

THE NECESSITY AND DUTY OF THE CO-ORDINATED UTILIZATION OF ENVIRONMENTAL RESOURCES IN THE REGION OF BÉKÉSCSABA—GYULA—BÉKÉS

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Introduction

The increasing utilization of the natural resources and its growing influence on the environment are the regular outcome of the development of productive forces. The problems, originated from these above mentioned facts, make the suitable economy of environmental resources urgent and important in every respect.

The exploration of the degree of the environmental impairment, the prevention, the concrete pointing of the duty of environmental protection, and the recording of the possibility of regional-sectional co-ordination, make the accurate examination of characteristic territories necessary at the first time. The experiences, given by the examinations of properly chosen and complexly explored characteristic territories, lead us to the establishment of unified norms and to creation of the possibility of governmental regulation.

Whereas the natural environment is indivisible, the duties of the economy of environmental resources cannot be solved effectively without international co-ordination. It is reflected in our law of environmental protection, the second law of 1976, which adopts a resolution of Stockholm Conference, saying that — in agreement with the United Nations Charter and the international law — every state has her own right to utilize her resources, but is responsible for all kinds of activities, controlled by herself, to avoid any kinds of soiling in other countries or territories outside her national border. As in case of several sciences, a very profitable co-operation would come into existence between the socialist countries in the field of economy of environmental resources from research to the solution of problems. The exchange of the experiences and the mutual exploitation of them would play the most important role at an early stage of co-operation.

This purpose is served by the reconciliation of research of KGST-countries (Council of Mutual Economical Aid), by indication and examination of the characteristic territories and by the regular arrangement of scientific conferences.

Hungary has been taking part in research from the very beginning so the scientists of KGST-countries could observe the works going on in a characteristic territory near Tatabánya. (S. KATONA—L. RÉTVÁRI 1977.) The question of the utilization of environmental resources is raised up in different relations and by dissimilar possibilities of solution in major part of Hungary. We try to summarize the problems of economy of environmental resources of a territory, quite particular from geological point of view, emphasizing that the detailed exploration and the concrete recording of the possibility of co-ordination, resulted from the special configuration, make further research imperative. (Fig. 1.)

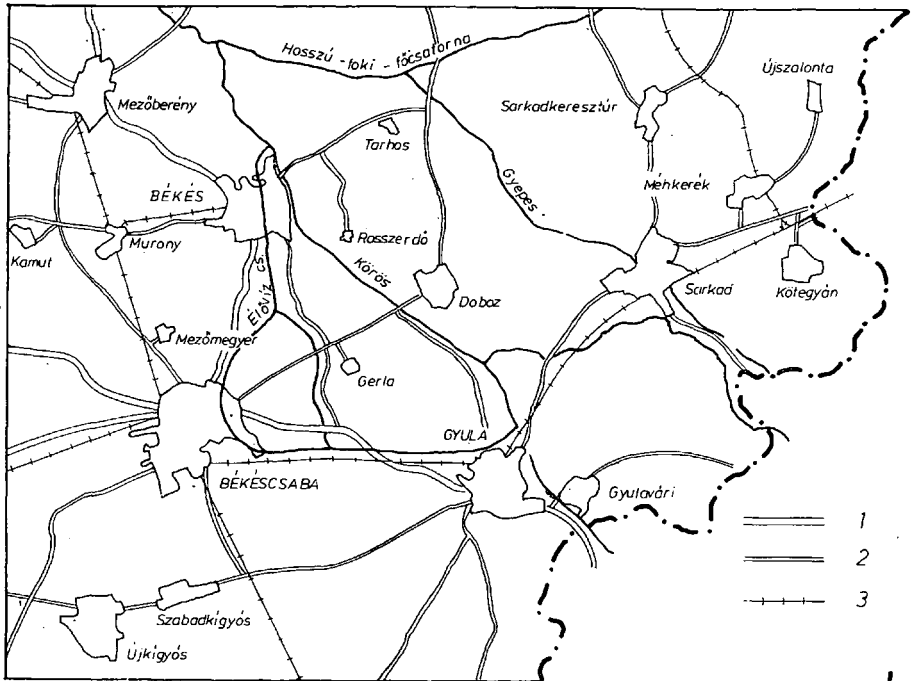


Fig. 1. The map of Közép-Békés
1. Main road, 2. Other roads, 3. Railway

A particular set of settlements and the problem of utilization of environmental resources

