RURAL TRANSFORMATION IN HUNGARY

AKADÉMIAI KIADÓ · BUDAPEST

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Edited by
GY. ENYEDI

(Studies in Geography in Hungary, 13)

In Hungary the process of industrialization and urbanization after World War Two has brought about fundamental changes in the rural settlements as well. How radical these changes have been can be realized from the fact that the social structure of agriculture, together with the traditional function of villages, has been affected by two phases of ultimate historical significance: the land reform and the collectivization.
The major results have been: social-occupational restratification and a pronounced decrease in the population in rural areas, shifts in the rural settlement network, new ways of land utilization, novel traits in the living conditions and new functions appearing in village settlements (industry, tourism), and so on.
The introductory study presents a comprehensive picture of the changed face of the Hungarian village. Each of the six papers following this deals with a special characteristic feature of the transformation. Much attention has been paid by the authors to the geographical consequences of the post-war social-economic developments in the country.

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Publishing House of the Hungarian Academy of Sciences
BUDAPEST

ISBN 963 05 1025 1

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STUDIES IN GEOGRAPHY IN HUNGARY, 13

Research Institute of Geography
Hungarian Academy of Sciences, Budapest

Selected Papers submitted at the XXIIIrd IGU
Conference, Moscow, 1976

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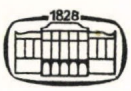

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English text edited by
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ISBN 963 05 1025 1

Printed in Hungary

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FOREWORD

One of the fundamental research tasks of Hungarian economic geography is the scientific delineation of regional planning activities. The long-term purpose of regional planning is the creation of an equilibrium among the various regional units of the state. This regional equilibrium serves a dual purpose: on the one hand, the equalization of the standard of the population and, on the other, the efficient growth of the national economy.

Regional development policies have hitherto paid little attention to the development of rural areas. Until recently regional development policies concentrated primarily on the growth of the urban network. The rural area was included in regional plans only as a space that was subordinate and primarily dependent on the towns. Rural development was fundamentally regarded as part of the problem of agrarian development. Therefore, planners regarded rural regions as spaces that did not possess dynamic functions and, therefore, had no significant effect on the development of towns. Today the food and raw material production of rural regions is of fundamental economic importance and their continued development is, consequently, a precondition for the efficient operation of towns located in rural areas. In rural areas a whole series of new functions have appeared, functions that are closely connected with urban activities. Therefore neglecting rural development has an adverse effect on urban processes. It is, of course, natural that in the relationship between village and town the initiative belongs to the towns, but a balance that serves the interests of both can be created. One of the fundamental political goals of Hungary is the elimination of existing differences between villages and towns. Naturally this goal does not mean the disappearance of functional differences between the two, but rather refers to the desire to eliminate social differences and to terminate backwardness in rural living patterns.

This volume provides a comprehensive review of the transformation of the Hungarian village that has taken place during the last thirty years. In the Hungarian village of today one can see side by side the existence of tradition and modernity, regression and dynamic growth. Several aspects of this transformation are of obvious interest to the student of the economic and human geography of rural areas. In our research we have tried to emphasize the dynamic elements of rural development and thereby point out trends that are evolving. Perhaps the experiences of Hungary and the attempts to conquer backwardness can be utilized by other states grappling with similar problems.

Gy. Enyedi

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THE IMPORTANCE OF RURAL TRANSFORMATION

One of the fundamental characteristics of the development of modern society is the simultaneous alteration of (a) the relationship between towns and villages and (b) the internal structure of the village.These spatial transformations are the result of the mutual interrelationships between towns and villages, although the initiative is played largely by the urban area. Research into regional development and its practical applications seems to suggest that the process of rural transformation is unidirectional stemming from the towns with rural areas playing only subordinate, passive and, generally, degenerating roles. In regional plans, development mostly refers to the development of industry and urban areas. This view of regional development is a dangerous overemphasis of the undisputable fact that the most dynamic elements of modern society are linked with urban agglomeration. This, however, does not mean that there are no functions in rural regions that cannot be developed or that rural areas do not influence the process of urban agglomeration. The non-recognition of the importance of rural dynamism causes regional imbalances and these in turn retard the development of the entire society. The neglect of rural development activities and the conservation of present rural backwardness threaten the very existence of urban areas as well. It is clear that approximately 70% of the world population still live in rural areas. These areas account for the vast majority of the inhabited regions of the earth and their most fundamental function is to supply mankind with food-stuffs and natural resources. For these reasons, it seems that research into rural problems is as important as that dealing with the problems of urban agglomerations and, hence, the proportional development of the two economic space-types is essential. It is for this reason that in Hungary, where regional development planning is also urban centred, rural geographical research has been emphasized considerably in recent years. Various research teams have examined the changes that have occurred in the villages, have analyzed the position of various individual

functions, have delineated the socio-economic typology of rural space and have developed separate modernization concepts for it.

There is a considerable body of material dealing with the Hungarian village. Hungarian geographers have described rural settlements in detail and have examined agriculture as a typical rural function. This material, however, has been concerned largely with the specific functions of the village and does not provide a comprehensive picture of the rural economy. In the research reported in this volume the new element is that rural space is regarded as being organized multifunctionally. Hence, the research approach and the delineated development concepts are territorially integrated.

A fundamental task prior to the undertaking of new research was the definition of the concept of "rural space", which is defined by the authors of this volume as "areas of settlement that do not have legal, administrative status as towns". This pragmatic definition was chosen because in Hungary the administrative status of towns differs vastly from that of the rural areas and only those settlements are categorized as towns that have acquired legal urban status regardless of the actual population size. It is clear that administrative boundaries do not reflect precisely the functional borders between town and village, but on a national basis no other way could be found of dealing with this problem. Consequently, because one had to rely on statistical data based on this legalistic administrative division of rural and urban areas, the above definition was chosen for practical reasons, although it does not satisfy strict scientific requirements.

THE CHARACTERISTICS OF RURAL TRANSFORMATION IN HUNGARY

Hungary is a developed country and therefore the external features of its rural transformation are approximately the same as those that can be witnessed in Western Europe or in Northern America. These characteristics have evolved as a result of the processes of industrial technological and urban development. Among them can be included the transformation of the employment structure and the resulting plurality of those employed in non-agrarian occupations, the decrease in rural population numbers and the development of new organizational forms in agriculture. In spite of these obvious similarities with the Western model, rural transformation in Hungary and in some of the other East Central European states has also exhibited certain unique characteristics. One of the reasons for this has been

the fact that the transformation has been exceedingly fast in terms of time, taking place within the life of a single generation. Therefore, both traditional and modern elements have intermingled in the life-style of society and in the operation of the economy. A second source of the uniqueness of Hungarian development is due to the fact that the relationship between town and village has evolved differently from that in Western Europe. The social system of Hungarian towns has differed fundamentally from that of their Western counterparts, in that they were less bourgeois and less able to accumulate capital. Consequently, in Hungary the existing towns have not been responsible for the development of industry; on the contrary, the process of industrialization has resulted in the establishment of new towns. Lastly, a fundamental difference between the Hungarian and the Western pattern of transformation is the fact that in Hungary rural transformation has also been accompanied by basic changes in society. During the last thirty years, the fundamental basis of land ownership has been altered twice. An important product of rural transformation is the collective farming which, through the very existence of its socio-economic organizational structure, has infused elements into the rural development pattern that are largely unknown in capitalist states.

