanics, auto body painters etc.) should be concentrated in the settlement of the hinterland, in incubators built for them. The extraction and processing of construction materials (quarries, sawmills) should be done here, and the logistics centres and large-scale marketplaces for the supply of the Balaton Region should also be built here.

As regards social development, due to the lower income demand of the population of the hinterland, the elderly people's homes could be established here in a more relaxed environment, and in the settlements closer to the lake shore those residential homes could be built at a lower price that could promote the settling down of the youth.

As regards tourism, several forms of this activity can be introduced in the hinterland, coming from their character: equestrian, hiking, rural, enological, cycling and hunting tourism are a few examples. Also, off-road cycling tracks, tracks for off-road motor sports and air sports (e.g. gliders, hot air balloons) can be built in the hinterland which may mean an organic part of tourism and increase the tourism capacity of the Balaton Region. Similarly, the possibility to create golf courses, an important part of high quality tourism, is given in the hinterland.

During the developments, adequate attention should be paid to the lakes of the hinterland settlements, which could be used for angling tourism; also, the Sió Canal could be utilised for water sports using combustion engines, the use of which is prohibited on the Lake Balaton.

However big and versatile the Balaton Region is, it still appears as a single image for the foreigners. This single image should be enhanced by the creation of a single Balaton Brand. This is true for the marketing of tourism and wine alike, but at the handicrafts products too the Balaton character should be emphasised (dolls – Balaton dolls; wood carvings; ceramics – Balaton jar, Balaton hussar, Balaton plates and dishes etc.).

The Balaton landscape attracts the visitor not with its astonishing endowments (high mountain peaks, straits, waterfalls) but with its tranquillity, harmony and mild hills. It is no good using exaggerating attributes (e.g. the Hungarian Sea, unique etc.); it is just the human-centred character and the mildness that should be built on. It is also true for the built environment that the region has monuments attracting international visitors (Fenekpuszta – Roman castrum,

Somogyvár – abbey, Zalavár – prince’s centre), but these ruins are only interesting for the professionals and the local population. This can also be said for the fortress ruins and castles (e.g. Tátika, Szigliget) that have a significant aesthetic value and can only be supplementary programmes. Built heritage of international significance can only be found in Keszthely (Festetics castle) and Tihany (Tihany Abbey, together with the sight over the lake). The mansions of the petty noblemen in the neighbourhood (e.g. Berzsenyi – Nikla, Jókai – Balatonfüred, Kisfaludi – Badacsony) are mostly of historical, literature and art history significance or values of folk architecture that are mostly interesting for the Hungarians, only. The built heritage of neither the middle noblemen nor the folk architecture remained in an organic unit that could have an international recognition like e.g. Hollókő. Unfortunately, no typical architectural style relying on the local (folk) traditions was born during the construction of the holiday resorts, either. The holiday homes built were mostly replicas of the Styrian, Transylvanian, Upper Northern Hungarian, after World War II the universal modernist architecture traditions and fashions. On the other hand, there are architectural and arts historical values that are not maintained adequately. An example for this is Ötvös-puszta, where the middle noblemen mansion of Róza Szegedi and the Széchenyi castle make an unmatched cultural history value in organic unit. Another example is the rather neglected Fenékpuszta, where, around the Festetics castle (in the park of which can be found the remains the Roman Castrum where the Gothic king Theodore the Great was born), at the encounter of the Lake Balaton, the Zala River and the Little Balaton (national park, Ramsar Area), an outstanding leisure centre of European significance could be created, a centre of demanding equestrian, angling and sailing centre. What should be emphasised for the whole of the Balaton Region, however, is the beautiful and varied landscape, the shallow and sandy beach on the south shore that is perfect for families with small children, the water sports and bathing and the accompanying excellent variety of wines and foods, the rich offer of cultural programmes, the friendly local inhabitants and the fact that the guests can rest here in an undisturbed and safe environment.

5.3 Objectives and experiences of the micro-regional programmes

In the last decade programmes were made for all 14 micro-regions in the territory of the Selected Holiday Region of the Lake Balaton. An overview of these reveals that the concrete development recommendations made after the detailed analysis of the present situation are not more than collections of the problems and the development priorities of the respective settlements, and less of a programme aiming at the improvement of the situation of the micro-regions in some way. Of course if all settlements are able to improve their situation and can solve the problems that are the most serious for the local inhabitants, it will improve the situation of the whole micro-region at the end of the day; however, the individual solutions are usually not effective enough even for the individual settlements and do not generate development at micro-regional level that would be justified on the basis of the amount of development resources spent. The micro-regional programmes do not pay enough attention to the issues of public roads, passenger traffic, waste management, electricity and gas supply system, sewage purification and treatment, education, telecommunication, economy etc., despite the existence of such objectives and programmes at the regional level.

The settlement development ideas collected under the name micro-regional programmes reflect the extremely varied development level of the respective settlements. There are municipalities where the creation of the very basic infrastructure is the primary objective (general practitioner's, kindergarten, mortuary etc.), in other places most important is the construction of the roads on the outskirts of the settlement, especially the ones leading the vineyards. In the dead-end villages with bad accessibility (in the south catchment area) the basic need is the construction of the roads linking the villages (e.g. Nemesdéd – Tapsony, Öreglak – Buzsák, Öreglak – Somogyvár, Szentpál – Csömend, Szegerdő – Vörs, Tikos – Szegerdő etc.). It is an important objective to build the bypass roads carrying heavy traffic (e.g. Balatonszentgyörgy) or major connecting roads (e.g. Fonyód – Csisztapuszta). In the programmes, social care establishments are given an adequate emphasis (e.g. the renovation of the hospital in Marcali, development of Borstals, establishment of elderly people's homes), as are tourism developments (construction of bicycle roads – Balatonlelle, Balatonberény, Balatonszentgyörgy; nature park – Marcali, memorial park – Fonyód, Wine Village – Fonyód, beach renewal – Balatonberény, construction of swimming pool and sports hotel – Balatonföldvár, boat and yacht port – Balatonőszöd, yacht port – Balatonszárszó, yacht camping – Balatonszemes, aquarium – Siófok etc.), the construction of sports facilities (e.g. sports hall – Fonyód, Balatonlelle, Balatonboglár, renewal of dressing rooms – Somogybabod), the building of housing estates and holiday resorts etc. There are relatively few programmes with economic objectives, and it is hard to see any regional impact

in them, with the exception of the grapes processing facilities planned with Balaton area (Lengyeltóti, Szólád) – it does not have a regional impact if an entrepreneur builds a cereals storehouse or keeps cattle for beef. Some development plans aim at the implementation of regional tasks (e.g. ferry port and ferry line between Fonyód and Badacsony, the utilisation of the Sió Canal for tourism, industrial park and logistics centre – Siófok, airport – Siófok, Balaton regional library – Siófok). The construction of a large number of roads to and among the villages is justified by the lack of a road axis between Marcali and Tab on which it would be possible to travel from the west part of the lake to the east part, without having to use the road running directly on the lake shore.

5.4 Infrastructure developments in the Balaton Region

5.4.1 Transport

Road transport

A basic requirement is that road infrastructure should

- allow a fast access of the settlements on the shore of the Balaton;
- protect the region from transit traffic;
- manage transport with the least possible air and noise pollution.

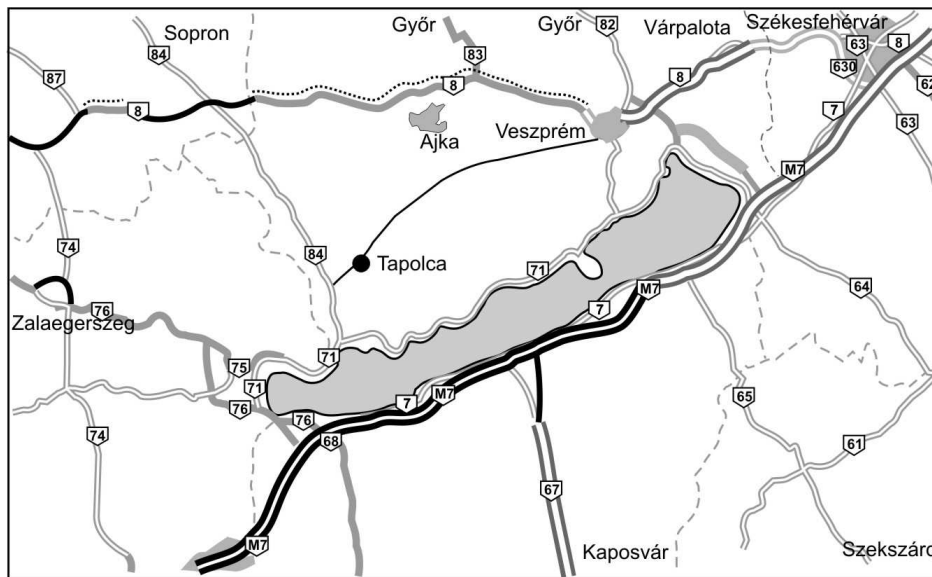
By 2007, all settlements on the south shore will be accessible by the M7 Motorway. The west-east connecting road in the Marcali-Tab-Som axis is still missing; it could divert traffic from the shore of the lake. The accessibility of the other shores is still quite problematic; the traffic is concentrated on relatively narrow roads on the shore, managing heavy transit traffic. On the east shore the solution will be the construction of a road bypassing Balatonvilágos, Balatonkenese and Balatonfüzfő, which should be constructed by 2007 according to the plans (*Figure 26*).