Both in capitalist and socialist countries the process of urbanization produced a number of settlements between the members of which the economic and other relations are mutual, specially intensive and go from strength to strength in spite of the administrative division. In consequence of this fact as well as the territorial nearness and transport, the difficulties of development of the settlements or utilization of environmental resources can be solved efficiently only by co-ordination. Some similar sets of settlements came into existence in Hungary too. (eg: Budapest agglomeration, the valley of Sajó, the coal-basin of Tata, a settling between Komárom and Esztergom, the neighbouring district of Pécs etc.) In our country as well as everywhere in the world, the most powerful process of agglomeration, and intensification of the intercentral relations of the towns concentrate on the most exposed and most developed spheres of economic growth. The above mentioned processes haven't had any importance for quite a long time because of the specific structure of the Great Hungarian Plain and its disadvantageous participation in the national regional division of labour. The only exception was Szeged and the agglomeration round her. (J. TÓTH—GY. KRAJKÓ—I. PÉNZES, 1969.)

By the end of 1970-ies it became quite obvious that in every part of the Great Hungarian Plain the process of agglomeration had already begun as a result of the speedy development of the productive forces and the planned industrialization of the district. The professional interest was focused on Közép-Békés.* (D. BAKONYI 1973, J. TÓTH 1977.)

The set of settlements in Közép-Békés (Fig. 2.) has a number of characteristic features that basically influence the duties and the possibilities of the utilization of environmental resources. Among the characteristic features the following are emphasized:

a) Some minor settlements that intensively relate to the leading towns of the set of settlements (eg: Békéscsaba, Gyula, Békés) are situated about 10–15 km from