CHANGES IN RURAL POPULATION

THE DECREASE IN THE SIZE OF THE RURAL POPULATION

The twentieth century has been the century of rapid urban growth. The rapid expansion of mammoth cities and the urban-centred development of society seem to syphon the population away from rural regions. In Hungary the growth of urban centres has been especially rapid during the last thirty years, since this has been the era of large-scale industrialization and the development of the tertiary sector. Between 1945 and 1965 the development of industry was concentrated territorially and caused large-scale migration, but in spite of this there was neither rural depopulation nor a large-scale decline in the number of rural inhabitants. On January 1, 1973, 52 per cent of the population of the country lived in rural areas as compared with 62 per cent in 1930. The absolute number of rural inhabitants, however, has hardly decreased at all and it seems that only that surplus migrated from rural areas that could be expected to leave as a result of natural population increase: thus between 1960 and 1970 the rural population has decreased by only 2.4 per cent.

The small change in the number of rural inhabitants is largely due to two factors: (1) the natural growth in rural areas tends to be greater than in the towns;

and (2) the decrease in the number of rural inhabitants occurs as a result of village out-migration. Both of these factors contributed to the relative stagnation of the number of inhabitants in rural areas. At the same time it must be pointed out that there are wide territorial variations in the manner in which these factors operate. In some areas, for example, natural growth may be extremely limited. In these areas out-migration has been a long, historical process, and birth control through primitive methods has been practiced for a long time. Thus demographic erosion has advanced significantly and the population has aged considerably. In several villages there have for years been no marriages or births noted and the registrar only records cases of death. This phenomenon is limited to small mountain villages and therefore affects a very limited number of people.

The rate of the out-migration also varies from region to region. This rate is primarily a function of the population size of a given village and its geographical location. Between 1960 and 1970 the number of inhabitants living in villages with 500 or less people has decreased by 12.8 per cent, and those in villages of between 500 and 1,000 people by 8.1 per cent. On the other hand, villages with a population of 3-5,000 declined by only 2 per cent. In the small settlements the lack of employment and the low level of services seem to force people to migrate to better environments. These small villages are largely concentrated in the Northern and Transdanubian Upland areas as well as in the hill country of Southern and Southwestern Transdanubia. There the natural conditions for agriculture are poor, the urban network is spotty and the transportation network is insufficient. Geographical location is important from the point of view of distance to urban areas. In the event of an easily accessible urban centre with good employment opportunities the rural population tends to choose commuting and does not migrate away from the village.

Naturally, the most significant cause of village out-migration is the decrease in agrarian population which, in turn, is the outcome of the modernization of agriculture. Thus the proportion of agrarian population has decreased significantly, from 55 per cent of the active population in 1949 to 22 per cent in 1973. This decline will continue, since 40 per cent of the agrarian population has already reached retirement age.* It is expected that by 1985 only 15 per cent of the active population will be employed in agriculture.

During the 1960s following the collectivization those who have been employed in agriculture had changed their occupations en masse, seeking largely indus-

*Retirement age in Hungary is 55 years for women and 60 for men.

trial and construction work. Today the decline in the agrarian population occurs mainly as a result of generational change, as considerably fewer youngsters take up agrarian work than those who retire. The majority of those who complete the eighth grade of general school in the villages continue to study in the cities and few people from this group take up agrarian occupations.

During the last thirty years other elements were also influential in bringing about the slight decline in rural population. Due to the concentration of industrial activities there was also a sharp decline in the possibility of gaining non-agrarian employment in rural areas. For example, between 1965 and 1972, 32 coal-mines were closed and the number of those employed in coal-mining declined by 40,000. It was largely small-scale mines that were closed whose employees lived in the villages surrounding the mines. Furthermore, in the small-retail and handicraft industries, which were very significant before the war, employment possibilities either ceased to exist or were restricted to the larger settlements. Many food production and construction plants such as mills, distilleries, brick-making factories and timber yards closed during the 1950s. Tertiary functions were concentrated in larger villages and the demand for efficiency in greater consumer utilization was far stronger than ever before. As a result of these changes teachers in the upper grades of the general school, greengrocers, butchers, shoe-repairmen and barbers left the smaller places of their own volition and together with their places of employment moved into higher-order centres.

The decline of population is not characteristic of all rural areas and in the vicinity of industrial centres, for example, the number of rural inhabitants has increased. The young industrial cities have not yet become agglomerations that "swallow" their rural neighbours and in such areas agricultural activity is still important. Even within the Budapest agglomeration one can discover significant areas of rural space. The villages near modern industrial centres contain a large number of new inhabitants from smaller settlements and commuting to work in the town is significant. Although the standard explanation for large-scale commuting from small settlements near modern centres is the lack of available apartments in the city, it seems that other factors contribute to this as well. "Two-step migration" into urban areas has been a characteristic of the twentieth century, specifically because of the dominant agrarian character of the suburban outskirts of the towns. The reason for the attraction of the agrarian outskirts is that new industrial workers try to maintain their agricultural activities, after working hours and during their "vacations". The outskirts of the

new industrial centres provide ample opportunities for undertaking such "dual work".

In some cases one may even witness an increase in the size of the village population as a result of the growth in local employment opportunities. Although the modernization of agriculture is responsible for the general decline in the demand for agrarian labour, it is also responsible for the opening up of new employment opportunities. The application of modern technology results in the establishment of machine repair and food-preparation plants as well as cannaries. The rural employment structure has also been broadened by the industrial decentralization process that has started to become operational since 1968. The New Economic Mechanism which commenced in that year has given a large degree of freedom to industrial firms for the development of an independent investment programme. These firms frequently choose larger villages, where reserves for labour are available for the location of a new plant. The rise in the standard of living and the increased demands for services have attracted such "urban" functions as specialized commercial activities and repair-shops for household durables to these larger villages. The growth of this type of employment opportunity is rarely on a scale to attract migrants from other areas, but it certainly is responsible for a decrease in the rate of out-migration from such villages.

A particular type of expansion of employment opportunities is provided by the growth of the tourist industry and its dispersal to rural areas. The population of the rural regions that are touristically attractive increases significantly during the tourist season. The owners of vacation- and rest-homes are able to spend longer periods of time at their temporary rural residences. The number of Hungarian and foreign tourists visiting rural areas is approximately 5 million annually and their presence offers at least seasonally important work opportunities to the local residents.