A better accessibility of the north shore would be allowed by the Székesfehérvár–Veszprém dual carriageway and the construction of a road between Veszprém and Tapolca with a bigger capacity than the present road has. The present road runs across a number of settlements, which slows down traffic and means a serious burden for the settlements. Another problem in the western part of the Lake Balaton is the extremely heavy transit traffic of the road running across Balatonszentgyörgy. While the accessibility of the Lake Balaton from Budapest is continuously improving, the access from south (Pécs), north (Győr) and northwest (Sopron, Szombathely) is still a problem. The capacity of the roads and the direction of their tracks (i.e. the fact that they run

across settlements) are obstacles to a fast accessibility. The improvement of the latter is of primary importance because the choice of holiday resorts by the Germans and Austrians, making 80% of the foreign guests, is largely influenced by the time needed to reach the destination.

Figure 26

Road development plan of the Balaton Region (2007–2013)



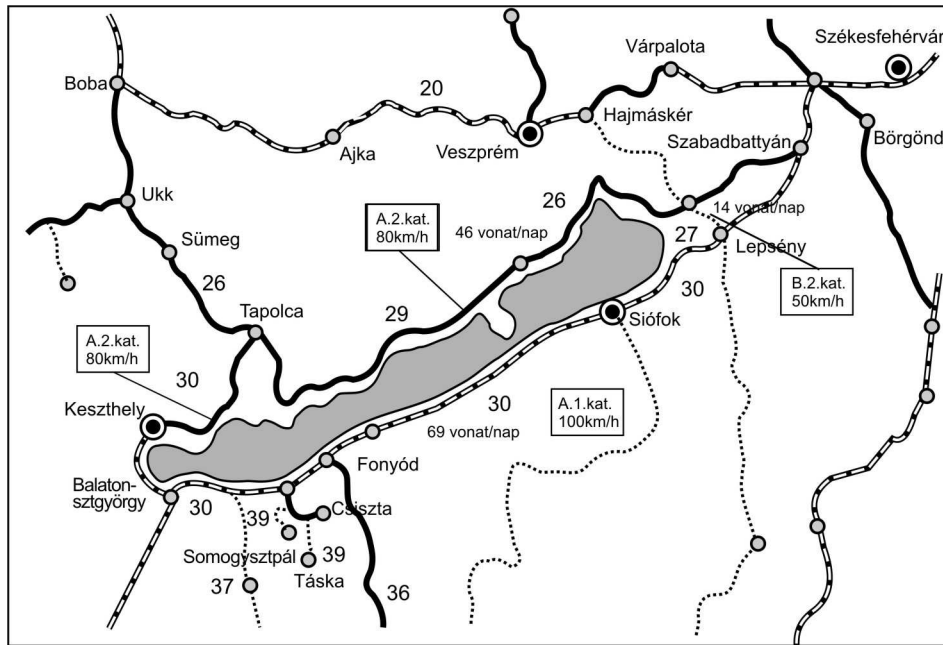
Source: Gazdasági és Közlekedési Minisztérium [Ministry of Economy & Transport]. www.gkm.gov.hu 2006.

Railway

The rail connection between the south shore of the Lake Balaton and Budapest allows a quick accessibility, depending on the state of the tracks. The Balaton Region can be freed from international freight traffic if that is diverted to the Budapest–Dombóvár–Gyékényes line. The railway on the north shore is in bad condition; it is not electrified and does not join directly the south line in the vicinity of the shore, which makes it more difficult to build a circular railway around the lake. The access of the Balaton by rail is problematic both from the south (Pécs–Kaposvár) and the north (Győr) and northwest (Sopron, Szombathely). The tracks are in bad condition, they are not electrified, and travel speed is unjustifiably slow (*Figure 27*).

Figure 27

Railways and developments in the territory of the Balaton Region



Source: Vörös, 2006.

Air traffic

In the direct proximity of the lake there are four airports: at Siófok, Szentkirályszabadja, Tapolca and Sármellék. The infrastructure and the equipment of the airport of Sármellék allow international traffic with large aircrafts and the creation of an air logistics base. As regards the two airports at the east end of the lake, the one at Siófok is operating and suitable for the reception of small planes. The works for the opening of the former Russian military airport at Szentkirályszabadja are underway. It is feared that the two airports will be competitors to each other and neither of them can be run economically. The better equipped airports of Sármellék and Szentkirályszabadja would be enough to manage the traffic of big aircrafts, if developments necessitated by the regulations of modern aviation (terminal buildings, track lighting, air traffic control system) were implemented. These airports are not more than 60 kilometres from each other, so even they can be competitors to each other, which jeopardises their economical operation. The airports of Siófok, Tapolca and Zalakaros, with

communal infrastructure elements. The operation of the communal infrastructure in the Balaton Region is done in regional units in the fields of drinking water supply and sewage and waste management, as the operation is much more efficient and safe this way.

Drinking water supply

Ninety-six per cent of the homes in the region are supplied with drinking water pipes; the provision is almost complete not only in the Selected Holiday Region but also in the whole water catchment area of the lake. The task here is the modernisation of the water supply systems and the integration of the outer areas, vineyards into the system. As a result of the development of the drinking water supply system, the supply of the lake shore settlements with tap water will be done by three regional supply systems by 2010: the Southeast Balaton, the West Balaton and the North Balaton supply systems. Of all the water necessary for the supply of the Balaton Region, 54% is provided from the Balaton (70,000 m³/day), 29% from the karst water base at Nyirád (38,000 m³/day) and 17% (22,000 m³/day) from subsoil layer waters and springs. The demand for drinking water (both by the industry and the population) has considerably decreased over the last decade.

Canalisation and sewage purification

The Government Decree No. 1995/2001 demands a 95% level of canalisation for the whole of the holiday region and the towns in the water catchment area, and 60% for the other settlements of the catchment area by 2010. (The demanded figure for the settlements in the hinterland of the holiday region is 72%.) This means that all settlements with more than 1,000 inhabitants will be canalised and supplied with two-grade sewage purification system. Despite the extremely intensive development of the canalisation and sewage purification system, 157 of the 300 settlements in the water catchment area will not be canalised in 2010. Due to the large number of small villages in the area, the inhabitants living in the non-canalised settlements make approximately 15% of the total permanent and temporary population of the area (almost 1 million people), for whom, in the absence of canalisation, modern sewage deposits must be built.

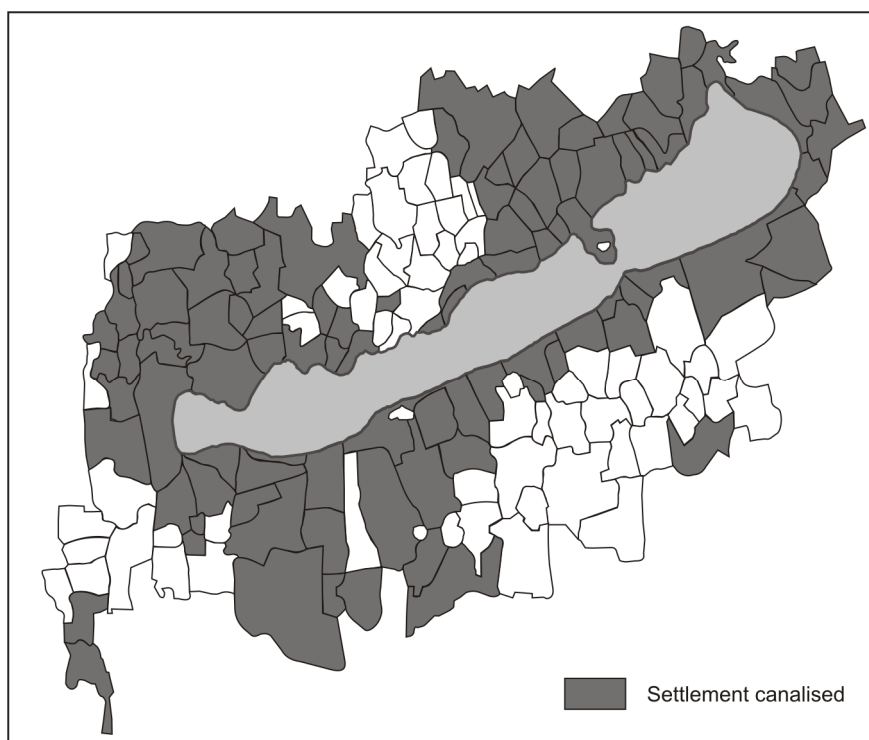
The purification of the sewage is done by 7 regional sewage purification systems in the settlements on or in the vicinity of the shore, while the rest of the water catchment area will be served by 14 micro-regional and 29 municipal sewage collection and treatment systems. The seven regional sewage collection and treatment systems on the shore of the Lake Balaton are as follows: Siófok I, Balatonlelle II, Kéthely-Balatonújlak III, Keszthely IV, Badacsonytördemic V/1, Révfülöp V/2, Balatonfüred-Balatonfüzfő VI, Balatonkenese-Balaton-

világos (Balatonfőkajár) VII. The construction of modern regional sewage treatment plants allowed the closedown of several sewage treatment plants of low capacity and bad efficiency (e.g. in Hévíz, Balatongyörök, Szigliget, Badacsony and Badacsonytomaj). The total capacity of the seven regional sewage plants is 103,000 m³/day (the plan for 2010 is to reach 150 thousand m³/day); the total capacity of the sewage plants closed down is only 5,150 m³/day (*Figure 29*).

