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THE POTENTIAL OF SETTLEMENT PATTERN—THE ACTUAL PROBLEM OF THE GEOGRAPHY OF SETTLEMENT.

Štefan Očovský: Le potentiel du peuplement — le problème actuel de la géographie du peuplement. Geogr. Čas., 32, 1980, 2—3; 2 fig.

La contribution fait l'esquisse des aspects principaux de l'étude du potentiel de la géographie du peuplement et présente une des alternatives de l'établissement du potentiel du peuplement de la Slovaque. Le potentiel du peuplement est compris comme une évaluation du bilan du degré de convenance des résidences pour remplir leurs fonctions d'habitation. Ce pourquoi on a établi le potentiel du peuplement sur la base de l'évaluation de la qualité d'habitation que les résidences offrent aux habitants (l'ensemble des indicateurs de la qualité du fonds des habitations dans les villages et de l'équipement des villages dans la matière des services). Le résultat obtenu par le procédé méthodique peut être considéré comme le potentiel partiel du peuplement de la Slovaquie.

The accompanying sign of the process of geography to become an exact science and of the development of its methodology are also the transformations in the thematic content of geographic researches. They are manifested as a result of a purposeful orientation of geography to the solution of problems related to the all-social order. It is why the changes in the thematic aim of researches are taking place simultaneously with the innovatory tendencies in the sphere of the tasks and aims of geographic researches. The objective of the application of researches requires mainly an emphasis of their prognostic aspect. If the phase of prognostic in the field of geography is not reached, the geography prepares at least the starting position. In this case the aim of the geographic research is to obtain such informations which can be used as documents for formulating the application conclusions. An important result of this kind is, for example, the establishment of the geographic landscape potential or of the individual landscape elements.

GENERAL QUESTIONS OF THE SETTLEMENT PATTERN POTENTIAL

The term potential related to the landscape elements a specific significance is assigned, differing from certain cases of its use not only in other science disciplines, but also within the geography. In geography usually a double content is attributed to the term potential with regard to the potential of

a certain area or of selected physico-geographic and socioeconomic elements in a given area, it may be a summarizing aspect on the one hand, and an aspect possibly functional on the other hand. Meanwhile as a criterion for the study, establishment and evaluation of the potential applies in general the standpoint of the society's needs. Therefore as the first aspect the degree of possibility to dispose of the properties of the chosen element or set of elements appears. Consequently the potential reflects the relationship of properties of the element to the society's requirements on the possible level.

Theoretically the potential can be considered also with regard to other than the society's requirements. In this sense the potential is used mainly in the geographic branches. There the sense, however, is exactly defined, in which the term or the term connection is understood. In geography it is started from the general use of the significance of this term which, however, is modified to the geography conditions and to its terminology.

In the first of the two stated cases under the geography potential we understand, for example, a set of quantitative characteristics, appearing within the given sphere or element in a certain area and in a certain time. This understanding is near the concepts „economic potential“, „industrial potential“, scientific technical potential“, etc. Analogously with them, for example, in the sociological geography under the term connection „industrial potential in Slovakia at the beginning of 1980's“ is understood the set of production capacities of the industrial branches, judged in its spatial differentiation.

Differently from this approach in the second use of the term potential is emphasized its possible-functional aspect. Then the potential of the landscape or of the landscape element expresses a set of possibilities to fulfil certain functions, or a set of conditions which can be used rationally for certain aims. Meanwhile the rationality or the profitability of the use to a certain limit, is also an important side of the potential. From the second way of understanding the term potential, it is started from the potential characteristic of the settlement pattern in Slovakia.

In the geography of inhabitants and settlements the indication population potential is in use since long. Not only the indication from the physical sciences was taken over with it, but also the method of its establishment, based on the quantification of the population territorial grouping. In this case it is a summarizing aspect of the potential, because it is not started from the tasks fulfilled by the population for the socioeconomic phenomena and processes. An answer to the question, why and with regard to what sense of use has the given population potential been established, has not been obtained.