The growth of employment opportunities in the larger settlements has therefore been responsible for halting rural demographic decline. In fact, the population of villages with more than 5,000 inhabitants seems to be increasing. Since the Great Hungarian Plain is characterized by larger settlements and by a higher than average rate of natural growth, it is incorrect to characterize village depopulation as a general phenomenon; it would be more correct to express it as the territorial restratification of rural population. Within rural space the dynamic and declining territories are very sharply delineated.

THE SOCIAL AND OCCUPATIONAL TRANSFORMATION OF THE RURAL POPULATION

It is very difficult to escape the conviction that a village is an agrarian settlement. Few people realize that the town and village merely represent different functions of economic space, that economic dynamism is not a unique characteristic of towns but can also be part of village life or that the backwardness of the village is not a result of economic "laws", but the remnant of an historical age that has already past. It is difficult to come to this realization, even though in regard to the employment structure of the village and town there are no fundamental differences today - 58 per cent of active village earners are employed in non-agrarian occupations. The vast majority of non-agrarian workers are employed in urban industries and commute to their work places: the number of commuters in Hungary exceeds one million, which presents a strong contrast to the 141,000 who commuted in 1930. Commuters now account for fully twenty per cent of active earners in Hungary of which a fairly substantial number, around 300,000, return to their permanent residences only weekly or maybe by-monthly, and live near or at their places of work in workers' hostels. Most seasonal workers are employed in construction. There are many opponents of the commuter system in Hungary and sociologists argue for a sharp increase in the construction of new apartments in order to reduce the number. Commuting has obvious drawbacks, those who commute daily lose precious time, while those who commute weekly or bimonthly find their family connections diminished. The majority of commuters, however, because of the attraction of the rural way of life, do not desire to settle in the city. It would be cheaper and more simple to improve the travel conditions for commuters and thus reduce the necessary travel time, than to settle, for example, 200,000 commuters in the already crowded capital. Since commuters will continue to rely heavily on public transport, the long-term efficiency of improvements in the transportation system cannot be denied. Those who commute weekly or even less frequently, undoubtedly have to face a less favourable solution and their plight can only be lessened by the industrialization of their home village or by their permanent resettlement in the towns where they work.

American-type suburbs are practically unknown in Hungary and their development is unlikely for three reasons. Firstly there is no neighbourhood segregation along class or income lines in Hungarian towns, secondly the city centres are in much better shape than in the United States and their reconstruction is undertaken

continually, and thirdly public safety is very good everywhere. In spite of these facts, the demand for garden space and more spacious, semi-urban living could result in a small portion of the population moving from their present urban residences into rural settlements; indeed, there is some evidence for minor movements of this type in the Budapest agglomeration. Such a process would, of course, continue to lessen the differences between the social structure of village and town.

It is a very important fact that even today the agricultural population cannot be regarded as composed entirely of peasants. The old-style peasant, the small-scale landowner, can hardly be found in present-day Hungary. All told, there are only 45,000 independent peasants who are not members of some type of collective and who work around 25,000 small farms of their own. They account for less than two per cent of the 2.6 million active agricultural earners. The vast majority of those in agriculture work on co-operative and state farms and in forestry. The members of co-operative farms are joint owners of the land they co-operatively work: their income depends on the amount of labour they undertake and on the income of the entire co-operative. Consequently, they have retained certain characteristics of their former "peasant" status. On the other hand, those who work on state farms and in forestry are hired wage-earners as in industry.

A further characteristic of the agrarian occupational structure is that a portion of those employed in agriculture are white-collar workers while twenty per cent of labourers are employed in some industrial or transportation activity. The reason for this type of employment structure is that the large-scale collective farms are integrated vertically, for in addition to their purely agricultural role, they undertake commercial food-processing activities, ship their own products and possess separate construction plant.

According to the 1970 census 56 per cent of the rural population were listed as workers, 47.6 per cent as non-agrarian and 8.4 per cent as agricultural workers. 29.3 per cent of the rural population worked as members of collective farms, 11.4 per cent as white-collar workers, administrative personnel or engaged in tertiary occupations, while only 3.2 per cent were enumerated as "independent" landowners, small-scale tradesman or small store owners.

If the employment structure of the village is compared with that of the city, the differences are minimal as far as the workers are concerned, and approximately 50 per cent of those employed in industry and in the tertiary sector live in villages. It is natural that those with agrarian occupations are concentrated in the village and, on the other hand, for white-collar workers to continue to live mostly in urban areas. One finds that grown-up children who continue to live at

home in the village have different occupations from their parents who are still employed in agriculture, while it is also frequent for husband and wife to work in different sectors. Consequently, on co-operative farms in the vicinity of industrial centres the proportion of women is extremely high, as the men are employed in the better-paying industrial activities. On the other hand, in villages where light industry has been established since 1968, it is specifically the number of men that is higher on the co-operative farms, since the women are employed primarily in the new factories.

The transformation of the occupational pattern of the rural population is indicative of the increase in the number of rural functions and the alteration of the earlier structure. The meaning of the term "rural functions" varies widely in the literature dealing with the topic. Many colleagues use the term in reference to those functions that are found exclusively in rural space and occupy extensive areas. Such functions are agriculture, forestry, water reservoirs and regions that are environmentally protected. Those relying on an interpretation of the term rural functions along the lines indicated above express these functions mostly through the structure of land utilization.

This study uses an approach whereby all functions that exist in rural space are examined. Among these some are specifically rural functions, such as agriculture and forestry. When examining the transformation of the village, however, one cannot neglect the analysis of functions that are not specifically rural, but which do exist and - in some cases - even dominate the life of the village. Thus, service, construction, transportation and even industrial functions must be examined as well.

These functions cannot be measured in terms of land use as, generally speaking, the village is a socio-economic organism that cannot be expressed two-dimensionally.

(a) The most characteristic economic function of rural space is of course agriculture. This function dominates rural land utilization even when the agrarian population is in a minority. Hungarian agriculture has undergone fundamental changes that have been prompted by social, economic and technical forces.

Social changes were prompted by the fundamental transformation of the characteristics of land ownership. The land reform of 1945 eliminated the dominant role of the great latifundia by abolishing private ownership of land above 120 hectares. In the 1950s, the collectivization of agriculture was accomplished in several steps and this form of ownership became the fundamental form by 1962. Naturally these changes had great political significance that determined the

directions of agrarian development. Simultaneously, they also redefined the structure of agricultural space. The links between living and working space were altered as was the internal spatial structure of work areas.

Co-operative farm specialization has advanced relatively slowly because of the need to employ a relatively large labour force, due to lack of capital and other factors such as the strength of peasant traditions. In spite of these retarding factors, the territorial concentration of production has already developed. Co-operatives are fairly large with an average acreage of around 2,500 hectares although on the Great Plain farms of 7-8,000 hectares can be frequently found. State farms, which comprise 14 per cent of the cultivated acreage, operate on areas up to 6,100 hectares.