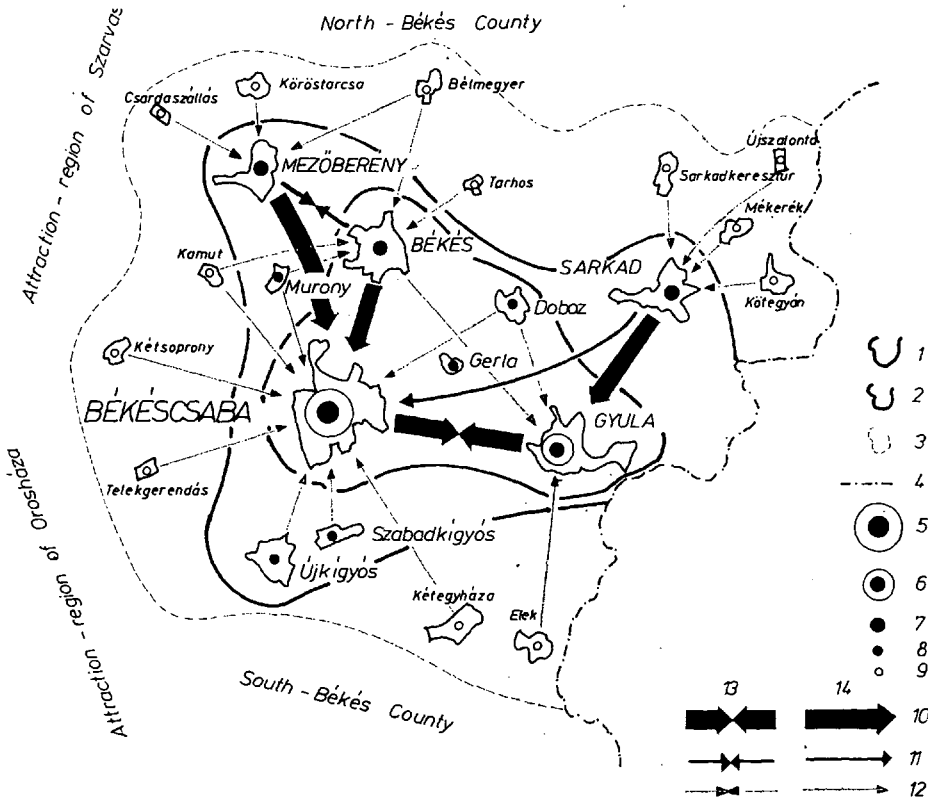


Fig. 2. Regions of towns in Közép-Békés

1. The boundary of megaregions of towns, 2. The boundary of regions of towns, 3. The boundary of the territories joining to the regions of towns, 4. Frontier, 5. Townregion-centre, 6. Townregion paracentrum, 7. "Satellite-town", 8. Sleeping towns, 9. Other settlements joining intensively to the regions of towns, 10. The relationships are intensive, 11. Middle intensification, 12. Weak relations, 13. Balanced relations, 14. Dominant relations,

* Middle of Békés County

- each other. Therefore co-ordination is necessary to solve the problem of utilization of environmental resources.
- b) The members of this set of settlements were typical agricultural towns and their economic activity endangered the environment in minimal degree. There were incoherent and low-level relations between the towns.
 - c) As a result of their geographical situation and economic profile, only the management of water-supply (river control), regulation of water-ways, draining etc.) made the concerted action necessary.
 - d) The dynamical development of last decades transformed the economic profile of settlements, industrialization came into prominence and precipitated the intensification of the intercentral relations. The relationships became more and more many-sided. These processes brought the significance of environmental protection on in the adjoining settlements.
 - e) On this stage of development of productive forces the significance of environment protection and the necessity of co-ordination is indisputable in the region of Közép-Békés. As a result of the particular historical past, winding up the result of environmental pollution is not so important as the prevention and planning of the environmental protection. The problem of this region — because of its particularity — may command interest widely.

The Research-Group Hungarian Great Plain of Institute for Geography of the Hungarian Academy of Sciences, instituted in Békéscsaba in 1973, examined the problems of environmental protection of the region in question. (L. HAJNAL 1976, M. MIZÓ 1976, J. TÓTH 1976 ab, J. RAKONCZAI 1977.) By the reason of the claims of Békés County and the towns — with promotion of the Ministry of Housing and Public Construction — we start to examine the complexity of the set of towns in Közép-Békés, laying stress on solution of the problems of environmental protection. The research lasts from 1978 to 1980.

We have already given account of our research in the congress of environmental protection, held by the KGST-countries in Varna this year. (J. RAKONCZAI—J. TÓTH 1977.) The conference declared Közép-Békés — as well as the characteristic territory of Tatabánya — the controll region of utilization of environmental resources.

Further on we summarize the problem of the environmental protection in Közép-Békés.

The concrete duties of utilization of environmental resources in the Közép-Békés region

1. Water-supply, pollution

The greatest problem of Közép-Békés is water. Water is associated with two things mainly: the rational utilization of environmental resources and the impeding of pollution.

The essence of problem is as follows:

- A) The water-supply of the three towns is based on the usage of water of depth nearly exclusively. The geological conditions don't make the quick increase of

