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## RECREATION GROUNDS IN THE WARSAW SUBURBAN ZONE

### 1. Introductory remarks

The principal assumption in the conception of the organization of recreation in the Warsaw agglomeration is a tendency to develop a system of recreation grounds within the area of the city and in its external zone, which should mutually supplement each other and fulfill a variety of functions. Moreover, such a system should ensure full freedom to choose preferable forms of recreation, satisfying the needs of various users, and available for a full year's use.

A hierarchical network of amenities for everyday recreation, associated with the structure of residential districts, is assumed to develop in territories for which investment outlays should be provided by municipal authorities. This is the "recreational green land", normatively allocated, the location of which is influenced by the system of residential districts and their complexes.

The system of external (suburban) recreation includes the areas and facilities allocated normatively and organized in compliance with the natural values of the area. Suburban recreation grounds are a developed addition and they supplement the system of recreation amenities of the city.

Recreation grounds provide recreation and make a close contact with nature and the open landscape possible under conditions of possibly the least changed natural environment and within a "non-urbanized" space.

### 2. The range of the suburban recreation zone of Warsaw

The range up to 75 km from the city (Fig.1) has been established as optimal for suburban recreation on the basis of the following criteria:

- the distribution of the areas with proper values and a two-way trip which will not exceed 20 % of time intended for recreation;

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\* Mag., Biuro Planowania Rozwoju Warszawy, Warszawa, glej izvleček na koncu zbornika.

- limitations resulting from the range of recreation zones of neighbouring towns;
- prevalence of the form of mass movements, lasting from 1 to 1.5 day, instead of 2-2.5 days weekends, which have been anticipated; this limits the rational range of these outings to the radius of 60-80 km.

Actually, the inhabitants of Warsaw go in their recreational outings on distances up to 125 km. If those outings take two days, the range is 200-250 km. On the basis of studies and observations it has been established that 80 % of trips are limited to such distances.

Under the conditions of the urban development and planned expansion of urban centres the current pattern of the holiday recreation is little elastic. This means that anticipated needs for holiday recreation will have to be, in great measure, satisfied and solved almost within the same boundaries, as at present. The problem of a rational utilization of nature's resources is, therefore, exposed in a very distinct way.

The necessity to keep unchanged the rational izochrone of the trip and the "competition" of the neighbouring agglomerations cause that an expansion of the current zones of holiday recreation is hardly possible.

The anticipated range of Warsaw's suburban recreation zone largely exceeds the administrative area of the metropolitan voivodship. Therefore, the current concept of suburban recreation in the agglomeration of Warsaw and the spatial decisions, resulting from it, are:

- for the area of the Warsaw metropolitan voivodship, which is an integral element of the prepared and approved plan for the spatial development of the voivodship, a directive for implementation;
- for the area of the neighbouring voivodships, an information and postulates.

### 3. The model of the spatial pattern

The whole system of the recreation grounds of an agglomeration is composed of:

- grounds and amenities for everyday recreation,
- grounds and amenities for every week recreation,
- grounds and amenities for a yearly recreation (mainly in holiday resorts).

### 3.1. Principles of the zonal division

The following criteria have been established for use in the delineation of the range of separate zones and recreation amenities, and their distribution:

- frequency of demands for certain types of recreation;
- leisure time at the disposal of the inhabitant;
- transport means at the disposal;
- rational time to be spent for reaching the place of recreation.

On the assumption that time used for a two-day trip should not exceed 20 % of time reserved for recreation, the following determinants have been obtained which can be used for the identification of individual recreation zones:

Type of recreation	One-way trip	Bus	Railway	Car
everyday, near-range, universal, 1-3 hours	5-20 min walk			
everyday, far-range, (sporadic), 2-5 hours	13-35 min. journey	11.6 km	8.7 km	27km
holiday one-day(no stay overnight)8-12 hrs	48-72 min journey	36.2 km	32.8 km	68 km
holiday 1.5-25 days (with overnight stay) 18-28 hrs(excluding stays overnight)	118-164 min journey	57-90 km	55-88 km	110-172 km
longer stay (yearly), near-range(vacation resorts)	journey no longer then 45-60 min. from the residential place, i. e. within a range which makes it possible to commute to work, i. e. within a radius of 35-50 km.			