Prior to collectivization there were two types of linkage between residence and work place.

(1) In the case of dispersed settlements comprising approximately 30 per cent of the agrarian population, residence and work place were one and the same.

(2) In the case of nucleated settlements, in which the majority of rural dwellers lived and which on the Great Plain attained populations of several thousand inhabitants, those living in the village had to travel fairly long distances to their plots. Even the courtyard of the village house was utilized as a "shop" where the rest of the family were put to work on such tasks as raising domestic animals or cultivating fruit and vegetables both for the market and for their own consumption. Prior to collectivization peasant farms were small averaging six hectares, although more than 50 per cent were less than three hectares in size. Hence, they were divided into several strips of land and the labour force was dispersed in the various parts of the countryside.

Apart from the continuous movement of the labour force between residence and work place, agrarian products also had to be similarly transferred. The small farmsteads consumed a significant percentage of their own produce and only a small share reached local or urban markets, or participated in the retail or wholesale business. From 1950, a state agricultural wholesale network has developed. Since 1957 a system of production contracts has been introduced and operationalized according to which agricultural produce is purchased in rural areas. The large-scale system of production has brought about significant changes in the movement of labour and produce. Agricultural production is now concentrated territorially as, in consequence, is the demand for labour. Labour inputs for crop cultivation have been reduced as a result of technological advances, although animal breeding, machine-repair shops, milk and dairy farm unitas and

similar facets of the modern collective farm continue to utilize large numbers of permanent labourers, who leave the central settlement in groups for work, frequently utilizing public transport for this. Thus, a very special type of commuting takes place between residence and work place, which, however, as regards distance travelled and problems encountered frequently resembles urban commuting. An additional phenomenon that has developed is that some of those employed in agriculture, especially white-collar workers, live in the city and commute to the rural settlement. It is estimated that there are approximately 150,000 such "reverse commuters" or nearly 15 per cent of all commuters in the country.

In addition to the place of residence and the place of work the third pole of the village is the settlement centre where the population meets. In several villages dual centres have developed, although villages with several centres can also be found. The institutions of the traditional settlement centre are: the fair, the market, the church and places of entertainment, mostly the all-pervasive "kocsma" or bar. The importance of these traditional institutions is now somewhat diminished, being supplanted by the "culture-house", and the central administrative buildings of the co-operative farm regardless of location. The latter are not only places where the work of the collective is organized, but are the venue of the various meetings of the collective, such as brigade meetings, annual members' meetings, and youth clubs. Consequently, rural movements within the place of residence are less dispersed than previously and new directions in community life are evident.

Within rural space there is significant economic activity. The large-scale farms store and ship thier own produce directly to central commercial distribution points. On the farms there is constant transfer of animal feedstuffs, fertilizer for the fields, and produce for the various farm processing units. Such transfers are responsible for a new internal space allocation, that is unique and different from that associated with previous large-scale farm operations. Naturally, the optimal allocation of internal space takes place slowly, in some cases as a result of experience and experimentation, while in others as a result of predesigned plans. An important limitation is provided by the poor road network that was designed to serve the previous system of small-scale farming. The construction of an adequate road network for the internel needs of Hungarian agriculture is an expensive but very necessary task.

It is from these structural features that the characteristics of the economic transformation of Hungarian agriculture stem. Several aspects of this transformation have already been mentioned. The fundamental economic feature is that vertical integration which is characteristic of modern agriculture takes place within the

framework of large-scale socialist farming units, which, at least partially, are themselves able to play an integrative role. The role of integrators in developed capitalist states is generally played by large commercial chains or by mammoth agricultural trading firms. The private producer who confronts such firms is dwarfed and can only be an unequal partner. The production process and the sale of the product thus fall under the influence of an tntegrator who also supplies the producer with seed grain and requires special agricultural techinques to be used. Consequently, the operational sphere of agriculture becomes more restrictive, and certain traditional agrarian activities, such as the improvement of grain types, become the functions of the integrator. The activities, therefore, become increasingly restricted geographically and are closely connected with urban, industrial and commercial activities as far as their precise location is concerned.

In contrast to this pattern, Hungarian large-scale farming seems to be moving in the opposite direction. Certain farms produce such large quantities of produce that they are able to prepare, store and even sell it themselves or at least are able to act as equal partners when facing the wholesale chain or the food-processing plants. These large-scale farms also attract activities that ensure adequate technical back up. This includes machine repair and construction activities developed from their own resources, while in some places such farms are involved in technical planning and applied research as well. This type of development attracts occupations that were previously regarded as urban in cahracter and therefore the business of agriculture becomes more dispersed geographically. The activities of the large-scale farm do depend on the decision-making system of the state, but generally one may conclude that socialist agriculture in Hungary is characterized by the fact that it attracts to the rural sphere activities that were previously regarded as urban. This is an important factor in the structural transformation of the rural population.

The technical transformation of agriculture, the development and cultivation of new crops, and the organization of new industrial types of production are dependent functions of the economic and social changes outlined abpve. Technical change contributes to the creation of new rural occupations and also creates new spatial elements in rural areas, such as aerial crop-dusting centres and leased housing subdivisions.

Technical advances have altered the relationship between the geographical environment and agriculture. Modern agriculture is able to adapt itself to the geographical environment, and is better able both to overcome unfavourable natural conditions, and to utilize favourable conditions than any previous agricul-

tural system in Hungary. The influence of the natural environment is, therefore, transformed: it no longer defines merely production possibilities or the size of yield but rather determines the amount it is necessary to invest to achieve certain yields as well as the efficiency of production. Its influence therefore shows up in the economic sphere where it is just as important as it was earlier when it weighed directly on production. Natural energy sources will remain significant agricultural elements and their utilization on the basis of economic efficiency will continue to be important for agricultural production.

Since modern agriculture utilizes the geographical environment intensively, it is responsible for several destructive processes and the sensible utilization of the geographical environment demands the establishment of a new natural balance. Consequently, modern agriculture demands the creation of an adequate system of environmental protection in rural areas.

It is interesting to note the important role of agrarian production. The small farms referred to here are almost entirely of supplementary character and are thus special elements in Hungarian agriculture. In 1972 there were 1,700,000 such units of which 1,675,000 were supplementary farms. Fifty per cent of the latter comprise less than 0.5 hectare of land, but even so they play a significant role in supplying the rural population with food and, in the case of some produce in supplying the entire state. Approximately half the total population of the country and 80 per cent of the rural population own such supplementary farms (owners and family members included). Their produce amounted to 38 billion forints in 1971, nearly twice the value of that derived from state farms and only one-third less than the value of co-operative farm produce. More than 50 per cent of such products as fruits and eggs are supplied by supplementary farms.