With that in applying the possible-functional aspect it should be started from the possibility to use the population in individual land units for the chosen aims, corresponding with the geography content. In the first place, in this case, from the concrete point of view, doubtless it should be the optimum possibilities to use the resources of man power. Apart from it we should note that the understanding of the population potential as of the highest number of inhabitants who can really live in a certain area, defined in the demographic literature, in geography it is more suitable to replace it by another indication, for example, by the landscape potential for the population. An analogous case is the so-called optimum population potential.

The term potential till now had a very small frequency in the settlement geography literature. Mostly it was related to the possibilities of the spatial extension of the settlements, i. e. the coverage of surfaces. However, in this case it is in fact the establishment of the area extent, suitable for the land coverage and not the potential proper of settlements. This example shows the necessity to solve the next problems of the potential, because the danger of its dual understanding originates in them.

Meanwhile under the term population potential, used in the literature to indicate the result of a mathematical evaluation of relations between the territorial grouping of inhabitants, we understand univocally the „interior“ potential, which we establish on the basis of symbols and characteristics of the population. It is possible to approach the connection potential from two stand points.

The first possibility represents the determination of optimum conditions for the development of the settlement pattern in a given landscape. From the geographical aspect, in this sense, for example, balanced are the spatial possibilities of the settlement development and the degree of a real landscape „weighting“ by settlements is searched. Here belong, for instance, the above mentioned investigations of possibilities of land coverage. In a more exact expression, however, in these cases it is not the establishment of the settlement potential, but the landscape potential, or the relief or other elements for settlement, similarly as in the case of the maximum or optimum population potential.

In reality therefore we consider for correct to approach the term settlement potential only from the second stand point which is based on the evaluation of the potential proper of the settlements related to their functions. This means together with the application of the possible- functional principle that in examining the settlement potential our aim will be the balance evaluation of possibilities given to settlements for an optimum accomplishment of their functions and which the society can dispose of. In this, naturally, one cannot avoid even the use of several quantitative characteristics of the present state of the settlement. These data, however, are not interpreted as partial symbols of the settlement potential, but only as an implement for its establishment and qualification.

The settlement potential forms part of the geographic potentials of higher ranks and is simultaneously composed of partial potentials. Fig. 1 suggests that the settlements potential is analyzed in the context with the landscape potential. At lower levels it is possible to establish partial potentials on the basis of individual settlement components, or their groups. The complexity of the potential is reduced by passing to lower units, elements and their parts. Therefore on the level of the partial potentials it can be established on the basis of several selected symbols. This property of the potential was used in the presented alternative of this settlement potential of Slovakia.

THE PARTIAL SETTLEMENT PATTERN POTENTIAL OF SLOVAKIA

The methodic process of establishing the settlement pattern potential of Slovakia starts from the substance of the potential, we delineated in more

detail in the preceding text. In accordance with the possible-functional principle therefore our aim will be the balance degree of the settlements suitability for the accomplishment of their functions. Since one of the primary functions of settlements is their residential function, we consider for the settlement potential basis the settlement suitability for the population dwelling. The possibility aspect in this delineation is represented in the form of

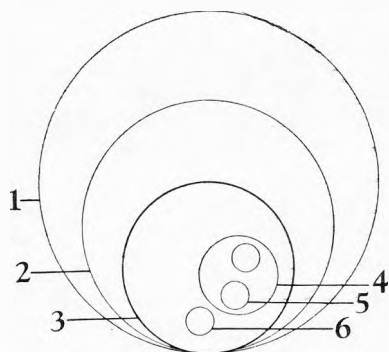


Fig. 1. An example of the scheme of hierarchical position of the settlement potential.

1 — the landscape potential, 2 — the potential of the socioeconomic sphere, 3 — the settlement potential, 4—6 — partial settlement potentials.

comparing the real state of the individual land units with the optimum condition, enabling a qualitative grading of the land units. The given delineation differs substantially from the simple summarizing approach to the potential establishment.