A serious problem of the purification of sewage is the extremes in the amount of sewage generated in the few months of the peak season. In the months off-season the regional sewage treatment plants operate only at 25% of their capacity, the ones in the hinterland at approximately 45%. The burden of the canal system and the sewage treatment plants is further increased by the very large number of illegal rainwater connections to the canals; also, the rainwater drainage systems are not built out in the settlements so the major part of precipitation ends up in the sewage canals, as well. On rainy days it results in a load that neither the canal system nor the sewage treatment plants are able to handle. The outflows on these days and the decreased efficiency of the purification of the sewage are serious environmental threats. Another serious problem is the inadequate technical safety of the canalisation and sewage treatment system despite the continuous developments, due to the rapid depreciation of the pieces of equipment. This problem is especially serious in the sewage treatment plant of Balatonfüred. Each regional sewage purification plant is responsible for an approximately 20 kilometre wide zone along the shore. Sewage thus has a long time in the canals; it has time to rot, which results in the release of smells and gases corroding the equipment. This is serious problem in the neighbourhood of the sewage pumps located in the settlements; the smell is very unpleasant both for the population and the holidaymakers and is completely intolerable in a holiday region. For the decrease of the smell burden, a technological solution has already been invented and successfully used in Siófok, but the other regional plants have not been able to use this method yet, for lack of resources.

Figure 29

Canalisation in the Balaton Region, 2005



Source: A Balaton Üdülőkörzet idegenforgalma 2000–2005 [Tourism in the Balaton Holiday Region, 2000–2005. Veszprém County Directorate of the Hungarian Central Statistical Office], Veszprém, 2006, p. 12.

The ooze produced in the sewage treatment plants is free from heavy metal pollution and can be used by agriculture. After dehydration with different technologies, the sewage ooze is either mixed with straw and composted, and then used as solid manure (e.g. in Siófok-Balatonszabadi, Balatonlelle, Balatonújlak, Révfülöp-Mencshely and Balatonfőkajár), or it is directly injected into the agricultural lands (e.g. in Balatonkenese or Keszthely).

The efficiency of the efforts made for the development of the drinking water and canalisation system in the Balaton Region is considerably decreased by the low willingness of the inhabitants and the holiday home owners to join the finished swage canals; many of them still deposit sewage in cesspools by the house. The volume of this problem is indicated by the fact that in the Balaton sewage region the proportion of canalised homes in per cent of homes with tap water was 52% in the 2000, although it could have been increased to 74% if all households had joined the canal system, without the development of the system. Until 2004, almost 19,000 of the possible 26,000 households joined the system,

increasing the rate of canalisation to 69%. In order to eliminate this unfavourable situation, the water utility companies were not given adequate external support by the local governments. The detrimental effect of this is demonstrated by the fact that the cesspools polluted the subsoil waters in the Balaton Region to a degree that the demand for drinking water has to be satisfied with karst water transported from a distance or with surface water pumped out of the Lake Balaton (Table 22).

Table 22

Canalisation indices in the sewage collection districts around the Balaton, on the basis of a survey made in 2002

Sewage collection districts	Households using tap water	Households canalised	Canalisation level (%)	Number of household technically canalisable	Canalisation level possible without developments
I.	22,847	13,936	61	18,907	83
II.	15,519	9,128	59	14,114	91
III.	12,088	7,147	59	11,668	97
IV.	20,847	10,874	52	12,823	62
V.	10,068	1,865	19	3,226	32
VI.	22,316	10,001	45	15,452	69
VII.	8,259	4,763	58	7,191	87
Total	111,944	57,714	52	83,381	74

Source: A Balaton Üdülőkörzet szennyvíz-elvezetése és – tisztítása [Sewage drainage and treatment in the Balaton Holiday Region. Transdanubian Regional Waterworks Inc.], Siófok, 2000, p. 7.

The increase of the level of canalisation and the number of households using the system is justified by the totally inadequate way of depositing sewage in the cesspools of the households. The sewage treatment plants possess the necessary conditions for the preliminary treatment of the sewage pumped out of the cesspools, but only 8% of this capacity of theirs is used at the moment. This suggests that the entrepreneurs engaged with the transport of the sewage from the cesspools do not transport the major part of the sewage to the treatment plants but empty that illegally somewhere in the region.

The purified sewage of the Selected Holiday Region of the Lake Balaton is pumped on the south shore into the Sió Canal at Siófok and the Koppány Stream in Balatonlelle; on the north shore (Balatonfűzfő, Balatonfüred) it is led

to the Séd Stream of Veszprém, in Keszthely it is deposited at the Marsh of Hévíz. In those settlements where the purified sewage is let into the Balaton, a three-stage purification of the sewage is applied, during which 95% of the phosphate is removed (e.g. in Balatonújlak, Révfülöp, Badacsonytördemic and Balatonfüred).

The continuous development of communal sewage treatment and the decreased burden of the lake with nutrients from the sewage highlight the importance of the solution of the problem caused by diffuse pollutions, i.e. pollutions washed into the lake from the surface of the settlements and the agricultural areas.

Treatment of solid communal waste

A serious problem of the Selected Holiday Region of the Lake Balaton is the environment-friendly deposition of the communal wastes. In the Balaton Region almost 600 thousand m³ (140-150 thousand tons) of solid communal waste is produced annually (Jancsó, 2000, p. 212.). Waste collection and transport is usually provided in the settlements, but waste deposits fully compatible with the environmental requirements have only been built in Marcali and Keszthely. The solution can be the establishment of regional waste management systems that are responsible not only for the safe deposition of waste but also for the recycling of the possible largest proportion of waste. A part of this solution would be, in addition to the compressed and dust-free transport and depositing of waste, the selective collection systems, waste collection sites, plants composting organic substances and waste selection works. According to the plans, three large regional solid waste management systems will operate in the Selected Holiday Region of the Lake Balaton (North Balaton deposit at Királyszentistván; West Balaton deposit at Keszthely, Zalaegerszeg; South Balaton and Sió Valley deposit at Ordacsehi, Som), to which the Mecsek–Dráva waste management system will join in the Marcali area. These planned systems should be implemented by 2010 already, with support from the European Union. A problem simultaneously present is the regeneration of the derelict communal waste deposits, and the elimination of the continuously appearing illegal deposits (there were more than 120 of them in 2000).

Gas supply

The gas supply of the holiday region is very important not only because of the level of the tourism developments but also for the decrease of the air pollution of the region. As a result of the continuous developments, the provision of the settlements in the proximity of the lake shore is good; the proportion of flats

supplied with gas pipes is over 90%. The situation is much worse in the settlements in the hinterland farther from the shore, as 90% of these settlements have gas pipes but the proportion of households connected to the pipes does not even reach the national average. Besides sewage collection and purification, the most serious deficiencies in the region are in the field of gas supply.

The development of tourism

The 235 kilometre long shore of the Lake Balaton, the varied architecture and the value of the landscape do not make it necessary, and the rather differentiated income positions of the Hungarian guests making the bulk of the Balaton tourism do not make it possible to think in one single category in connection with the Balaton. *The frequently expressed term “quality tourism” should be interpreted in the Balaton Region the following way: either the level of each tourism service reaches the international standards, or the tourism of the Balaton dies. Beyond this, however, it is meaningful to develop youth tourism, hiking tourism, joy-centred bathing tourism and demanding health tourism etc. The task is not to categorise tourists and exclude those with lower incomes – it is to create good conditions for the reception of different types of tourists, by conscious developments and management, in a way that they do not disturb each other.* This way the conditions for affordable and high quality holidays can be created for people with different income positions. The example of the health spa centres built in Zalakaros, Kehidakustány, Tapolca prove that these establishments do not necessarily have to be built in the lake shore. A similar example is rural tourism booming in the Kövágóörs or Kapolcs area. A possibility for the construction of spas similar to those mentioned above is given in Csisztafürdő and Nagyberény; they could offer good bathing possibilities for the holidaymakers on the south shore. In the latter two settlements, wellness and medicinal services can be integrated; in Hévíz it is more and more an exclusive medicinal centre that should be achieved.