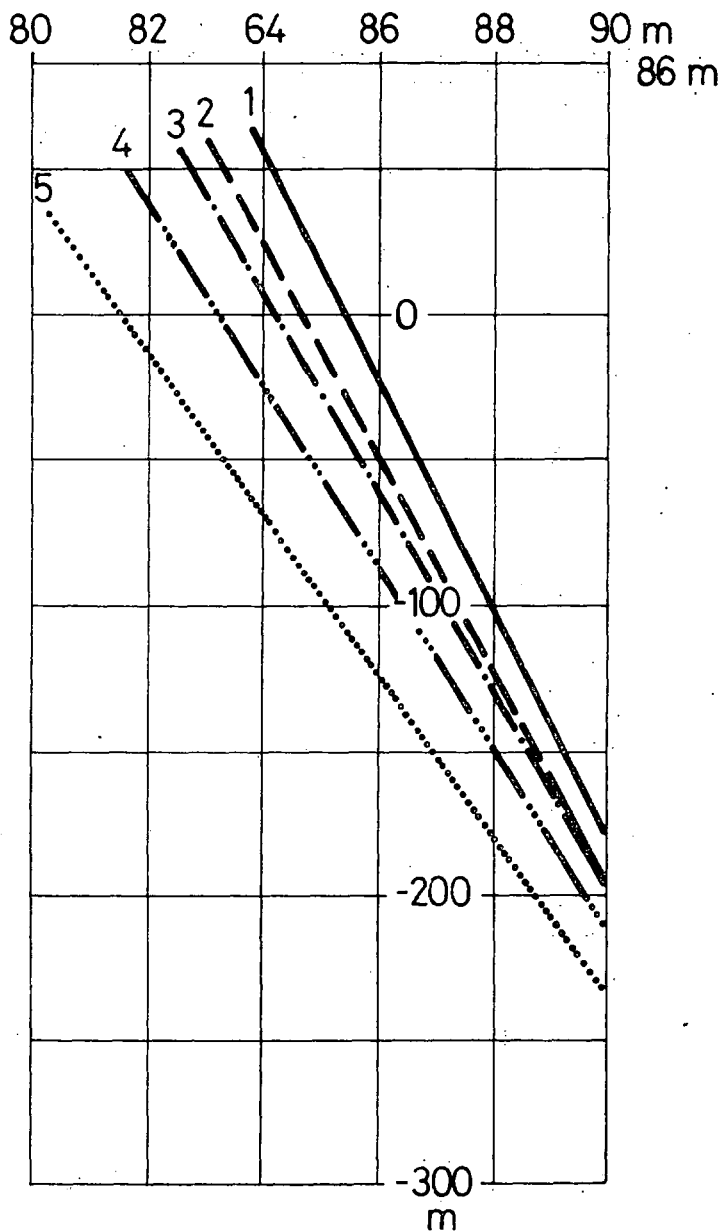


Fig. 3. The decrease of the normal level of water in artesian well in Békéscsaba
 1. untill 1944. 2. 1955–1959, 3. 1960–1964, 4. 1965–1969, 5. 1970–1974.

water-supply possible. Therefore it doesn't increase so quickly as the demands of urbanization and industrialization, to be more exact, the exploitation of the subsurface water cannot be increased either some years later. (J. RAKONCZAI, 1977.) As an example we show you how the pressure of subsurface water changed in Békéscsaba, under the influence of exploitation of water. (Fig. 3.) The exploitation of water, from the rivers Fehér-Körös and Kettős-Körös, cannot be realised without injury of rivers, under the existing conditions. (When there is great claim to water in Hungary, there is scarcity of water because of the water-basins settling up in Romania.)

- B) The sewage disposal of the greatly increased drainage is unsolved. The sewage flows into the Élővíz-drain. The follow is very skow in the drain, water flows into it without satisfactory cleaning, and as a result the quality of water is the worst according to the KGST standard. (L. HAJNAL 1976.) The drainage of the three towns finally flows across Békés. It pollutes the air therefore the possibility of the potential inflection is increased.
- C) The sewage-system of the towns (as well as the neighbouring settlements) is very insufficient. Building up to the sewage system didn't develop together with the increasing use of water, therefore a great deal of sewage got to the subsoil water. In consequence of this the drainage gathers under the settlements endangering the stock of water of depth. Sometimes it is a very difficult problem that in case of much precipitation the sewage system proves to be too little to take it up and creates dangerous situation.

The problems — the rational utilization of environmental resources and the impeding of pollution — can be solved by great financial investment and by co-operation of the towns.