Since the potential is of a dynamic character, it changes in time dependently on the changes of factors, which are used when establishing it. In the presented example it is the settlement pattern potential of Slovakia in 1970. All the used document data originate in this year. To be able to measure the suitability degree for dwelling, it was started from the set of quantified indicators, which were further evaluated and synthesized.

The suitability of the urban units to fulfil their residential functions was judged on the basis of evaluating the indicators of two types. Their selection resulted from the importance by which they have their share in creating the quality of the residential environment. Meanwhile the residential environment is approached as to the result of acting of a large set of factors, from which we consider only the factors of geographic nature, it is why, even in evaluating the residential environment our objective are only certain of its sides. The first indicator is dwelling in houses dependently on the quality of the housing fund, the second indicator are the conditions of dwelling in villages, derived from the equipment of villages with services.

Two levels of the spatial and concrete view of the geography on the residential environment are reflected in these indicators. The residential environment in the narrower sense can be characterized according to the fundamental components of the urban units, i. e. houses, apartments and living rooms. The evaluation of dwelling conditions from the situation view point of individual urban units, or their parts, relates to the residential environment in a larger sense. On this level the concept dwelling extends from

the level of the housing fund to the level of the place of residence (village, town quarter, etc.), so that beside the standard of the housing fund a primary importance acquires the complex of external conditions, which depend on the localization of the apartments with regard to the working place, service facilities, the total character of the environment, etc.

The first indicator, taking part in the establishment of the settlement partial potential in Slovakia, is the result of the evaluation of the quality parameters of the housing fund, conditioning the standard of dwelling. For the balance of dwelling conditions 9 symbols were chosen, characterizing the main sides of dwelling. They were symbols reflecting the properties of the construction techniques of apartments (age, building material, size according to the living surface and number of rooms), equipment of apartments (central heating, bath-room) and population of apartments (relationship of the number of inhabitants to the dwelling area and number of rooms, the number of census households to the number of apartments).

The mentioned symbols were processed for all villages so that their numeric values in villages, expressed in percentages or averages, were compared with the average values for Slovakia, the degrees of deviations were determined and these were adjusted by coefficients according to the importance of given indicators. The resulting numeric data represent a quantified evaluation of the housing fund quality from the dwelling aspect. They were represented on map which shows the spatial differentiation of the dwelling conditions in a narrower sense according to the villages with regard to the average situation in Slovakia. The map was used as one of the documents for the establishment of the partial settlement potential.

The second indicator was based on the evaluation of the urban unit suitability for dwelling from the facilities of services aspect which the population has its disposal in the residential place of its village. Meanwhile it is started from the reality that the occurrence, adequate capacity and technical level of the service facilities increase considerably the urban unit suitability to ensure the dwelling conditions for the population.

From the set of service branches selected for these purposes were the fundamental and generally spread ones, for which are considered mainly the retail trade, health services and education. Taken were the data on the distribution of non food retail stores district health centres and polyclinics and primary and secondary schools. On the basis of these data was evaluated the degree of the village equipment, meanwhile their general centre functions were also taken into consideration. It was proceeded by the building method and the equipments were differentiated according to their importance. The results were represented on map, giving the differentiation of the dwelling conditions in a larger sense in the villages of Slovakia.

In accordance with the accepted methodic process of establishing the settlement potential and by combining the said maps was prepared the resulting map which in the generalized form (the reduced number of the degrees of the potential values) is shown in Fig. 2. On it is represented the classification of villages according to the partial settlement potential from the dwelling conditions aspect. Villages with the positive values on both basis maps were considered as villages with a high potential, with negative values for