A yearly vacation recreation, which involves a longer stay, is in principle, not limited by the distance. Because of the priority of a holiday recreation, limited areal possibilities, as well as opportunities for organizing vacation recreation in more distant regions of the country, it has been assumed that vacation recreation will largely be curtailed in the suburban area.

On the basis of the assumptions described above and of the limiting range,

determined in the introductory remarks , the following recreation zones have been differentiated in the suburban zone of the Warsaw agglomeration:

The urban zone (M) - which includes recreation grounds and green land, connected with the place of residence of the population, i.e. situated within the city's boundaries, which can be reached on foot, or by regular local public transport means. This zone is dominated by everyday recreation.

The adurban zone (Pm) - i.e. a zone of intensive penetration of everyday recreation, at a wider range (3-5 hrs) and of holiday recreation. Areas directly adjacent to the main area of the concentration of settlement, i.e. situated at a distance up to 25 km from the core of the Warsaw agglomeration, have been included, (a 35-minute journey). This zone is accessible from the terminals of local public transport means, or by private transport. Usually, these are half-day outings. Because of its situation the zone is utilized by both far-range everyday recreation, as well as by near-range, half-day holiday recreation.

The suburban near-range zone (Pd) - which is situated 25-50 km from the town, with dominance of near-range, one-day, holiday recreation (no stays overnight), and with a share of vacation recreation resorts.

The suburban far-range zone (Pd) - which is situated 50-75 km from the town, with a rising percentage of holiday, 1.5-2.5 day outings, and an increasing share of vacation recreation.

Areas, situated outside the above suburban recreation zone, have been included into the external zone (z), in which seasonal recreation and far-range holiday outings dominate. This zone is not included in the study of suburban recreation, and only the size of demands for such a form has been established as a postulate to be addressed to regional and national planning authorities.

### 3.2. Principles of the territorial distribution of the programme in the area of the suburban recreation zone

A characteristic feature of recreation grounds, lying outside the area of urban investment, is that they are less regularly frequented because of a longer distance to the places of residence. As a rule, the peak frequency falls on days of rest from work, and in addition is also determined by the climate and territorial conditions. Often the period of high frequency is limited to summers and last between 10 and 20 days per year.

In accordance with the zonal division, frequency and the dominant character of recreation, discussed above, the following principle has been adopted as a guiding premise for the distribution, organization, and equipment of suburban centres, in which both social needs and adequate economic and utilization effects are taken into consideration.

The adurban zone (Pm) - up to 25 km. Because it lies within a close vicinity

of the places of residence, and because of the increased range of its penetration (everyday far-range recreation), priority should be given to short (everyday, holiday) outings.

The leading amenities in such a zone are centres and bases servicing short recreation and near-range tourism with a reduced programme of services.

Longer and overnight stays are not anticipated in principle. Limited catering facilities and durable construction should be provided for territories and facilities which will be utilized throughout the whole year. It is anticipated that buses running on the so-called "green lines" will meet transport requirements of the mass movements during holiday peak hours.

The near-range ( $Pd^I$ ) and far-range ( $Pd^{II}$ ) suburban zones - 25-75 km.

As the rate of penetration of those zones is uneven because of the peaks of holiday outings, objects and facilities in the areas of increased penetration should - for economic reasons - be amalgamated with those for seasonal recreation (longer stays). The leading amenities in such a zone are multi-functional centres, providing services for short and long recreation<sup>x/</sup>.

The programmes for multi-functional centres include, in addition, services offered for leisure time in the broad sense of the term.