- D) Drinking-water must be obtained from the ground water. To realise this decision, a regional hydrological system has to be established. Water should flow from wells situated on the alluvial fan of Maros, and should supply the three towns. The present well network system would somewhat qualify the case. Water, both for irrigation and industry, should be obtained from a planned water-basin system of river Körös. We shall describe its economic significance in part. 3.2.
- E) The following problems must be solved in order to decrease the pollution of Élővíz. drain:
 - a) The constant flow of water must be protected in order to refine the self-purification of water and decrease the danger of sedimentation.
 - b) We have to increase the capacity of sewage filtering (the present system doesn't solve the cleaning perfectly) and it is necessary to develop a biological cleaning system beside the mechanical ones.
 - c) We should like to go on with our experiences, that is to irrigate with sewage water beside, of course, the permissible pollution.
- F) We have to increase the development of sewage system in each settlements. We try to solve the quick drainage of inland water.

2. Recreation areas

Recreation areas of Közép-Békés are not well developed ones, but we entertain hopes of co-ordination of the towns. There are not enough parks in the inner belt of the towns at present, and the composition of stand is also not sufficient. The

week-end recreation zone has neither great tourists' attractive force nor sufficiently developed, in spite of the fact that building this zone up is the interest of each town.

The main problem of the establishment of week-end recreation zone is water-basin which is planned to build at the meeting point of Fehér-Körös and Fekete-Körös rivers. The water-basin would give the possibility of the utilization of water. The large water surface had an influence on the small recreation region of Szanazug, therefore it comes to be more and more important from regional point of view. The overcrowding of the hot baths of Gyula decreased a bit, because of the more advantageous conditions of Szanazug swimming-bath, so there is a chance to develop aquatics and fishing.

The importance of the planned water-basin is also not negligible, it would fill a part of a water-basin and would protect the possibility of watering. By building it up, we should solve the problem of Közép-Békés. It is the interest of the county and the national economy as well. We have to call your attention to a danger in connection with the question of environmental protection. We must protect the forest of flood plain. The protection will have to be solved by the beginning of the development of recreation zone.

The manor house of Szabadkígyós and the salt desert — they were declared to be the territories of environmental protection in 1977 — could be the tourists' sights of Közép-Békés with proper development. The manor house is very easy to approach both from the direction of Békéscsaba and Gyula, which has gradually become to be more and more important from the tourism point of view. (L. MO-SOLYGÓ, 1975.) The manor house that works as a school at present, is quite suitable for many-sided cultural utilization. If the county develops it will join to the tourism of Hungary.

The refloating ratio is very low therefore the expansion of the parks in the central places of the towns will not be solved satisfactorily in future. The only possibility to create a large green belt, is in the outer zone of the towns, because of the pits of brick-works, they would protect favourable conditions for rod-fishing and rowing. (Fig. 4)

3. Other duties of environmental protection

The other duties of environmental protection of the region are less important, because of the special geographical location of the region. Vitiation doesn't give us much trouble in Békés County, because it is located far away from the great industrial regions, which highly pollute the environment. The local industrial units nearly haven't any role in soiling, the protection against pollution can be settled by the settlements themselves. The communal vitiation decreased in a great deal because the usage of oil and gas heating was permitted. The vitiation, caused by traffic, means a great problem in future too. The ratio of roads with bituminous carpet is quite low, so the pollution is high, the great vehicular traffic of the towns (the higher per cent of it is trough traffic) vitiate the air of the much frequented parts of the town with gas injurious to health.

The tendency of development demands the common collection and placing of the rubbish of the centres of Közép-Békés and the utilization of it in a later period. The placing of rubbish is not satisfactory in either of the three towns, because it may pollute the ground water.

