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FUNCTIONAL TYPOLOGY OF LANDSCAPE WITH RESPECT TO RECREATIONAL NEEDS

The contemporary development of advanced societies lays ever increasing claims on planning, especially on that of economic character. The realization of relevant aims, well secured financially, depends on particular territorial systems whose categories are closely connected with the economic exploitation of the landscape, with the conditions of settlement and the possibilities offered by the natural potential of the landscape. Regional planning must, at the same time, respect the existing function of the landscape or the prognosis of its development. The necessity of complex analyses for the realization of the above-mentioned aims provides geography with extensive possibilities of application.

In contradistinction to works dealing with individual components of the landscape with the aim of the regionalization we watch in this case also the requirements of the inhabitants of the industrial and urbanized areas in the quality of the environment and their recreational possibilities in the place of residence and its near hinterland.

To ensure recreational possibilities in suitable conditions becomes a problem especially in heavily industrialized and urbanized areas. It is here that the method of functional analysis finds its most extensive utilization; three basic functions of the landscape are applied in this method: productional, residential and recreational ones. When analyzing them, it is also necessary to find a means for defining the meaning of each of these functions, for determining the priority of one of them.

The submitted article is an attempt at a functional analysis conceived in this way, with an estimation of forest stands considered as one of the basic factors of the recreational potential in the conditions of Czechoslovakia (they can be similarly analyzed in different conditions in other factors as water surfaces a. s. o.). The forest stands have in the ČSSR an economic function primarily, with possibilities of forest exploitation. Besides, however, forests in a landscape affect the quality of the living environment, too, and they have a significant share in the bioclimatic and water economic conditions, in the aesthetic and hygienic factors of the landscape and in recreational possibilities. A number of forest stands are, however, utilized for special purposes (reservations, hunting-grounds, etc.) and cannot be used for recreational aims.

We have taken into consideration the following criteria for the evaluation of forest stands in connection with their recreational function:

- a) species composition: although a number of writers regard coniferous stands as more convenient for recreation, in our conditions we must rather take into

- consideration mixed forests which, in this case, increase the effectiveness of the „dust filter” and are also more suitable from the landscape point of view.
- b) age composition: it makes itself felt especially in young stands which are impassable when densely planted and therefore not utilizable for recreation.
 - c) wood floors: the undergrowth in forests may even have several floors and the lowest floor may be so densely overgrown that older forests may be impassable even at normal density of tree stand. In that case, although they may fulfil their bio-climatic and water economic functions very well, they are—as such—inconvenient for recreational purposes.
 - d) location and size: we consider the utilization of forest stands only in those cases if they do not form isolated islands in the economically utilized landscape and if they are directly connected with other forest complexes or other areas which can be utilized for recreation. As a basic unit of size, we have chosen an area of 500 ha of stands which are passable and located in a convenient relief.

When analysing forest stands we also estimate the relief, the quality of the soils and the location, as all of them can impose limitations on recreational utilization. When estimating the relief, we take into consideration especially the sloping of the terrain and the exposition of the slopes. We regard the gradient up to 10° as the limiting value because such slopes can still be employed for the purposes connected with recreation, including the construction of buildings and roads, and they are easily passable. The other limiting value is the gradient of 20° ; above this value, the slopes are practically impassable for common holiday-makers and we must eliminate them from the considered utilizable area. Practical experiences also reveal that the quality of soils in low places is often harmfully affected by the high level of underground water. Such slimy forest grounds eliminate forest stands from recreational utilization. The location of wooded areas in the vicinity of industrial enterprises should be estimated in a similar way because they may fulfil the function of hygienic belts in noisy and dusty localities but cannot be utilized for recreation. A mere sum total of green public areas is not a decisive indicator for the estimation of recreational possibilities. It is obvious that climatic conditions of considered areas must be included in the relations affecting the utilizability. When analyzing the hinterland of the industrial region of Ostrava, we found out that the above-mentioned factors caused the limitation of the utilizability of forest stands for recreation by more than 50 per cent. Qualitative indicators must be complemented by further factors, such as the hygienic one — effects of gas emissions, the health one — the danger of contracting encephalitis, the spare dislocating a. s. o.