The differentiation of a near-range zone (25-50 km) and a far-range zone (50-75 km) is based on both qualitative and quantitative aspects. Holiday recreation and various forms of vacation recreation prevail in the near-range zone. Holiday recreation is there supplemented by amenities suitable for organized vacation recreation. In the far-range zone vacation recreation, organized mainly by the State and other institutions is an independent, isolated complex, or a basis for multifunctional system. Centres with a full programme of recreation are usually associated with areas privileged from the viewpoint of transport facilities, i.e. they are situated at a crossroads, or near a railway junction in regions where a great frequency can be expected.

Tourist centres and bases should be located along transport routes and lines as to make an unrestrained penetration of natural recreation territories in the hinterland possible. Similarly, summer cottages, weekend allotment gardens, and recreation resorts should be located again at an easy access, mainly in the near-range zone, i.e. up to 50 km from the town.

Organized recreation centres should be situated, as a rule, at longer distances

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A typical centre in this respect is the recreation centre of the Trade Union of the Building Trade and Construction Materials Industry, situated at Rynia at Zegrze Artificial Lake.

from mass transport facilities. Depending on local conditions it is anticipated that 10-20 % of the total number of amenities and territories should be adapted for recreation, available throughout the whole year.

#### 4. Recreation activity of the population. A perspective hypothesis of the development.

It has been estimated that on days of rest from work about 17 % of Warsaw's inhabitants (about 240 thousands) and about 5 % of the inhabitants of the external zone (about 40 thousands), i.e. a total of about 280 thousand people are in search of recreation. Besides holiday recreation in the suburban zone about 150 thousand people per year take a rest under one of the forms of recreation (workers' organized vacations, school holidays, summer stays) Suburban recreation develops quite dynamically, at the rate of yearly accrument of 5-8 %.

In perspective planning it is anticipated that, on the average, 30 % of inhabitants will participate in holiday-vacation outings, of which:

- 35 % will be the inhabitants of the central system,
- 25 % will be the population from new development belts,
- 10-15 % - from other centres, and
- 6 % - from rural settlements.

As far as vacation recreation is concerned (recreation homes controlled by the State or other institutions, boarding houses), it is anticipated that places for about 300 thousand people, i.e. about 15 % of the total number of vacationists, will be supplied. For recreation construction out of private means (weekend houses, cottages) about 20 thousand sites will be provided in the initial stage, in the form of complexes, organized in open land or within urban settlements. The sites will be outside land reserved for open Saturday-Sunday outings. Agricultural land, forests, afforested areas, and a 100 m belt around open water sheets will be excluded also.

Documentation compiled for the area of the metropolitan voivodship indicates that approximately 20-25 % of anticipated applications for such sites will be received in the metropolitan voivodship. It has been assumed that on the average 20 % of the population will be interested in acquiring such sites.

## The Warsaw Agglomeration, Suburban recreation

### Regionalization of requirements - Perspectives

Types of recreation	Perspectiva	of which (in thous. of people)		
	prognosis in thousands of people	the metro- politan voivodsh.	neighbour- ing voi- vodships	more distant regions of the country
Holiday recreation	720	490	148	82
Annual recreation (workers' organized vacations, school holiday, summer stays)	2000	156 (26thous. beds)	144 (24 thous. beds)	1700
Weekend houses	80	20	60	-

#### 5. The spatial-programme concept

To allocate the recreation programme and to solve spatial problems of urban recreation of Warsaw the following general assumptions have been adopted and expressed as postulates:

- to intensify economic development in the zone of great penetration, i.e. mainly in the adurban area,
- to adapt frequency and forms of economic development to the natural capacity of the area, while preserving its properties of a natural environment in some more distant regions,
- to adapt functions and the programme of the centres to the natural predispositions of the area,
- to increase attractiveness and power of absorption of the suburban recreation zone of Warsaw through the redevelopment of the network of water reservoirs of various sizes,
- to concentrate economic development in selected regions.

5.1. Recreation values of the area, selection of regions, premises of their economic development (Fig. 8)

Recreation regions were differentiated on the basis of the evaluation of the area from the viewpoint of recreation. It was made by means of a grid of squares, each representing an area of 100 ha.