For the majority of guests arriving at the Lake Balaton, the main attraction is the water, all other facilities (horse riding, hiking, concerts, yachting, boat rides, enological tourism) are supplementary pastimes and programmes; this means that the conditions for the reception of the guests can be created in the vicinity of the lake shore in the first place, according to the different needs.

The development concept of the tourism of the Balaton made in 2005 repeatedly (after 1993) is defining the conditions for the development of tourism in this complex approach. It aims at the satisfaction of the needs of the guests in neighbouring settlements or whole sections of the shore by concentrated investments, because the developments can be implemented at an international standard this way, as opposed to the fragmented, low-demanding developments

carried out in each and every settlement. The Concept contains plans of not more than 2 or 3 sports halls, 2 golf courses, 3 covered swimming pools and 2 congress and cultural centres (in Siófok and Tihany), 1 entertainment centre (in Szántód) etc. According to the Concept, equestrian tourism should be organised into a network (equestrian centres at every 20–30 kilometres), similarly to cycling tourism (rest and repair centres offering full service). The Concept also mentions services (e.g. open air swimming pools, tennis courts) that are all natural parts of a higher class hotel or bathing resort; if they are missing, they should be built everywhere.

All sectors of tourism should be developed in the Balaton Region. A special attention should be paid to the development of some forms of tourism that satisfy mass demand and accordingly provoke many debates: these are yachting, angling, wine and cycling tourism.

Yachting tourism

One of the most underutilised ways of the development of quality tourism at the Lake Balaton is the development of yachting tourism. Yachting tourism is an excellent opportunity for the expansion of the holiday season and the increase of the incomes. The optimum season for yachting is about twice as long as the three-month season of bathing. The average length of stay of yachting tourists (13.5 days in 2005) is many times higher than that of the bathing guests (4 days on the average for Hungarian and 6 days for foreign guests); their average expenditure significantly exceeds that of the bathing guests. The average daily expenditure of the tourists is 120 € per day, whereas equestrian tourists and yachting tourists spend 160 € daily, on the average. According to professional estimates, the Balaton could accommodate 30,000 yachts, but the optimum number is around 20,000. The number of yachts in 2002, however, was only 4,000 in a total of 30 ports suitable for the reception of more than 100 sailing boats, this figure rose to approximately 6,000 by 2004. The number of places will be increased to 12,000 by the construction of 14 new yacht ports and the development of 18 existing ports in the 2002–2012 period. Even if the planned investments are implemented, the possibility offered by yachting tourism will not be fully utilised.

Angling tourism

One of the fastest growing and most popular branches of tourism is angling tourism. Many people consider angling as the purpose of tourism or the most important auxiliary element in that. Presently there are approximately 40,000 anglers around the lake, and this number significantly increases in the bathing

season. The popularity of angling is considerably influenced by the number and size of the fish caught. A several decades old debate between the Balaton Fishing Inc. (its predecessor was the Balaton Fish Farm) and the Association of the Balaton Anglers is that the company of economic entity over-exploits the Balaton with its fishing fleet, leaving little and low quality fish for the anglers. The debate seems to calm down now that the Balaton Fishing Inc. has declared as its main intention the stocking of fish into the lake (by fish produced in fish farms, placement of spawning nests for zander etc.) and the selection of the stock of fish living in the lake. The presently activity of the company is the decrease of the stock of white fish (bream, roach etc.) and the fishing down of the formerly stocked aged eel and silver carp population that can hardly be caught with the usual angling and commercial fishing methods. The annual catch of the Balaton Fishing Inc. is 400–500 tons. The total mass of silver carp stocked into the lake in 1972–1985 for the decrease of the algae production, or runaway fish from the neighbouring fishponds is estimated to be 3,000–4,000 tons (*Tátrai– György– Józsa– Szabó*, 2005, p. 101.). Estimates say that the stock of eel, a competitor of zander and a killer of zander spawn is still 17 to 65 fish per hectare (*Herodek*, 2002, p. 2.). The decrease of the stock of silver carp and eel is an important task, because the overgrown (40–60 kilogram) silver carp can be very harmful to tourism in case of a mass decay. Their catch is only possible with special fishing methods, the catch of eels with the eel trap at the lock of Siófok. The total annual catch of the anglers is estimated to be around 400 tons, which is an average of 11 kilograms per angler per annum. The stock of fish living in the lake is seriously damaged every year by illegal commercial fishing and angling (600 tons per year annually, causing a damage of almost one billion Forint), against which the present level of protection (one fish guard per 10,000 anglers) is simply inadequate. Since the Balaton is a natural water, the stock of fish cannot be limitlessly grown (the total stock of fish in the Balaton is estimated to be approximately 11-12 thousand tons), in fact, experiences suggest that the decreased trophy of the lake, coming from the more clean water, will maintain less fish than formerly. The fishponds, making almost 1% of the total territory of the region, should be more closely integrated into angling tourism.

The Balaton now is home to 27 species of fish (*Tátrai–Herodek*, 2001, p. 2.). In 1931 as many as 38 species were mentioned (*Lukács*, 1931, p. 29.); in 1980 Illés mentioned not less than 54 species (*Illés*, 1981, p. 125.). The stocking of foreign species is by no means desirable; it is very risky, as can be seen from the example of the silver carp stocked partly from environmental and economic consideration and the eel stocked in 1961–1985 in order to increase the value of the stock of fish (fortunately the experiments with grass carp were soon finished after grass carp annihilated the reeds of the Inner Lake in Tihany.) The Balaton always receives foreign species from the rivers (e.g. catfish) or by the draining

of water from the fishponds (e.g. silver carp), but the small number of these fish does not endanger the natural stock of fish in the lake. The objective is the increase of the stock of indigenous fish, including in the first place the most precious fish, zander.

A special issue for the anglers is the size of the fish caught. Besides intensive commercial fishing and angling the Balaton cannot be expected to give masses of large fish like in the 1930s (zander of 120 centimetres and 10 kilos, giant catfish of 2–2.5 metres and 60–80 kilos, carp of 15–18 kilos and pike of 8–10 kilos); nevertheless there is still a significant number of big fish living in the Lake Balaton, which is a real challenge for anglers. The size of the fish that can be caught by anglers can be increased by the stocking of larger fish after a longer period of fish-pond farming. The Balaton Fishing Inc. stocks 350 tons of carp into the lake each year, more than 150 tons of which are big enough to keep (e.g. longer than 30 centimetres).

More significant incomes from angling tourism can only be expected if the infrastructure of angling is improved. This means a larger number of constructed fishing accommodations, boat storage facilities and boat ports, so the development of these should be treated as a selected priority. In the detailed development concept of the Balaton (2007–2013), the development of tourism needs the establishment of 100–150 new boat ports.

One of the complaints of anglers is the scarcity of beaches available for angling, because of the built-up character of the beach and the ownerships. This problem can only be solved by the limitation of the private ownership of the beach – for which efforts have been made – and the development of the possibilities of boat angling.

Cycling tourism

One of the most rapidly spreading and popular forms of tourism is cycling tourism that can be pursued regardless of age. Presently it is extremely dangerous to cycle on the public roads, so cycling tourism can only become popular after the cycling roads have been built. For the youth it can be a great experience to cycle around the lake, for the elderly and children shorter tours are recommended. In order to promote cycling tourism, however, the total length of the planned cycling paths around the Lake Balaton, at 210 kilometres, has to be built. Only certain sections of this have been completed to date, often in questionable quality, in other places cycling is only possible on the public roads with heavy traffic, with a threat of accidents. In order to make the region attractive for the cycling tourists, the rest, supply and service (rent-a-cycle) centres have to be created that can fully serve those who wish to travel by bicycle. Such a centre offering a full range of services has only been built in Gyenesdiás so far

(Bringatanya). A further task is the construction of the short by-roads leading from the main Balaton bicycle road to the sights of interest in the hinterland settlements.

Wine tourism

A rapidly developing area of tourism that well supplements bathing is enological tourism, for the development of which the opportunities are excellent, given the proximity of the wine producing regions, and the good quality and rich offer of wines. Seven wine tourism societies have been established in the five wine producing areas in the Balaton Region, and they operate successfully. The task now is not to increase the number of the wine routes but to increase the number of catering facilities and improve their equipment. It is especially important to have various establishments suitable for the accommodation of different size groups from a few persons up to 50 people; also, these facilities should be able to offer food and accommodation in addition to the wines in as many places as possible. The wine routes around the Lake Balaton are as follows: South Balaton Wine Route Association; Badacsony Wine Route Association; Balaton Uplands Da Bibere Wine Route Association; Zánka Nivegy Valley Wine Route Association; Csopak Area Wine Route Association; Balatonfüred and its Region Wine Route Association; and Zala Wine Route Association. For the harmonisation of the programmes of the wine routes and the attraction of the guests, the Wine Route Associations have founded the Association of the Balaton Wine Routes.