The household plots of co-operative members and the land owned by members of specialized co-operatives represent about 45 per cent of supplementary farms. Household plots are only important territorially when they produce grapes or fruit, although relatively large numbers of domestic animals are kept. Needless to say, the household plot does not produce sufficient feed for these animals and approximately 40 per cent of the fodder area of co-operative farms is used to support them. Consequently, the domestic plot and its economic utilization are tied very closely to the co-operative economy through the utilization and sale of commonly produced animal feedstuffs, and also through the supply of breeding animals. For the co-operatives the importance of the household plot lies in the fact that they utilize the barns and poultry houses located on the household plots as well as using family labour, including those members who are no longer employed in agriculture.

Generally speaking 50 per cent of the income from agriculture of Hungarian peasant families originates from the household plot.

Nearly 1 million supplementary farms are in the hands of those who are no longer occupied in agriculture. This figure represents 40 per cent of all those employed in non-agricultural occupations, who reap significant incomes from their small plots. These farms produce 360 million eggs, 45 thousand tons of poultry, 50 thousand tons of vegetables, 130 thousand tons of fruit and 450 thousand hectoliters of wine for sale on the market annually, in addition to the produce for family consumption.

(b) In rural space forestry still plays an important role, although its characteristics have changed significantly during the last thirty years and its rural function has become more varied. Forestry in Hungary is regarded as a separate branch of agriculture. The forests are planted, replanted and regularly thinned to such an extent that they can no longer be regarded as a part of the "natural" vegetation. Timber output is no longer the sole function of forestry which indeed has been declining in importance. Now forests play a specific role in environmental protection while trees are also planted to improve the natural conditions of blown sand areas and of barren hillsides. Near the cities the forests are utilized as protected nature parks and are now frequently supplied with picnic areas, public facilities and walking tracks. Within the forests the skilful utilization of the environment has resulted in an improvement in the wild-stock and most wild animals, such as the Europen deer, the wild boar and hares, are no longer regarded as endangered species.

In the early 1970s forests covered 16.5 per cent of the country in contrast to 12.8 per cent in 1938. The forests are managed mostly by state forestry farms. In the Hungarian Central Uplands forest management – mainly timber-felling – is the main form of land utilization, which naturally influences the occupational pattern of the region. Here agriculture and forestry are intertwined by tradition and these two sources of income have always been able to support the peasantry. In the interests of modernization, the state has taken control of forest management. Those co-operatives, however, generally in areas of poor soil conditions, which were divested of their forests through the intrusion of state management, are now unable to operate profitably and have to be financially supported by the state.

(c) Industry has spread significantly in rural areas and with its spread has occurred a concomitant rise in the number of new industrial employees living in the villages. Naturally, it is primarily small shops and small industrial units that have settled there and by the early 1970s no more than 20 per cent of industrial

employees were working in rural areas. The main sources of rural industrialization are:

(1) the industrial activities that are created as a result of technical improvements and agricultural integration;

(2) the considerably expanded service sector that has developed as a result of the modernization of the rural pattern of living and the improvement in the purchasing power of the rural population;

(3) the creation of branches of urban industrial firms. The settlement of such branches in the villages was attractive to the parent company primarily because of a more abundant labour supply in large villages than in small towns.

Industrial firms receive state support for the establishment of rural branches when they are located in villages that have been specifically marked for expansion. Through this measure the state hopes that rural industrialization will accord with the long-term development plan. The villages specifically marked for expansion are those that already possess some central functions and which can possibly develop into towns in the future. The long-term development policy aims to avoid the inefficient dispersal of rural industry and tries to create dynamic industrial centers. This policy has not always been successful especially in the case of the very scattered textile and clothing industry. Although the small factory units are able to utilize the unskilled female labour force of the villages, their future is far from certain, depending on the interests of the parent firm rather than on the demand for developing rural areas.

In addition to changes in the structure, pattern of living and morphology of the village, the introduction of industry also creates new territorial links. These are:

(1) the flow of industrial goods between village and consumer market;

(2) industrial-commercial links between the industrial centre and new branch factories;

(3) territorial links with neighbouring villages for the efficient utilization of labour and raw materials.

As rural industry generally spreads in waves, originating from given centres, future trends can be simulated. In Hungary two localized forms can be distinguished:

(A) the settlement of industry in the neighbourhood of an industrial centre; this phenomenon generally leads to rural space forming part of the urban agglomeration sooner or later;

(B) the settlement of industry in areas where there is an ample supply of labour. this phenomenon can best be observed in parts of the Great Plains, especially in the northern area.

(d) A traditional rural industrial activity has been the exploitation of mineral wealth. The most widespread of such activity was coal-mining, located mainly in the Northern Central Uplands, where many small mines existed and where the population lived in the small nearby mining settlements. The crude-oil production in Southwest Transdanubia and the bauxite mines in the Bakony Hills operated on the same basis. During the last few decades employment possibilities in mining have decreased sharply and its functional concentration has also meant geographical concentration as well. At the same time, new mining residential complexes have been located in neighbouring towns in order to provide a higher level of services. Miners now commute from such towns to their places of work. The re-employment of the population of villages attached to inefficient mines or mines that have already been closed has required serious economic effort.

A relatively new economic function of rural space is tourism which has become important in Hungary during the last decade. Today the tourist industry remains highly concentrated around Budapest and Lake Balaton, although there, together with secondary areas, such as Lake Velence and the Mátra Mountain, traditional rural activities are also evident. The territorial dispersal of tourism is an important task and the involvement of other areas where natural conditions are suited to these activities is necessary. Although there are no high mountains in Hungary, the upland regions could prove attractive, especially for the domestic industry. Small dispersed vacation settlements and villages could be attractive during the summer season, since the low snow-fall does not make it economic to build sports and recreation centres that could be utilized to any significant extent throughout the year. The exploitation of the medical and thermal springs provides excellent opportunities in this respect but only the first halting steps have yet been taken. Extremely valuable medicinal springs are available all over Hungary even in regions that have not hitherto been utilized for tourism. And finally, the peace and quiet of the villages in the mountainous regions could prove attractive for urban residents.

The development of all these possibilities will undoubtedly create problems as well, many of a financial character. The provision of accommodations is expensive and the infrastructural level of the majority of villages is insufficient for tourism. Consequently, in addition to the financial provision for accommodation, even larger amounts of money must be invested in such infrastructure as water-supply and sewage.

Another, and still more important problem is the position of domestic tourism and its relationship to foreign tourist activities. Generally, as living standards rise,

the internal tourist trade also grows and this generalization is also applicable to Hungary. Vacations are regarded as social services in large part supported financially by the state – 40-50 per cent of those who spend their vacations away from home do so in trade-union and company vacation houses. The cost of food in restaurants, the means of mass communication and services in general also enjoy price support. This means, however, that foreign tourists also enjoy the same support and the growth of foreign tourism thus results in increased state financial commitments. The prices in some restaurants and at some vacation centres have, therefore, been pegged to the prevailing international levels; this however, is so far above the Hungarian level that these services are rarely utilized by domestic holiday makers. Consequently, the domestic and foreign tourist trade are different in structure. Although this is not a Hungarian peculiarity, the country has no warm marine coast line, the tourist season is relatively short, and only domestic tourist activities can therefore be the foundation of the nationwide tourist trade on top of which foreign tourism can be built. At the present time, this problem cannot really be solved.