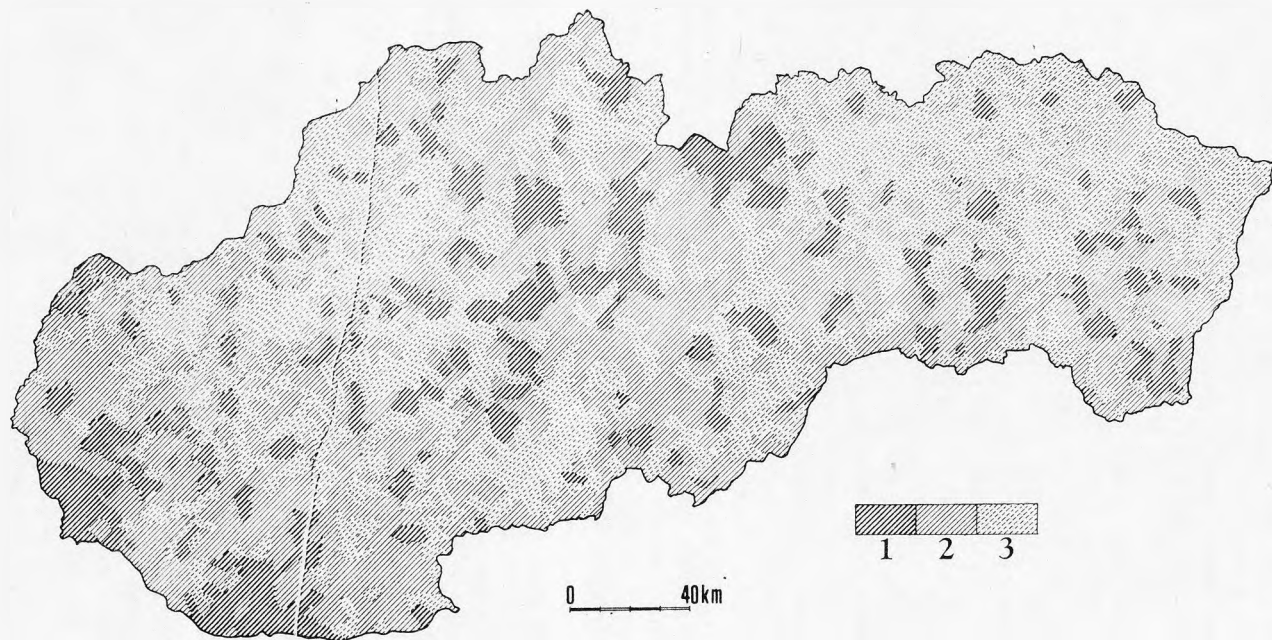


Fig. 2. The partial settlement potential of Slovakia.
The potential from the dwelling aspect
1 — high, 2 — average, 3 — low.

vilages with a low potential. Villages with an average, or combined value were classified in the medium degrees of the potential.

The map represents in a general form the differentiation of the territory of Slovakia according to the values of the partial settlement potential. It can be interpreted as the representation of spatial differences in the qualitative parameters of dwelling with regard to urban units with average or with the most suitable conditions, as well as an expression of the degree of attractiveness of settlements for the population with regard to its requirements for the residential environment.

It must be emphasized that the used methodic approach was aimed at establishing the partial settlement potential on the basis of two kinds of indicators. Even if they were the principal indicators of settlement and their cartographic expression was preceded by an analysis of a large set of symbols, we can consider the detected potential solely as partial. Apart from it we could approach the settlement potential from further stand points. The further partial potentials could, for example, be established as degrees of the settlement suitabilities for other activities or lines of their use (for production, for tourism, etc.).

The said experiment provides a possibility to precise the delineation of the term settlement potential and shows one of the ways to its establishment. Simultaneously confirmed was the fact that from the view point of attaining the results which would be the most applicable in practice, it is necessary to take aim above all at the partial potentials. At the same time the partial potentials either form a set with thematically a different orientation, or they can be grouped hierarchically by extending the take of the one theme.

In the case of a hierarchical procedure from simply constructed potentials to the more complicated ones a certain kind of indicators remains the core of documents for establishing the potentials. On the basis of this principle it can be stated that the settlement potential is one of the fundamental starting points for the potential establishment of the residential landscape type. In this case the residential functions are one of the decisive phenomena which appear in the settled landscape. The importance of the settlement potential is increased by it, as well as its partial potentials and the sphere of their application is extended. The result was that the questions of the settlement potential were comprised in the research program, aimed at the potential study of the landscape physico-geographical and socio-economical elements, which is being solved at the Geographical Institute of the Slovak Academy of Sciences.