Management of the Balaton region

The Balaton had not been a significant economic factor until the late 19th century; the advantage coming from fishing and reed were at least counterbalanced by the traffic problems cause by the large lake. The interests of the inhabitants around the lake were the same as the interests of the three historical counties surrounding the Lake Balaton, Somogy, Zala and Veszprém counties. A change occurred in this respect in the late 19th century, when the launch of tourism offered possibilities for a lucrative new economic activity, not in harmony with the classic economic activities of the counties any more. The exploitation of the possibility lying in tourism, however, required different and much more intensive developments in the lake shore settlements interested in the reception of guests. These altering interests led to the foundation of the Balaton Society in Balatonfüred in 1882, responsible for a range of important activities from the promotion and coordination of developments through cherishing the cult of the Balaton to supporting literature. The Society played a very important role in the construction

of the north shore railway, the development of steam navigation and the construction of ports. The Balaton Society was melted in 1894 into the Transdanubian Public Education Society, and operated within these new frameworks afterwards.

From the late 19th century, following the establishment of bathing resorts, the holiday home owners founded societal organisations for the management of the local problems. These so-called Bathing Societies were founded among other things in Balatonszentgyörgy (1895), Balatonföldvár (1898), Balatonberény (1899), Fonyód (1903), Balatonboglár (1904), Balatonkeresztúr (1904), Balatonlelle (1906), Balatonszemes (1910) and Balatonfenyves (1911).

In the late 19th century, the Lake Balaton gained the interests of the academics as well. The natural science researches were organised by the Balaton Committee created in 1891 by the Hungarian Geographers Society. The local basis of these researches was the Hungarian Biology Research Institute established in Tihany in 1927. In order to explore and demonstrate the historical, cultural history and natural assets of the Balaton Region, the Balaton Museum Society was founded in Keszthely in 1898. For the researches and the demonstration of the research findings, the Balaton Museum was built in 1928.

With the progress of summer holidaymaking in the Balaton Region, the improvement of the accessibility and the transport of the region became more and more important, for which a voluntary social organisation was founded in 1904, the Balaton Association. The Association played an important role in the promotion of the development of the railways, roads, navigation and telephone lines and in the operation of the power station at Aszófő, supplying the region with electricity. Its activity was always pursued in cooperation with the government in power (*Illés*, 1981, p. 155.). Those who lived on the shore of the Lake Balaton always felt that they did not get from the leaders of the respective counties the support necessary for the more rapid development of the region, and they saw the solution in the creation of an independent Balaton County, with Keszthely as the centre. A counter-argument was that the economic base of a county consisting of the settlements in the 8-10 kilometre stripe along the lake shore would not be strong enough, and the respective counties did not contribute to the detachment of their territories.

As the respective region has a separate interest system, coming from tourism, which concerns all settlements in the region in a way, the development of the Balaton Region is set back by the various interests of the respective counties and the lack of coordination necessary for larger-scale developments. The creation of a regional territorial management system is still one of the most important issues. For the management of the common issues of the medicinal and bathing resorts on the Balaton shore, independent of the counties, the Hungarian Royal Balaton Management Committee was founded in 1929. The members of

the Committee were delegated by the counties and the ministries, the chairman and the vice chairman were nominated by the government. The office of the Balaton Management Committee operated in Budapest.

In between the two world wars, the Balaton Management Committee and the Balaton Association cooperated in the implementation of the tasks. The Balaton Management Committee as a government organ had much more efficient ways, through its contacts in the ministries, for the development of rail and road traffic (rail: railcars, increase of the frequency of trains, reduced priced trains to the bathing resorts; road: Balaton ring-road completed in 1939), of navigation and the organisation of Balaton tours. The Balaton Management Committee was responsible for the coordination of the activities of the Hungarian authorities participating in the administration of the Balaton Region, both at government level and the level of the respective counties. After World War II, the committees coordinating the development of the Balaton Region ceased to exist.

It was not only the people living by the Lake Balaton who were dissatisfied with the counties; there were tensions from the beginning among the holiday home owners and the municipalities. It is understandable, considering the fact that the demands and means of the middle-class urban, mostly Budapest holiday home owners exceeded by far the level that a basically agricultural village was able to offer – or imagine at all – in the early 20th century. The oppositions were enhanced by the separation of the holiday resorts from the main parts of the settlements. The holiday home owners criticised the “undemanding and selfish” local inhabitants and the fact that “they had to pay higher taxes than the village people” and that “the tax revenues were not spent on the holiday resorts”. A constant complaint was “expensiveness and the lack of comfort and attention” (*Lukács*, 1931, pp. 58–59.).

The rapid development of tourism and the consequently accumulating development tasks necessitated the coordination of the activities of the different authorities by the 1970s and the creation of an organisation with authority for the whole territory of the Selected Holiday Region of the Lake Balaton. In 1974, the Balaton Management Committee was re-established with Balatonfüred as the centre.

Besides the Balaton Management Committee operating with governmental and county officers, the municipalities saw it necessary to establish a social organisation for the direct representation of their interests. In 1889, the Balaton Association (operating until 1944) was re-founded, operating with a chairman and officers elected from among the mayors. The Association saw the establishment of a Balaton Regional Council as one of its major tasks, consisting of the representatives of the municipalities and the central government. In 1993 the Balaton Regional Council was established, an organisation with the representatives of the Government, the municipalities and other organisations, with professional con-

sulting, interest reconciliation, coordination and financial consulting functions. The Balaton Association delegated 11 mayors to the Regional Council, the government also 11 representatives from the different ministries. The Balaton Regional Council would have been responsible for the development of the Balaton Holiday Region, the management of infrastructure developments, the protection and preservation of the natural and built environment – without having the necessary financial and legal conditions, which led to the death of the initiative. Similar reasons led to the closedown of the Balaton Tourism Marketing Plc. in 1998, only two years after it was established.

On the recommendation of the Balaton Association, the government appointed a state secretary for the co-operation of the issues concerning the Lake Balaton. The Act on Regional Development and Physical Planning, enacted in 1996, created a development region, the Selected Holiday Region of the Lake Balaton, and also the Balaton Development Council for its management. The Balaton Development Council established in 2000 the Balaton Integration and Development Plc. for the operational tasks. The seat of the Plc. is in Siófok.

The Balaton Integration and Development Plc. participates in the elaboration of the development plans for the region, manages and coordinates projects serving the development of the region, supports and coordinates the local and micro-regional initiatives, investments and researches carried out in the region. For the development of the region, the Balaton Integration and Development Plc. hands in applications for Hungarian and foreign resources and continuously cooperates with the regions and counties interested in the Balaton Region, and with the micro-regions and municipalities, institutions, economic actors, professional and non-governmental organisations in the Region. Another task of the Plc. is the compilation of the widest possible database for the whole of the Region. In order to carry out its tasks, the Balaton Integration and Development Plc. wishes to establish partnerships with the inhabitants and the business actors of the Region, also with international, national, regional, county and municipal decision-making organisations and with all professional and non-governmental organisations interested in the development of the Region (*Table 23*).

The Balaton has been an evident loser of the territorial administrative division of Hungary for a century, a puffer zone of conflicting interests and development ideas, although there are more common goals and identity of interests in the Balaton Region than in any other region of Hungary. The maintenance of the holiday function of the Balaton and the increase of its international competitiveness requires a development level of international standards, exceeding the Hungarian average. Actually these altering demands for development are the source of interest conflicts among the local inhabitants and organisations interested in the preservation of the Lake Balaton and the development of the holiday resorts, and the regions, counties and micro-regions interested in development:

the settlements on the lake shore are among the most developed municipalities of Hungary, while each region, county and micro-region has much less advanced areas and settlements whose development must enjoy a priority over the seemingly luxury investments on the lake shore. Partly because of the higher level of development, the different organisations and businesses consider the region as an area from where resources can be gained and less as an area that needs continuous investments. The development of the Balaton Region is thus mainly and solely seen as a state task. The organisations coordinating the development of the region still have to face the problem of limited legal competencies and the lack of adequate development resources of their own. Unfortunately, no significant change has occurred in this respect to date.

Table 23

Organisations of the regional administration

Foundation date	Name of organisation
1882	Balaton Society
1898	Balaton Museum Society – Keszthely
1904	Balaton Association
1931	Hungarian Royal Balaton Management Committee – Budapest
1974	Balaton Management Committee – Balatonfüred
1979	Designation of the Selected Holiday Region of the Lake Balaton
1989	Balaton Association
1990	Balaton Chamber of Commerce – Balatonfüred
1993	Balaton Regional Council
1994	Balaton Business Circle (legal successor of the Chamber)
1996	Appointment of state secretary for the co-operation of the issues concerning the Lake Balaton
1996	Selected Holiday Region of the Lake Balaton – Development region
1996	Balaton Tourism Marketing Plc.
1997	Balaton Development Council
1998	Balaton Regional Marketing Office
2000	Balaton Integration and Development Plc. – Siófok
2000	Tourism Inc. Balaton Regional Project Office– Balatonfüred
2001	Association of Non-governmental Organisations of the Lake Balaton
2002	Balaton Chief Architect’s Office– Keszthely
2003	Balaton Wine Region

Source: By the author.