As far as long-term plans are concerned we can expect tourism to grow in rural regions and a significant economic boost can be expected for those villages in unfavourable mountain locations. Realistically speaking, however, tourist activities can only be regarded as supplementary sources of income. Notions envisaging the transformation of depopulated mountain areas into vacation villages are impractical, since without developed services and infrastructure provision vacationing in such places is unimaginable.

(e) Within rural space important communication and transport activities take place. The level of transport infrastructure is, however, unsatisfactory and even today those transport links are emphasized that cross through rural space and join the various towns and cities. Only secondary emphasis is given to those lines of transport that link rural space to a city. Movement within rural space is quite difficult, even though every settlement with more than 200 inhabitants is tied into the bus network. "Rural isolation" which affects the life of the village extremely negatively and gives an added incentive to out-migration has not yet been adequately reduced. It must be emphasized that one of the most significant sources of rural backwardness is the low level of services supplied by the communication and transport system, which also adds significantly to the price of agricultural produce. Due to the small size and high population density of the country one can reach higher-level service centres by travelling relatively short distances, but travel time remains very high. Since service centres have a minimum economic threshold based

on consumer frequency, such centres cannot be located in every settlement. In the plans for settlement development it is frequently the worst solutions that are pressed, for instance, forcing the population of small places to move to higher-level centres. Such a policy costs many times the amount that improvements in the mass transport system would do. In addition, elderly residents have neither the desire, nor the material possibilities to move into larger settlements. Those who choose to move away willingly, on the other hand, want to settle in the cities and not in the lower-level rural centres.

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DEMOGRAPHIC CHARACTERISTICS OF RURAL SETTLEMENTS

by

MRS. VÖRÖSMARTI, E. TAJTI

The transformation of social and economic conditions also brought about changes in the rural population of Hungary. Inter-regional disparities in economic development gave rise to a regional redistribution of population. The villages shed their surplus population which had accumulated over many decades and excess manpower released by the modernization of agriculture moved to industry and other branches of the national economy. The demographic processes are, of course, geographically differentiated, but in general one may witness the standardization of rural demographic characteristics, for the inter-regional differences arising from tradition as well as from ethnic and ethnographic features are disappearing.

DISTRIBUTION OF POPULATION ACCORDING TO SETTLEMENT TYPES

In 1970 the population of Hungary resided in 3,224 settlements consisting of 74 towns and 3,150 villages.* The average number of inhabitants per village is 1,750, although there are many deviations from this value. There are a great number of so-called "dwarf villages", with populations below 100. In some regions of the country it is common to find a dense pattern of small villages, while in other parts "giant villages" have emerged, with populations in some instances exceeding 10,000 (Table 1).

The number of villages with small populations has increased, due to the regional regrouping of population. In 1970, 20 per cent of villages had populations

* Owing to administrative rearrangements since 1970, the number of towns has increased to 83 and that of villages decreased to 3,106. Several villages have been merged in the development of towns and larger communes.

TABLE 1
Distribution of settlements according to number of inhabitants (1970)

Number of inhabitants	Settlements in 1970		Resident population (in 1000s)		Population growth		Percentage according to census	
	number	per cent	1960	1970	1000s	per cent	1960	1970
0 - 499	665	20.6	243	213	-30	-12.3	2.4	2.1
500 - 999	818	25.4	652	599	-53	-8.1	6.5	5.8
1,000 - 1,499	503	15.6	661	619	-42	-6.4	6.6	6.0
1,500 - 1,999	328	10.2	598	571	-27	-4.5	6.0	5.5
2,000 - 2,999	343	10.7	871	842	-29	-3.4	8.8	8.2
3,000 - 4,999	282	8.8	1.092	1.070	-22	-2.0	11.0	10.4
5,000 - 9,999	156	4.8	1.041	1.070	29	2.8	10.5	10.4
10,000 - 19,999	75	2.3	919	981	62	6.8	9.2	9.5
20,000 - 100,000	49	1.5	1.592	1.819	227	14.2	16.0	17.6
County towns	4	0.1	487	592	105	21.4	4.9	5.7
Capital	1	0.0	1.805	1.940	135	7.5	18.1	18.8
Hungary	3.224	100.0	9.961	10.316	355	3.5	100.0	100.0