The subject of the analysis was to identify these properties of the natural environment which make recreation attractive, i.e. forest, water, land relief, visual values, and to classify them according to a specially drafted point scale.

The synthesis of the recreation evaluation was made by summing up individual points and establishing the following four-degree division of territories into:

- not or little attractive - 0 - 1.5 point,
- medium attractive - 2-2.5 points
- attractive - 3-5 points
- very attractive - over 5 points

On the basis of the valorization and an analysis of accessibility to the given area, 27 regions were differentiated in the suburban recreation zone. Those regions are anticipated for the concentration of recreation and tourist development. They contain:

- 7 regions with a dominant function of recreation associated with water environment,
- 6 with a forest function,
- 14 with forest-water or water-forest functions.

Out of the total of 27 suburban recreation regions 15 are situated within the metropolitan voivodship, 3 - only in part, and 9 lie in the area of the neighbouring voivodships.

The following directives and principles of economic development were put forward for the differentiated regions:

- to establish six multi-functional recreation parks in direct vicinity of urbanized belts for mass recreation,
- to recognize the Kampinos National Park as a protected region, accessible only for sightseeing tourists, and excluded from mass penetration,



Postulates for forest development are as follows:

- to reserve the interiors of forests only for individual penetration, as a rule,
- to redevelop recreation centres, accessible for everybody, which are situated on the fringes of large forest complexes, in places where it is possible to construct water reservoirs and swimming pools and along motor roads (inns, camping sites, parkings) for motorized tourists using their own camping equipment,
- to transform into properly equipped forest-parks, those parts of forests which lie in the zone of great penetration, i.e. directly adjacent to the built-up areas of cities; easily accessible on foot.

### 5.2. The spatial pattern

The concept of the spatial structure of the suburban recreation area anticipates a close association and integration of the system of recreation grounds in the Warsaw agglomeration with the systems of nature conservancy and the regulation of climatic conditions of urbanized zones.

To obtain this end the following measures are proposed:

- to organize a system of recreation green belts in the central part of the agglomeration (Warsaw); this system should be based on and refer to the line of the river Vistula, as well as to the radial system of open territories, which will separate the built-up urban area and will wedge into the city centre, as closely as possible;
- to lay out, in the area of urbanized belts of the external zone, green spaces arranged in a comb-like pattern in accordance with the axis of those belts;
- to build up a system of recreation areas in the external belt in accordance with the system of landscape protection and based on the green belt of high plants (the Forest Protective Belt, called the Warsaw Forest Complex), which is being planted around Warsaw.

The systems of recreation areas and of landscape protection in the suburban zone form a continuous pattern, associated with the system of urban green belts and are shaped as belts running parallelly to or separating the urbanized zones.

In the first stage of development of the suburban recreation zone of Warsaw it is anticipated that a rational use will be made of available resources and values of the natural landscape. In the subsequent stage, because those resources will gradually be exhausted, "artificial recreation environments" should be produced as suitably equipped and programmed areas. Intense development

will take place in the zone of great penetration, i. e. the areas adjacent to the concentrations of urban settlement (urbanized belts) and in regions easily accessible from the viewpoint of transport.

The principle of raising the rate of development and utilization of those areas for recreation is also associated with a postulate of retaining a wide open area for individual penetration and extensive use in the hinterland of those concentrations.

### 5.3. Transport connections

The spatial distribution of recreation areas and their amenities should be based on direct interrelations of recreation regions with transport sources. A system of radial-circular transport connections should link together the demarcated recreation regions with all large urban complexes. The principle of communicating vessels, if applied for this purpose, will make it possible to organize traffic in the area, while a proper selection of territories will relieve the Warsaw transport system from transit recreation traffic, as well as will counteract its accidental accumulation in certain regions.

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### REKREACIJSKE POVRŠINE V OBMEŠTJU VARŠAVE

Hierarhično omrežje za vsakodnevno rekreacijo primernih površin, povezanih s strukturo stanovanjskih predelov, se razvija na območjih, za katera občinski organi zagotovijo ustrezna investicijska sredstva. To so "rekreacijske zelene površine", ki so normativno določene in ki se locirajo glede na sistem stanovanjskih predelov in njihovih kompleksov.