We can divide forest stands into three groups when carrying out their final evaluation from the point of view of their utilizability:

- a) utilizable forests — fully convenient,
- b) forests which may be utilized after certain adjustments and improvements, such as the thinning, the cutting down of the undergrowth, the draining of slimy areas, the making of paths in sloping terrains, etc.
- c) unutilizable forests — forest stands are in such conditions that they would have to be completely reconstructed for recreational utilization, which continues many years; or the qualities of the terrain and/or climatic conditions, such as steeply sloping terrains, inverse hollows, etc., are thoroughly inconvenient. This does not mean, however, that these forest stands cannot fulfil the rest of their functions; on the contrary, they usually fulfil them very well.

Forest stands estimated in this way must than be incorporated into the functional typology of the landscape. In our case, we applied, when doing so, the point of view of employment and economic basis with the prevailing industry. The division of communities considered as units of settlement can then be carried out according to a system which is commonly used in this country (Tab. 1).

Tab. 1.

Settlements with weak or even negligible economic bases of their own	with employment in the place of residence up to 35 per cent	residential type
Settlements with their own economic bases	with employment in the place of residence from 36 to 58 per cent	residential — productional type
Settlements with significant economic bases of their own	with employment in the place of residence from 59 per cent and more	productional — residential type

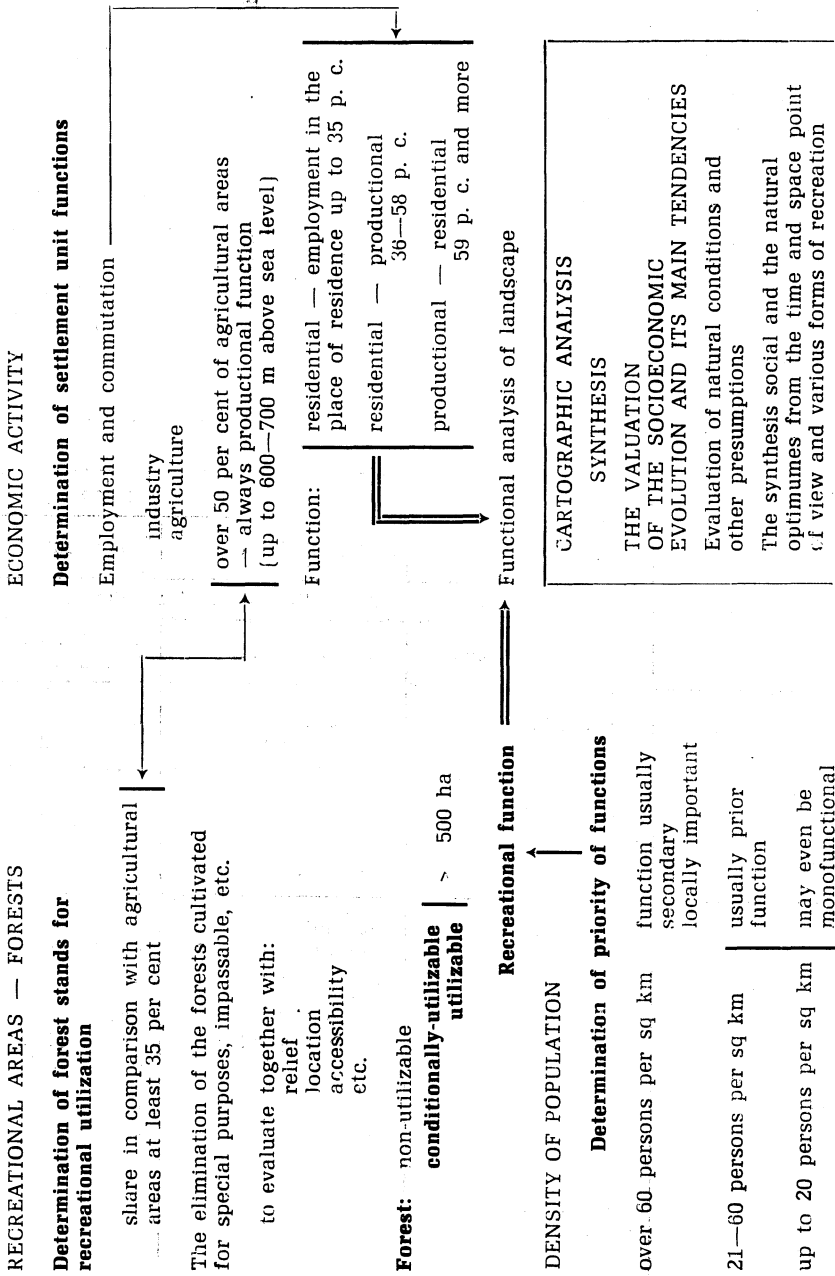
In connection with the above-mentioned types of settlements, we also take into consideration the recreational function based on forest stands regarded as a recreational potential. Besides their size, location and other qualities, we should try to find their relations to agriculturally utilized areas. If these forests represent at least 35 per cent and have all the above-mentioned qualities, we regard them as recreationally utilizable; when their share is lower, we regard the considered area as productionally-agricultural, in which forest stands — usually scattered — can serve for tourism because of their scenic value. But even the functional value of agricultural lands is dependent on other factors, such as the relief and climate, and its value will be different in lowlands and in higher mountain locations with sloping reliefs.