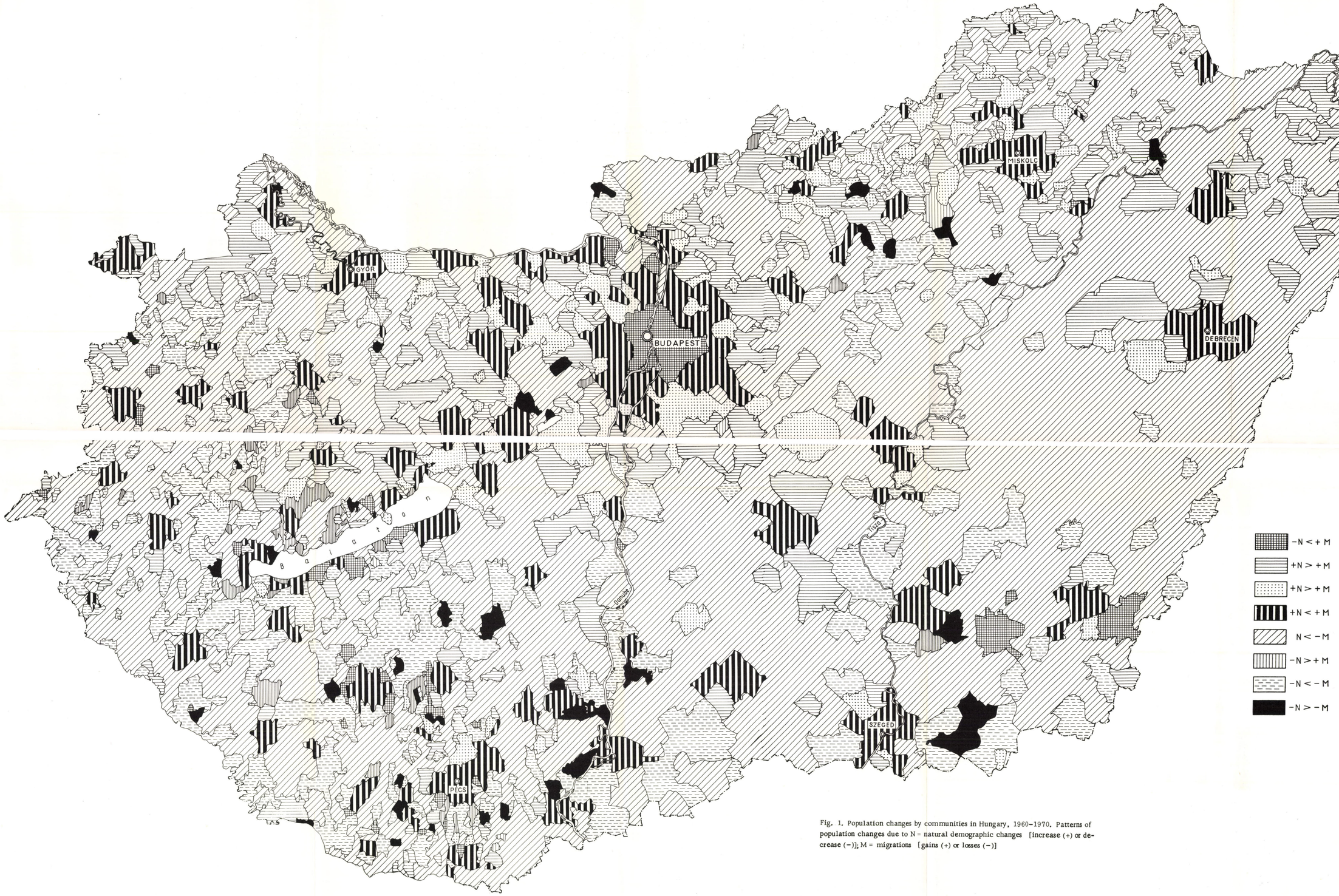

Fig. 1. Population changes by communities in Hungary, 1960–1970. Patterns of population changes due to N = natural demographic changes [increase (+) or decrease (−)]; M = migrations [gains (+) or losses (−)]

of less than 500, accounting for a mere 2.1 per cent of the total population of the country. Settlements numbering less than 5,000 inhabitants are generally rural in character, while most of those with 5 to 10 thousand exhibit urban features, and many with populations exceeding 10,000 have attained urban status.

CHARACTERISTICS OF DEMOGRAPHIC CHANGE

In a given district, demographic change may be attributed to: (1) natural increase (or decrease) (N), and (2) differences caused by migration (M). The two factors affect the population of each settlement simultaneously. Disregarding natural disasters, epidemics and war, the influence of natural demographic trends is temporally and spatially more even than that of migration. The population's regional distribution and structure may be completely transformed through migration within a comparatively short time.

In a particular area, population change is most dynamic when both demographic components operate in the direction, that is when the increment resulting from natural trends is supplemented by a positive migration balance ($N>M$; $N<M$), or when both components are negative ($-N>-M$; $-N<-M$). Population growth of this kind is facilitated by favourable physical conditions which provide a variety of opportunities for economic development. In those parts where favourable physical conditions are coupled with the beneficial effects of social and economic factors, both components of demographic change are positive. But if the disadvantageous physical circumstances of an area are not, or are insufficiently, compensated by social and economic factors, the components of population change will operate in a negative sense.

Since 1949, natural demographic trends have fluctuated. In the early 1950s the birth rate was high, resulting in a significant natural increase, but by the end of the decade had dropped to reach its lowest value at the beginning of the 1960s. Of late it has remained unstable and has continued to fluctuate yearly and regionally.

Although territorial differences in natural increase have generated some regional disparities, the effect of migration has been far more significant. The uneven regional economic development stimulated the more mobile strata of the population to migrate, and a significant portion of the population moved from those areas where unfavourable conditions prevailed. Between 1949 and 1960 the migration loss from the villages was extraordinarily high, but could still be retrieved by increase resulting from the high birth rate. Between 1960 and 1970 the loss moderated,

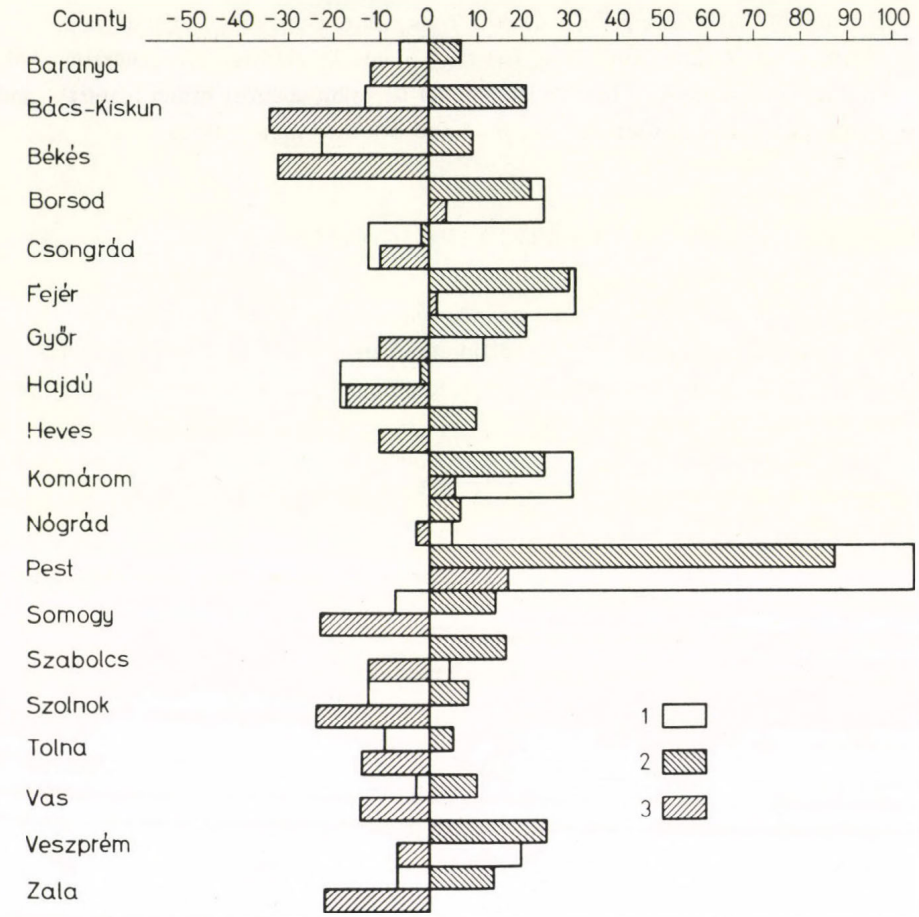

Fig. 2. Changes by counties in rural and urban populations, 1960–1970. With exclusion of data for Budapest, Miskolc, Pécs, Szeged and Debrecen. 1. Total county; 2. urban residents; 3. rural residents (1,000 inhabitants)

reaching only four-fifths of the value recorded for the early 1950s, and in two-thirds only of the villages did the population decrease. Due to the decline in the birth rate and rising death rate, the 7 per cent migration loss experienced by the villages could no longer be replaced by natural increase.