In the years prior to the accession to the European Union, the leaders of the region revealed again their intentions for transforming the Selected Holiday Region of the Lake Balaton into a separate planning and development (in fact, possibly a statistical) region, allowing the Balaton Region to apply on its own

for support and development resources from the European Union. On the other hand, there is also an opinion that “without tourism the region is a peripheral area without any major centre, whose backbone is made by a lake, accordingly it has a rather special inner structure and the spatial relations of the units making the region are not towards each other but outside the region” (Marton I, 2006, p. 37.). It is just as important that tourism only creates common interests in the settlements that receive a significant number of guests. According to the data of 2002, tourism is not significant in more than half of the settlements in the region, 31 settlements do not even have any commercial accommodation and guests (Marton István, 2005, p. 109.). The settlements with negligible tourism or no tourism at all, with the exception of one single village (Balatonfőkajár), are all so-called background settlements. The problem coming from the lack of single spatial administration can be clearly seen, but it is questionable how much the existing oppositions within the region – that have already been visible e.g. in the competition for the regional centre status – would harm this ideal situation even if the single administration was achieved in some way. The very much different development levels and income positions of the settlements making the Selected Holiday Region of the Lake Balaton are a constant source of tensions, as the gap of the development levels may further increase, because a large part of the settlements are unable to compete for development resources, due to the lack of their own contributions. A good example for this was the 2002–2006 period when 46 settlements could not submit any applications owing to lack of own contributions, and the larger part of the resources available through tendering was absorbed by 4–5 settlements. There is a very strong will of cooperation among the settlements for the development of the region, which is indicated among other things by the creation of the Balaton Association by the municipalities of the region at the systemic change, but the significant interest conflicts are also indicated by the fact that only 76 settlements of the total of 164 of the Region participated in the work of the Association in 2006, and not more than 71% of the municipalities are members in at least one regional development associations.

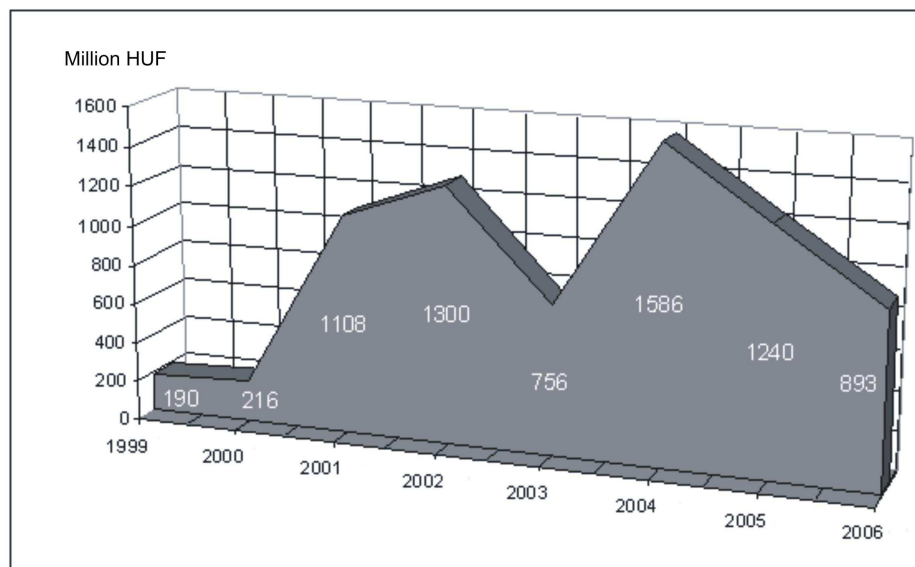
During the present conditions it is impossible to create a sovereign Balaton Statistical Region, because Transdanubia is already over-divided from regional development aspect (3 planning and statistical regions and 1 development region – the Balaton Region), the territory and population of the Selected Holiday Region of the Lake Balaton is small and its economic potential is based on an extremely seasonal tourism. A realistic opportunity for the creation of an independent Balaton planning and statistical region would have been if Transdanubia had been split into two regions, only (South Transdanubia with Pécs as the centre and North Transdanubia with Győr as the leading city). In that case an independent Balaton Region could have been created with Veszprém as the

centre, and by the annexation of several micro-regions (e.g. Enying, Zalaszentgrót etc.).

It is true, on the other hand, that the more rapid development of the region requires the establishment of an institution with clear-cut competencies and tools – the creation of an organisation that should have been created 150 years ago, already. The development resources allocated to the Balaton Development Council are insufficient for this (Figure 30).

Figure 30

Development resources allocated to the Balaton Development Council



Source: Balatoni Integrációs és Fejlesztési Ügynökség Kht. In.: Oláh Miklós: A Balaton Kiemelt Üdülőkörzet Magyarországon belüli gazdasági pozíciói és részesedése a fejlesztési forrásokból [The economic positions of the Selected Holiday Region of the Lake Balaton within Hungary and its share from the development resources.]. Balatoni Integrációs és Fejlesztési Ügynökség Kht. Társadalomtudományi Kutatócsoport. Balatonfüred, 2007. p. 11.

6 Summary and recommendations

The Balaton and its region has been altered by the radical transformation of the landscape over the last two hundred years from a natural lake into a regulated, “quasi-natural” lake that nevertheless still has a large-scale self-regulating capacity. The lake is not natural any longer but only quasi-natural, as the water level, the location of its shores, the level of siltation of the lake bed (ooze

dredgings), the position of the reeds, the richness of the flora and fauna and also the “practical” way of utilisation of the lake shore areas are all determined by human aspects in the first place. Even in this present form the region has a landscape and ecological value and an economic potential of international significance. The basic question is how the economic potential – important for the local inhabitant in the first place but also for the whole of Hungary – can be used in a way that further increases the value of the landscape and the ecological significance of the Balaton Region. The main features differentiating the Balaton and its surroundings from the other regions are first of all the natural (water and habitats) and landscape values. The future of the region is basically determined by how much the requirements of ecological, economic and landscape developments will be harmonised during the development of the Balaton Region in a way that will allow their synergy effect to be felt in all fields. The one-sided preference of any of these fields will result in the unreasonable limitation of the other fields and the deterioration of the value of the region and the quality of life of the people living there. This is not only true for the profit-oriented investments, but also for the exaggerated so-called environmental interventions, because it is impossible to create a natural area in a place where hundreds of thousands of people live permanently, where there are as many as 1 million people on certain days and where approximately 10 million people visit at least once a year. These ten million people do not only require the cleanliness of the environment, especially of the water, the well-kept landscape and high quality and varied services but also a holiday not disturbed by mosquitoes and horse-flies; visitors do not want caterpillars in their hair, falling from the trees, they want sand beneath their feet on the beaches, and not ooze. With ample and conscious developments and organised maintenance works these demands can be met at a high level even besides the preservation of the natural values.

If we place the development of the region into a historical context, the two dominant negative features during the developments are *belatedness* and the *lack of complexity*, the lack of regional thinking. Belatedness can still be seen today, partly in the consecutive efforts that were and still are made to meet demands that seem to be natural at the given time. Due to the gradual increase of the demands, the disparity of the demands and the given level of development is still there, which can be explained to a large extent with the *lack of capital necessary for improvements and the uncoordinated developments*. This belatedness, however, has been true for the preparation level of the local inhabitants since the late 19th century, as well. The Balaton Region was a basically handicapped, rural region with an urban deficit where the way of living of the people, their attitude towards their environment, their schooling was not and still is not up to the requirements of tourism, especially demanding international tourism. In the last few years a considerable development has taken place both as regards the

built infrastructure and the human factors, but the deficit in these two fields is still visible these days. A similarly important factor during the developments is the lack of *complexity and coordination*. The sectoral and municipal development programmes aiming at the solution of individual problems neglected the impact of the facilities implemented during the development on the other producers (sectors), on the one hand, and the focus was never on the whole of the region during the implementation of the development, only on the interests of one single settlement. Without a regional view and adequate cooperation it often occurred that parallel developments were implemented, with a low quality. This increased the amount of fixed capital, but the low quality results in both dissatisfaction and bad capital efficiency.

The economic base of the Balaton Region are the endangered assets of the area (the water and the landscape), and tourism built on them, together with the connected services. These together make the sector suitable for the mobilisation of the whole of the region, if the development of the other sectors is harmonised with tourism. This connection among the sectors is extremely important, because the given region is too big and tourism in the region is too concentrated (in the settlements on the lake shore, especially in the towns) to solve the development of the whole of the region and the employment of the population living there.

The biggest problems to be solved when developing the region are the unstable quality of the water of the lake, the decrease and the ageing of the population, the outmigration of the young, the bad accessibility of the lake, the decline of tourism and the deterioration of the condition of the agricultural lands. The key to the development of the region is the improvement of the quality of the water in the lake; for this purpose the pollution of the lake with any substance (dust, ooze, plant nutrients) must be decreased and a continuous management is needed (maintenance of the reeds, dredging of the ooze) for the decrease of the load of internal nutrients leading to the instability of the water quality.