When determining the priority of functions, we must take into consideration the density of population, too. The recreational function of the landscape can become prior only in such places where the density of population is relatively low. We have set the limit of 60 persons per 1 sq km for this purpose, as it represents the nation-wide average. The other two functions — residential and productional ones — are usually combined with the recreational function. Only in those cases where the density of population is lower than 20 persons per 1 sq km while the capacity of the recreational potential is high and the share of agricultural areas is minimal, we can regard such a region as a purely recreational type of landscape. Questions connected with the level of equipment and accessibility are secondary in such a case and can be settled within the framework of further plans of development.

In Czechoslovak conditions, the residential function of the landscape appears as prior most frequently. In a number of cases, in the vicinity of larger towns, it even appears as monofunctional in the typology of communities; but in the typology of the landscape, other factors, especially productional and recreational, always complement it in those places where the recreational potential has a more significant capacity.

The productional function usually appears as prior only in larger towns or

Tab. 2. Functional typology of landscape.



agglomerations with the industrial basic and/or in typical productional agricultural areas in which more conspicuous factors of the recreational potential can hardly be found. But in some towns, the recreational function can play an important role, too, even for holiday-makers from more distant places: it depends on the situation of the locality and on the recreational potential. We can mention, as examples, seaside resorts in a number of states, tourist centres operating all year round in the Alps; such cases occur in the CSSR, too, though they are not very numerous — e. g. Rožnov p. Radhoštěm, Liptovský Mikuláš, Karlovy Vary, Třeboň, etc.

Each of the three basic functions — productional, residential or recreational — may hold the prior position in the typology of the landscape, while the remaining two usually make themselves felt as well. Monofunctional areas are less frequent: they are limited to several mountainous regions on the territory of Czechoslovakia.

The above-mentioned relations of all basic factors, which we analyze with the aim of the functional typology of the landscape in view, are presented in the table 2.

Tab. 3. Typology of landscape with a recreational function (with a corresponding recreational potential — forests, areas of water, etc.)

density of population number of inhabitants per 1 sq km	economic basis in the place of residence		
	low or even negligible	basis of its own	conspicuous
	employment in the place of residence		
	up to 35 per cent	36—58 per cent	59 per cent and more
61 and more	residential —recreational residential —productional —recreational	residential —productional —recreational	productional —residential —recreational
21—60	residential —recreational residential —recreational —productional recreational —residential recreational —residential —productional	residential —productional —recreational residential —recreational —productional recreational —residential —productional	productional —residential —recreational productional —recreational —residential recreational —productional —residential
up to 20	recreational	recreational	recreational

Fifteen types of landscape are theoretically possible, with the priority of functions determined by the following relations (nine types of landscape are practically possible):

The submitted system of functional analysis represents a sample which would require verification under different concrete conditions.

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R é s u m é

FUNKČNÍ TYPOLOGIE KRAJINY S PŘÍHLÉDNUTÍM K POTŘEBÁM REKREACE

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