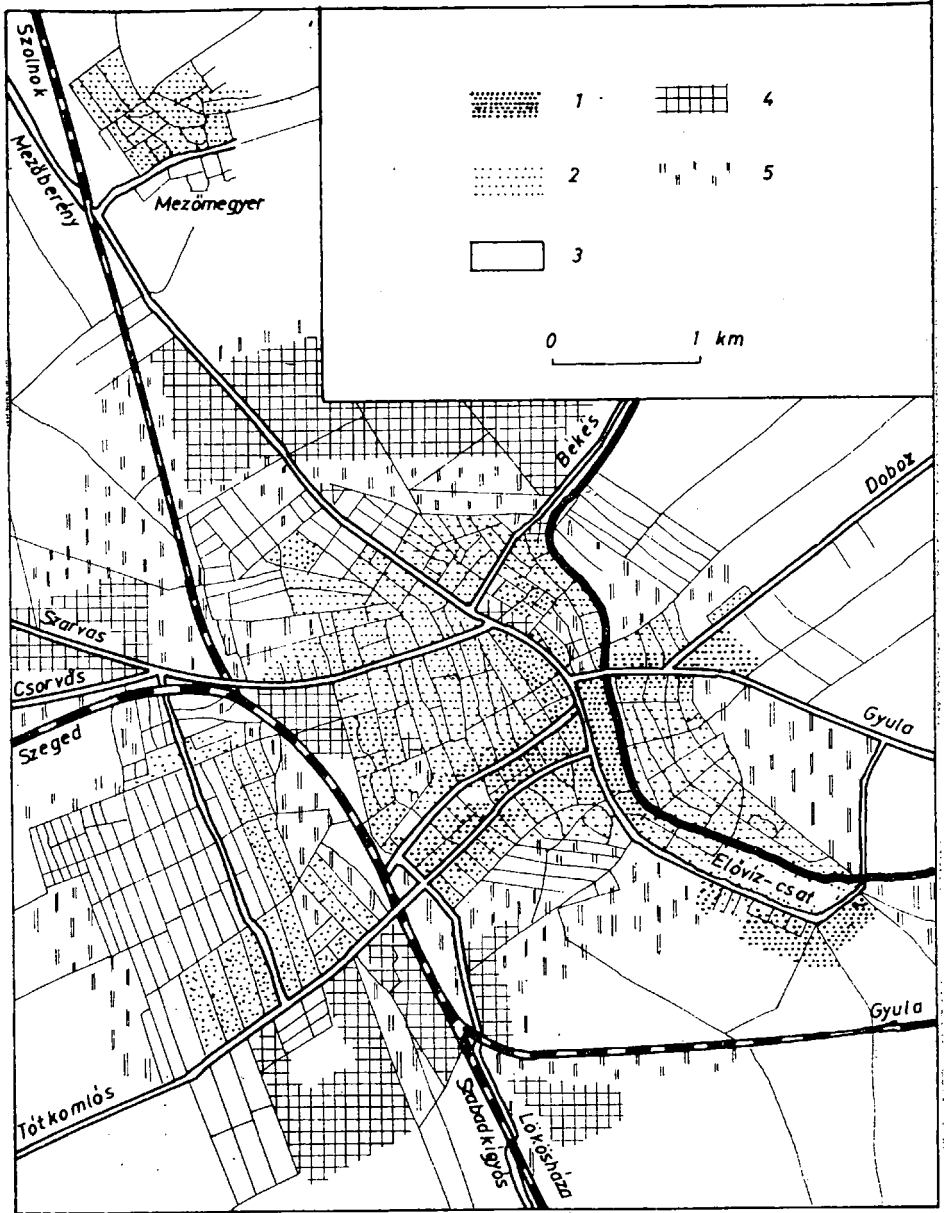


Fig. 4. The plan of land utilization of Békéscsaba
 1. Residential area with storeyed houses (with public authorities in the centre of the town.), 2. Intensive residential area with ground-plot (1—3 storey), 3. One-storeyed residential area with ground-plot, 4. Industrial area, 5. Green belt wood, park.