When looking at the change in the number of the population and the state of human resources in the region, we can see the following:

- the population has been decreasing since 2000, because the low number of births and the high mortality rate are not counterbalanced by the number of immigrants any more;
- the population is ageing, which is enhanced by the large number of pensioners among those who move into the region (especially around Keszthely);
- the schooling level of the population is better than the national average, if measured with the proportion of those who have finished 8 classes of primary school, but the migration of the youth and especially of those with di-

plomas out of the region is a threat, which is due to the lack of jobs requiring high qualification;

- the employment ratio is better than the national average, but the situation is worse in the settlements farther from the lake shore, and employment is extremely seasonal; jobs demanding more qualifications are missing and incomes are low.

The change in the number of population indicates that the Region will only be able to keep its population and especially the young and quality workforce if the number of jobs requiring higher qualifications is increased. This can mainly be done by the development of services (financial, tourism, health etc. services) and the utilisation of the possibilities offered by the good logistics positions of the area (road and air traffic). It is very important to extend these activities to the settlements in the hinterland, as well. However, all levels of the training system (youth and adult education) must keep up with the increased demands (especially in the training of the tourism and catering skills).

The problems coming from the above-mentioned belatedness that block the development of the region and which must be handled are as follows

Mending of the deficiencies of the water protection system:

- implementation of the second phase of the Little Balaton reservoir;
- maintenance of streams, establishment of lakes for the deposition of ooze and plantation of filtering reeds;
- sedimentation and purification of the rainwater flowing out of the settlements;
- maintenance and cleaning of the Sió Canal. (the Sió Canal in its present state can only drain 40 m³ of water per second, because of a bottleneck around Simontornya. This does not allow the full utilisation of the 80 m³/sec capacity of the lock in Siófok. It is also a big problem that the Sió Canal is heavily polluted by the untreated sewages of the nearby settlements.)

Mending of the deficiencies of infrastructure:

- Transport:
 - Improved accessibility of the Lake Balaton by road and rail. We have to get rid of the concept that the issue of accessibility only means the traffic from and towards Budapest. At least so important are the rail and road connections from the south (Kaposvár, Pécs), and the north and northeast (Győr, Sopron), which also manage the international traffic to the Balaton.

- The development and harmonisation of local transport (inter-municipal transport and traffic around the lake) – establishment of a transport association.
- Detouring of the transit (international) traffic from the lake shore (the situation of the west and north shore is worrying).
- In air traffic, the modernisation of the airport of Sármellék, and the utilisation of the airport of Szentkirályszabadja.
- The construction of the whole Balaton bicycle road, together with its service network.
- Water supply and sewage treatment: the extension of the regionally organised systems to the whole holiday region. Obligation of the inhabitants to join the infrastructure, prohibition of the use of cesspools.
- Waste management: implementation of regional waste collection-, selection- and depositing systems.
- Gas supply: construction of the network in the whole holiday region.
- Tourism: the well separated development of all kinds of commercial accommodations (hotels, camping sites, youth camps) – quality mass tourism; the construction of a five-star hotel for the most demanding guests (location recommended is Tihany), and holiday villages on the south shore, for family holidays.

Creation of demanding leisure time facilities:

- Improvement of the conditions of sports:
 - Well-established and coordinated development of boat and yacht ports (boat houses) in the micro-regions around the Balaton, construction of angling accommodations, continuous development of beaches.
 - The creation of the possibilities for water motor sports by the development of the Sió Canal.
 - Territorially coordinated establishment of a network of wellness spas, covered sports facilities (tennis courts), equestrian centres, golf courses, off-road cycling and motorbike tracks, and facilities for gliders, hot air balloons, and sailplanes.
- Improvement of the cultural supply:
 - Territorially coordinated establishment of a network of cultural centres, open-air stages, entertainment centres (recommended location: Szántód), libraries (in Siófok, Keszthely and Balatonfüred).

Production:

- Industry: industrial development possibly harmonising with the character of the region and the needs of tourism, especially in the non-lake shore, so-called background settlements.

- Agriculture and forestry:
 - In the areas with significant viticulture and fruit production, support for the maintenance and development of the activities.
 - Grazing animal husbandry on the large unused grasslands.
 - Improvement of the maintenance of the landscape, strengthening of the aesthetic value of the landscape and cultivation of the presently derelict lands.
 - Increase of the size of forests, afforestation of the unused lands and gardens on the outskirts of the settlements.
 - Plantation of park forests in the derelict areas in the vicinity of the lake shore.
 - Energy production built on local agricultural waste and reed.
- Services:
 - Special attention to the development of hotel, financial, catering and health services, as they all satisfy tourism demands directly or indirectly.
 - Along the international motorway on the south shore, establishment of logistic centres of regional significance (e.g. in Marcali).
 - Establishment of a local wholesale marketplace for the agricultural products (in the Siófok area).

For the elimination of the bottlenecks listed above and the implementation of the developments of vital importance for the region, concrete recommendations are made in the many development plans already written for the region. However, the realisation of these ideas has many preconditions.

Securing resources for development

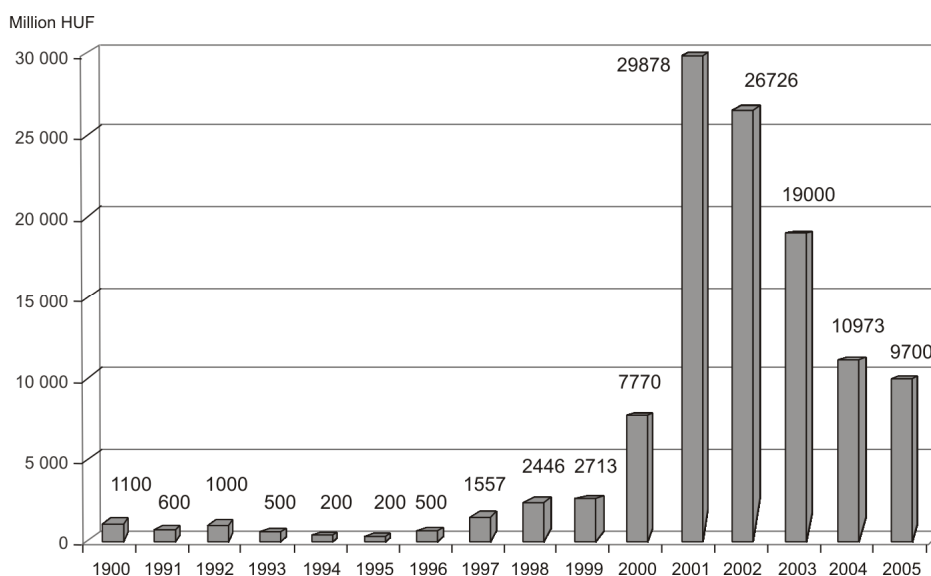
A recurring problem is the *lack of development resources* for the implementation of the defined tasks. The problem is that development resources have almost always and for all purposes been expected from the state, referring to the large amount of money that is gained from the Balaton holiday region. However, the Balaton Region is not the only region from where money is gained, and it is also an issue how much of the money drawn from region by different companies (hotels, small enterprises) actually gets into the state budget. In the last 30 years the state has provided a selected support for the Balaton Region. This is indicated among other things by the total of 37 billion HUF needed for the restoration of the Little Balaton Reservoir, only (at present value). It is evident that the state supports have not been enough in the Balaton Region – as nowhere else in Hungary – for the creation of a holiday region competitive at international level. Development resources have been too limited, but we do not have any information on how efficiently the development resources allocated to the re-

gion were used. How many parallel developments have taken place? How many absolutely unnecessary investments have been implemented? Unfortunately, the impact of the selected tourism developments of the recent years is not reflected by the rise in the guest nights – it is possible, however, that the developments were necessary for the slowing down of the decline in the number of guests (Figure 31).

In order to have better results the Balaton Region must also mobilise and efficiently use its own (and quite significant) resources. The local governments should be much more efficient in collecting the local taxes, and the businesses should take a much more active role in the solution of the problems. The latter is mostly linked to the conscious development efforts of the local governments, as well (good example for which is Hévíz).

Figure 31

Amount of state expenditure spent on the development of tourism



Source: A Magyar Köztársaság Költségvetése 1990–2005 [The Hungarian State Budget 1990–2005]. In: Oláh Miklós: A Balaton Kiemelt Üdülőkörzet Magyarországon belüli gazdasági pozíciói és részesedése a fejlesztési forrásokból [The economic positions of the Selected Holiday Region of the Lake Balaton within Hungary and its share from the development resources.]. Balatoni Integrációs és Fejlesztési Ügynökség Kht. Társadalomtudományi Kutatócsoport. Balatonfüred, 2007. p. 10.