Za obmestno rekreacijo je optimalna razdalja do 75 km. Sedaj odhajajo meščani na rekreacijo celo 125 km iz mesta. Če bivanje traja dva dni, sega ta razdalja 200 do 250 km daleč. Na osnovi raziskav in opazovanj je bilo ugotovljeno, da je 80 % potovanj omejenih na to razdaljo.

Celoten sistem rekreacijskih površin aglomeracije sestavljajo:

- površine in privlačnosti za vsakodnevno rekreacijo;
- površine in privlačnosti za rekreacijo ob koncu tedna;
- površine in privlačnosti za rekreacijo v času letnega dopusta (v glavnem v turističnih krajih).

Za razmejitve oddaljenosti posameznih con in rekreacijskih točk so bili vzeti naslednji kriteriji:

- pogostost povpraševanja po določeni obliki rekreacije;
- dolžino prostega časa, ki je na razpolago prebivalcem;
- prevozne možnosti; (prometna dostopnost)
- racionalnost dostopa v času.

Na osnovi predpostavke, da čas, porabljen za pot na dvodnevni rekreacijski odmor, ne sme preseči 20 % časa, namenjenega rekreaciji, je bilo obmestje varšavske aglomeracije razdeljeno na naslednje rekreacijske cone:

Mestna cona, ki vključuje rekreacijske in zelene površine, povezane s stanovanjskimi območji in dosegljive peš ali z javnimi mestnimi prometnimi sredstvi. Tu je razvita vsakodnevna rekreacija. Primestna cona, to je cona intenzivne vsakodnevne rekreacije za daljši čas (3-5 ur) in za rekreacijo ob praznikih. Cona sega do 25 km izven mesta in je dostopna z javnimi prometnimi sredstvi (35-minutna vožnja).

Bližnja obmestna cona v oddaljenosti 25-50 km od mesta s prevlado enodnevnne rekreacije in s posameznimi letoviškimi kraji.

Daljna obmestna cona v oddaljenosti 50-75 km od mesta z večanjem deleža prazničnih eno in pol ali dvo in pol dnevnih izletov in z vse močnejšo počitniško rekreacijo.

Ocenjeno je bilo, da se ob dela prostih dnevih približno 17 % meščanov (240 000) in približno 5 % prebivalcev zunanje cone (40 000) ukvarja z rekreacijo. Za bodočnost se računa, da bo v povprečju 30 % prebivalcev udeleženih pri počitniški rekreaciji.

Za varšavsko obmestje je bilo na osnovi valorizacije in analize dostopnosti do posameznih območij opredeljenih 27 regij. Od tega ima rekreacija v 7 regij prevladujoč poudarek na vodnem okolju, 6 na gozdni funkciji, pri 14 pa se dopolnjujeta gozdno-vodna ali vodno-gozdna funkcija.

Pojem prostorske strukture obmestnih rekreacijskih površin je tesno povezan z vključitvijo sistema rekreacijskih površin varšavske aglomeracije s sistemom ohranjanja narave in uravnavanja klimatskih pogojev urbaniziranih con. Da bi dosegli omenjeno stopnjo integracije so bili predlagani naslednji ukrepi:

1. organizacija sistema zelenih rekreacijskih pasov v osrednjem delu aglomeracije. Sistem naj bi slonel na smeri poteka doline Visle in na žarkovnem sistemu odprtih površin, ki bi ločevale komplekse pozidanih površin in bi se kar najbolj približale mestnemu središču.
2. Ureditev zelenih površin na območju urbaniziranih pasov v zunanji coni v skladu s potekom osi teh pasov v obliki satovja.
3. Izoblikovati sistem rekreacijskih površin v zunanjem pasu v skladu s sistemom varovanja pokrajine in slonečih na zelenem pasu visokih rastlin (pas zaščitnih gozdov).