Summary

The concrete co-ordination of the towns of Közép-Békés region begins to assert itself in the present period of development. The majority of problems are the same, settling them in the most rational way, may be realised by co-operation and concentration of financial means. (Fig. 5.) If we take into consideration the duties of

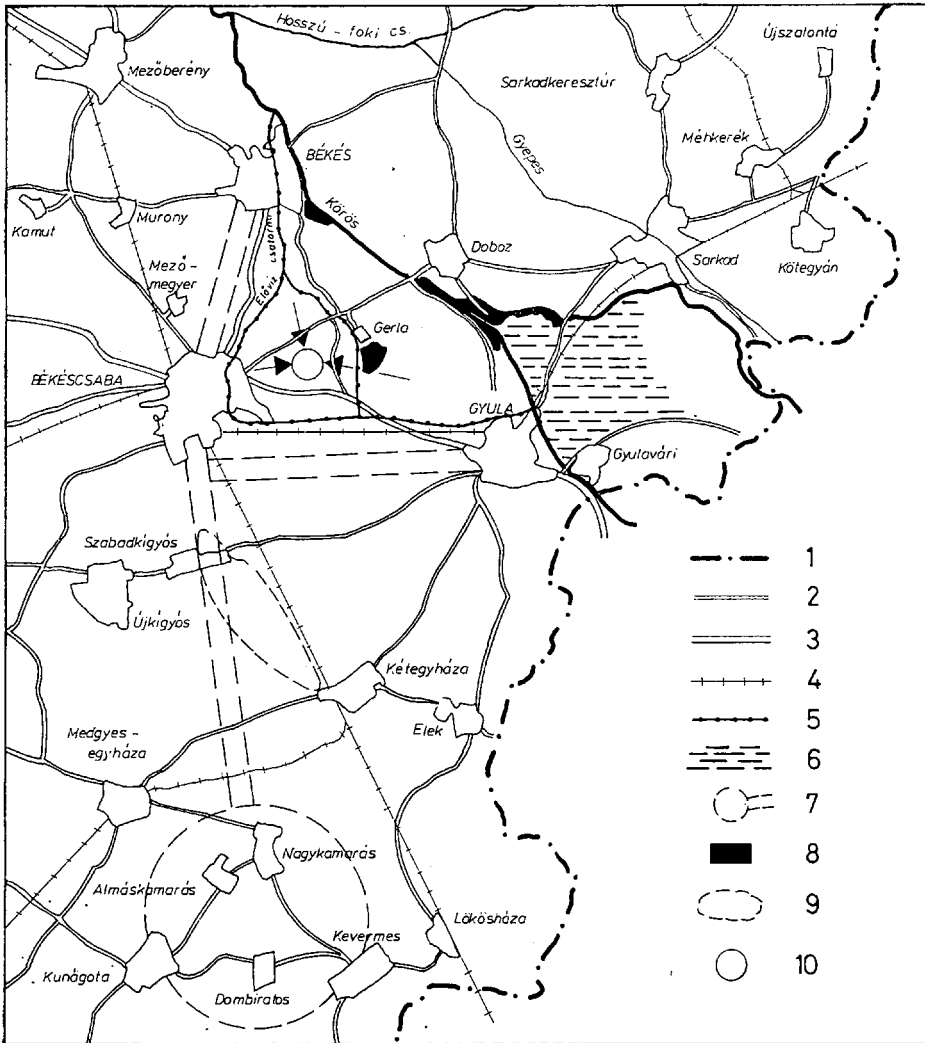


Fig. 5. Some duties of the rational utilization of environmental resources in Közép-Békés
 1. Frontier, 2. Lower-class public road, 3. Main road, 4. Railway, 5. Abandonment of pollution,
 6. Water-basin, 7. A regional hydrological system, 8. Recreation areas, 9. Szabadkigyós, territory
 of environmental protection, 10. The sufficient solution of rabbish shot.

the environmental protection from the beginning of development, they can be perfectly and cheaply carried out.

The duties can be realised by regional co-ordination successfully. We have emphasized the problem of Közép-Békés County in our study, but at concrete realization we have to consider the important troubles of other settlements belonging to the attraction region of the towns.

The duties of environmental protection may be realised by international co-operation.

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