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POTENCIÁL OSÍDLENIA — AKTUÁLNY PROBLÉM SÍDELNEJ GEOGRAFIE

V súčasnej fáze geografických výskumov sa stále väčšia pozornosť venuje otázkam geografického potenciálu krajiny alebo jednotlivých krajinných elementov. Do riešenia takto orientovaných vedeckovýskumných úloh sa začlenilo aj stanovenie potenciálu osídlenia. V predložennom príspevku sa na základe doterajších výskumných

výsledkov stručne načrtávajú hlavné aspekty štúdia potenciálu v sídelnej geografii a prezentuje sa jedna z alternatív určenia potenciálu osídlenia na území Slovenska.

Pri vymedzení obsahu termínu potenciál sa nevychádza z jeho sumarizačného aspektu (súbor kvantitatívnych charakteristík, ktoré vystupujú na určitom území v danom čase), ale z posibilitno-funkčného aspektu. Potenciál sa preto chápe ako súbor možností plniť určité funkcie, resp. súbor podmienok, ktoré sa dajú racionálne využiť na určité ciele. V podmienkach sídelnej geografie potom potenciál osídlenia nemožno zamieňať s potenciálom krajiny, reliéfu alebo iných elementov pre osídlenie. Musí sa teda hľadať vlastný potenciál osídlenia vo vzťahu k ich funkciám, čo pri uplatnení posibilitno-funkčného princípu značí, že sa treba zamerať na hodnotenie možností, ktoré sú dané sídlam pre optimálne plnenie ich funkcií a ktorými môže spoločnosť disponovať.

Potenciál osídlenia je súčasťou potenciálu krajiny a člení sa na čiastkové potenciály. Keďže k nižším hierarchickým úrovniam sa zložitost potenciálu znižuje, čiastkové potenciály možno určiť na základe malého počtu znakov. Vzhľadom na túto vlastnosť potenciálu sa v tomto príspevku vychádzalo iba z obytných funkcií sídel, takže získaný výsledok možno pokladať za čiastkový potenciál osídlenia Slovenska.

Pracovne sa čiastkový potenciál osídlenia vymedzil ako bilančné hodnotenie stupňa vhodnosti sídel na plnenie ich obytných funkcií. Stanovil sa na základe hodnotenia parametrov bývania na úrovni bytového fondu i podmienok bývania, odvodených od vybavenosti obcí zariadeniami služieb. V prvom prípade sa vychádzalo zo súboru znakov, charakterizujúcich stavebnotechnický stav, veľkosť, vybavenosť a zaťaženosť bytov. V druhom prípade sa bral do úvahy výskyt zariadení služieb, ktoré má obyvateľstvo k dispozícii v obci svojho bydliska. Na základe rozmiestnenia zariadení maloobchodu, školstva a zdravotníctva sa hodnotila úroveň vybavenosti obcí, pričom sa prihliadalo aj na ich strediskové funkcie. Kombináciou týchto podkladov sa zostavila výsledná mapa, ktorú v zgeneralizovanej podobe znázorňuje obr. 2. Možno ju interpretovať ako vyjadrenie stupňa atraktívnosti sídel pre obyvateľstvo s ohľadom na jeho požiadavky na obytné prostredie.

Okrem uvedenej alternatívy možno určiť ďalšie čiastkové potenciály osídlenia, napr. ako stupne vhodnosti sídel pre výrobu, cestovný ruch a pod. Tým sa rozšíria informácie o potenciáli osídlenia, ktorý je dôležitým východiskom pre stanovenie potenciálu typu obytnej krajiny.

Obr. 1. Príklad schémy hierarchickej pozície potenciálu osídlenia.

1 — potenciál krajiny, 2 — potenciál socioekonomickej sféry, 3 — potenciál osídlenia, 4—6 — čiastkové potenciály osídlenia.

Obr. 2. Čiastkový potenciál osídlenia Slovenska.

Potenciál z aspektu bývania.

1 — vysoký, 2 — priemerný, 3 — nízky.