The micro-regional development plans are actually no more than the collections of the priorities of the individual settlements; even if the developments are implemented, this might improve the situation of the respective settlements to some extent but will not induce palpable development at micro-regional level. The development of the region cannot be based on the tenders of the respective settlements also because the award of the supports is very much uncertain, many settlements have been unable to submit any application so far, for lack of their own contribution, and the tenders of the individual settlements are not adequately coordinated. A more significant improvement in the situation of the region has been induced so far by the selected state investment programmes which the respective local governments and businesses could join (e.g. the development of the basic infrastructure and spas with medicinal water). In the recent years a circle of investors – the SCD group purchasing the Siótour, the Balatontourist and the Zalatour organisations – has appeared in the region, which partly take over former state tasks and have comprehensive tourism development concepts for the whole of the lake shore area. The development plans demonstrate that the plans of the SCD group have already gained the attention of other investors (e.g. L. A. Shiraz, Creatura Immobilia, CIB Real Estate Leasing), making them interested in investing in the Balaton Region. A sudden appearance of a large amount of capital, however, also bears dangers. It is important to avoid the negative effects of the short-term thinking of investment capital, the economic history, natural, and community interests of the Balaton should not fall victim to such a short-term view. A warning sign can be e.g. the privatisation of the Institute for Viticulture and Aenology in Badacsony, and the plans to use its territory to meet the demands of a hotel complex. (The Badacsony is made what it is by the total of the hill, the water and viticulture and vine production – and not by a hotel.) Parallel to the promotion of developments, the protection of the values will be a task of selected importance for all local governments in the future.

Change of the development views

The concentration of the development resources and the regional coordination of the developments are inevitable. This takes a better co-operation willingness and better partnerships than now (the small and the poor should be treated as partners with the same rights). The stakeholders should get rid of a few of their false conceptions (i.e. that the lack of school is equal to the death of a settlement). It is often mentioned that certain schools should be saved, prevented from closing down, but we hardly hear about the quality of education taking place in these institutions. Primary schools are for 7-14 year old children anyway, so it is another issue who deals with children younger than 6 or older than 14 years of age. The problem in this field is indicated e.g. by the 150-170% capacity use of the crèches in the region.

For the people and especially the young to feel good in a settlement, it is necessary to place their 1–6 year old children in institutions where the children have professional and prudent care, in schools where they get training making them competitive with their peers; for children over 14 years of age, the possibility should be given for the civilised and controlled leisure activities. These tasks can only be solved in centralisation at micro-regional level, where adequately equipped establishments and professional staff are available. In addition to these micro-regional centres, however, each settlement should have a community home where the young and the elderly can meet and pass their leisure time. The concentration of the tasks, given the bad transport conditions, makes it necessary even in such short distances to establish a network of village caretakers and purchase vehicles for the transport of the inhabitants. This solution may not be cheaper but is more efficient. These micro-regional centres should be equipped and operated in a way that they should operate all year round and should also be able to serve holidaymakers for a certain fee, i.e. they should also serve tourists (e.g. sports halls of schools, swimming pools, crèches, internet centres etc.). Several villages could employ staff for the organisation of cultural and sports events, who would only spend certain days of the week in each settlement.

It is very important to emphasise that the central facilities are not the facilities of the given settlements only; they serve all the cooperating settlements of the micro-region.

Provision of statistical databases necessary for the developments

It is unacceptable that no single statistical system has been created for the Selected Holiday Region of the Lake Balaton. Studies and development concepts are made in large amount, without having reliable data. E.g. there is no and continuously updated statistics on the agricultural land use of the region (by sectors), the number of livestock, the activities and volume of industry and services etc.

The other problem is that the data of the respective sectors are not available at the same place. In the assessment of the social and economic situation of the Balaton Region, the Research Group of Social Sciences of the Balaton Integration Plc. plays an important role (Balatonfüred); they do not only carry out but also coordinate researches. Their invaluable advantage is the continuous presence in the region and its direct access to information, but it cannot mend the problems coming from the deficiencies of the statistical system.

More attention should be paid to the background settlements lagging in development

The main emphasis of developments remains to be on the settlements of the lake shore in the future. With the co-operation of the settlements, support

should be given – at micro-regional level – to those producer and service (e.g. sports) investments that can only be implemented in the background settlements or their character and environmental impact suggest that they should be implemented there. This way the employment problems of the hinterland settlements would also be lessened, and the development of the hinterland serves the whole of the region, anyway.

Improvement of the administrative situation of the region

Many problems come from the designation of the region, which is also one of the reasons for the lack of statistical data and the unreliability of the data concerning the region. The situation would be easier if whole micro-regions were not annexed to the Region just because one settlement of them belongs there.

The expectations against the administration of the region are exaggerated, however. The dispersal of the regional institutions and the lack of a regional centre in themselves indicate inner tensions and the lack of co-operation, but the most serious indication is that half of the 164 settlements are not members in the Association of Local Governments or any other municipal associations. In addition to the competition for external resources, the solidarity and co-operation of the settlements should be given just as much emphasis.

Co-operation of the sectoral authorities, their responsibility for developments

A source of serious tensions is the rigidity, low level of compromise and co-operation capacity of the sectoral authorities, their one-sided interest assertion. This often damages the water protection and the rational use of the territory of the Balaton Region. Serious conflicts have emerged in the field of reed management (the dead reed deteriorates the quality of the water, but is a habitat for birds) or the deposition of dredged ooze between the water management and the environmental protection authorities. This led to an absurd situation: the ooze dredged from the lake near the shore was deposited in the middle of the lake, from where it soon got back to its original place.

A similarly serious conflict is caused by the one-sided enforcement of bio-production in viticulture (viticulture experts suggest integrated production) and the forced expansion of grasslands at a time when animal husbandry is almost non-existent in the region any longer and even the existing grasslands are not managed adequately. In order to evaluate the grasslands, nature protection does not support, in fact, it blocks the protection of water and the afforestation programmes, the most useful and economically most viable solutions for the development of the region. It is completely false, a very big mistake to dream of the establishment of romantic peasant farms in the Balaton Region, as they do not operate in market circumstances and can only be maintained as ornaments at very

high costs. The contradiction is indicated by the fact that the authorities do not permit the opening of new quarries and gravel mining facilities, but the aesthetic value of the Keszthely Bay is still deteriorated by the sight of the operating quarries. Developments, on the other hand, require construction materials that must be extracted somewhere, and their transport from a large distance is a source of considerable environmental pollution. These problems can be solved if tasks are defined realistically and with the consideration of the interests of the whole of the region, instead of aiming at the extensive expansion of the so-called protected areas.

Nature protection tries to preserve a deteriorated, semi-natural eco-system, without any hope because of the natural succession. In the 21st century the exploration and preservation of the ecological values cannot be restricted to limited areas, it is a general task, and special protection should be provided for the so-called core areas, only. We have to accept that the Balaton and its region is not a natural region any longer, accordingly the natural conditions cannot be maintained without doing harm to the whole of the region; e.g. if the Little Balaton Reservoir is not maintained and protected, it will fail to fulfil its water protection function after a decade or two.

Increased territorial responsibility of the local governments

The local self-governments should take up a much bigger role in the maintenance of the internal and external areas of their settlements. They should act much more consistently in keeping those regulations that concern the management and cultivation of their lands (e.g. ragweed kill). After the provision of the basic infrastructure, the maintenance of whole of the settlements, including both their internal areas and outskirts, should be taken into consideration during the developments. A part of this could be the purchase of derelict, uncultivated areas and the planting of trees, park forests, i.e. afforestation in these lands. In order to increase the aesthetic value of the region, beside the roads those plants should be grown that bloom in the tourism season (e.g. lupine and sunflower etc.), and the farmers should be supported financially for this activity.

Special support demands of the region

It would be necessary for the maintenance of activities which increase the attraction of the region and provide the tourists with experiences, but are not economical in themselves. Such activities are as follows:

- support for viticulture in areas that are hard to cultivate and maintain, but influence the aesthetic value of the landscape and produce the best quality wines;
- maintenance of extensive grazing animal husbandry promoting the preservation of the lands and increasing the tourism value of the region;

- establishment and maintenance of game parks; and finally
- utilisation of the already mentioned fallow lands and uncultivated gardens on the outskirts of the settlements.

These are economic activities the costs of which will never return; accordingly they are not realisable without special support.

Preservation of agricultural and natural values, their use in tourism

Special problems of the region are the fragmentation of the land into a large number of small holdings after privatisation, and the speculation expectancies (the expected rise of the plots in the future), which, despite the Balaton Act, encourages the abandonment of agricultural activities and the sales of lands as construction sites. In order to avoid the loss of the valuable vineyards, it is definitely necessary to designate those valuable areas where the cutting down of the vines and the building up of the areas should not be allowed in any circumstances, similarly to the core areas of nature protection. In these areas (many of which are not bigger than a quarter or half of a hectare), the building of larger establishments in the name of enological tourism should be stopped, as it would lead to the further fragmentation of the wine producing areas.

The Balaton Region has a very precious fauna, the demonstration and use of which in tourism should be done by building high-class demonstration places, some of which should only be available for a considerable fee (e.g. the introduction of the fauna of the wetlands).

Finally a serious negligence should be mentioned: in the middle of the last century, the aged white poplar trees in Szigliget were cut down. These trees, representing a high aesthetic and cultural history value, have not been re-planted since then.

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