The village population grew by 2.5 per cent between 1949 and 1960, in spite of the high migration loss, but decreased by 2.4 per cent between 1960 and 1970. It was in the hamlets that the decrease was proportionately highest, but as far as

absolute figures are concerned, the large villages of the Great Hungarian Plain released the greatest number of migrants.

In villages numbering less than 5,000 the population decreased at the average rate, the total loss amounting to 204 thousand persons. The areal distribution of settlements either increasing or decreasing in population does not present a regular pattern (Fig. 1), although the prevalence of the dominant tendency is conspicuous ($N < -M$), natural increase only partly moderating migration loss.

Between 1949 and 1960, economic development in Hungary was highly concentrated. and as a consequence most counties suffered migration losses. Between 1960 and 1970, the number of growth centres increased, and at present virtually every county has one or more expanding nuclei which attract people wishing to move from villages. On the other hand only a few large urban agglomerations, in which the population of associated villages also increases, have emerged. Between 1960 and 1970, the population of villages declined in 15 of the country's 19 counties, growing only in County Pest (which includes the Budapest agglomeration), County Borsod-Abauj-Zemplén (including the Miskolc agglomeration) and in the Counties Komárom and Fejér (where important rural industry is found).

Especially noticeable is the population loss in the Great Plain. The highest figures were recorded in County Szabolcs-Szatmár, lying in the north-eastern part of the country, from which 57,000 persons migrated between 1960 and 1970. It is interesting that this county also has the highest rate of natural increase (amounting to three times the national average), but even this is unable to counterbalance the migration losses (Fig. 2).

REGIONAL CONSEQUENCES OF THE VARYING DEMOGRAPHIC TRENDS

Regional variations in population dynamics entail matching changes in population density. Migration surpluses are characteristic of those areas where the concentration of productive forces has attained a high degree. In each settlement the rise in population density (i.e. actual population growth per 1 km^2) is very high.

Migration loss and lasting natural decrease in an area imply unfavourable conditions (sueh as the prevalence of poor soils, lack of non-agrarian employment opportunities, and bad transport facilities).

An unbalanced distribution of productive forces not only gives rise to regional disproportions in population distribution but also enhances them. Relatively small areas tend to accumulate population, while other parts become depopulated bring-

ing about an unsound age distribution, particularly in those areas of heavy out-migration. The younger age groups being more mobile, the remaining population gradually ages, replacement slows down, the death rate rises, leading to a very diminished population.

TABLE 2

Population density trends in Hungary by age groups

Year	Number of persons/km^2			
	under 15 years	15-39	40-59	over 60 years
1900	26.2	27.8	14.0	5.7
1910	28.5	31.7	15.3	6.5
1920	26.3	35.4	16.4	7.8
1930	25.7	39.8	18.8	8.1
1941	26.0	40.7	22.7	10.8
1949	24.6	38.4	24.5	11.5
1960	27.2	39.3	25.8	14.8
1970	23.4	41.2	27.5	18.8

In the hamlet regions, located mostly in Transdanubia and in the northern parts of the country, where the topography is heavily dissected, although migration now involves a comparatively small number of persons, the population decreases because of earlier heavy out-movement. The large villages in the Geat Hungarian Plain are capable of releasing more migrants, but the tendencies of ageing, a relative rise in the death rate, due to a lack of replacement and the predominance of women, are apparent in these settlements too.

Ageing is typical of the whole Hungarian population (Table 2) and whereas the proportion of elderly people is also increasing in the towns it does not create as many problems as in the sparsely populated villages whose very survival is endangered by the ageing process.

Economic development has entailed changes in the economic activity of the population, and the number of dependents has significantly decreased. With the realignment of the nation's economy, employment opportunities expanded to such a degree that a widening of manpower utilization was called for. Now people

participate in collective production whereas previously they used to be engaged in working within the framework of family productive systems. With the reorganization of property relationships in agriculture, family working systems were left with limited scope. The employment of women, however, has not as yet been accomplished everywhere. One reason for this is that agricultural co-operatives can only provide seasonal employment for them. The establishment of non-agrarian places of employment is limited, and only economical if the local labour supply is adequate and other circumstances are favourable.

The inactive population has become an important factor in the country's demographic structure and the number of persons belonging to this group considerably increased between 1960 and 1970. Since the pension was extended to include agricultural workers, the proportion of pensioners has increased within the rural population most appreciably.

Young people in search of employment for the first time play an important part in the availability of labour supply. Their numbers, however, are decreasing, partly because of the falling birth rate, and partly because of the extension of training periods.

Those young dependents, who do not study and are of working age, represent a small portion of the population and the majority of them are women. Where there is suitable employment available in the vicinity of their residence, most of them willingly go to work. The rest, due to family ties or to the unavailability of working opportunities near their residence, continue to be engaged in the family productive system.

OCCUPATIONAL RESTRATIFICATION

The realignment of the nation's economy brought about radical changes not only in the regional distribution of population and economic activity but also in the development of occupational structure. In Hungary agriculture bore the weight of demographic trends for centuries, and it is only during the past twenty-five years that this situation has changed to a significant degree. As a result, the number of non-agrarian population per km^2 is now more than twice that of those employed in agriculture.

During the first decade of industrialization (1950-1960), the utilization of surplus agricultural labour proved to be sufficient at that stage of industrial development. Later, however, as non-agrarian employment centres continued to grow and

new ones were established, their growing demand for manpower was satisfied by the redirection of labour released by the socialist transformation of agriculture.

During the decades 1950-1960 and 1960-1970, two identical features could be observed:

(1) the number of earners increased in towns but generally decreased in the villages;

(2) the number of earners increased in the non-agrarian branches, and generally decreased in agriculture.

Yet, these trends display large temporal and inter-regional variations. In industrial areas of long standing, occupational restratification had already begun during the inter-war period, but at an essentially slower rate than after the Liberation. Since 1949 this has been a more powerful process in the old industrial centres than elsewhere, and its consequences have been more evident. Disparities are great not only among counties but also within counties as well.

The distinctive phases of restratification are linked with the various stages of development, and the time needed for their appearance varies from region to region.

In establishing restratification models the changes taking place in the number of earners during a given period will be examined. The following three cases are considered first:

(1) the number of earners (A) increased;

(2) the number of earners remained unchanged;

(3) the number of earners decreased (−A).

This threefold division may be further subdivided according to changes in the proportion of earners in the two main sectors (agrarian and non-agrarian), and according to whether the changes are in the same or opposite directions in each sector (that is whether or not the number of earners belonging to one sector increases to the detriment of the other) (Fig. 3).

Types of restratification:

(a) The most widespread type of restratification is local and linked with migration. This means that although the total number of earners is falling (−A), the number of non-agrarian (other, O) earners is increasing. The surplus originates from the fact that the decrease in agricultural workers (−F) is greater than the general decrease, and those abandoning farming take up other employment in their own place of residence. Such areas cannot in general be regarded as underdeveloped, nor can they be looked upon as places in which progress is at a standstill. This type

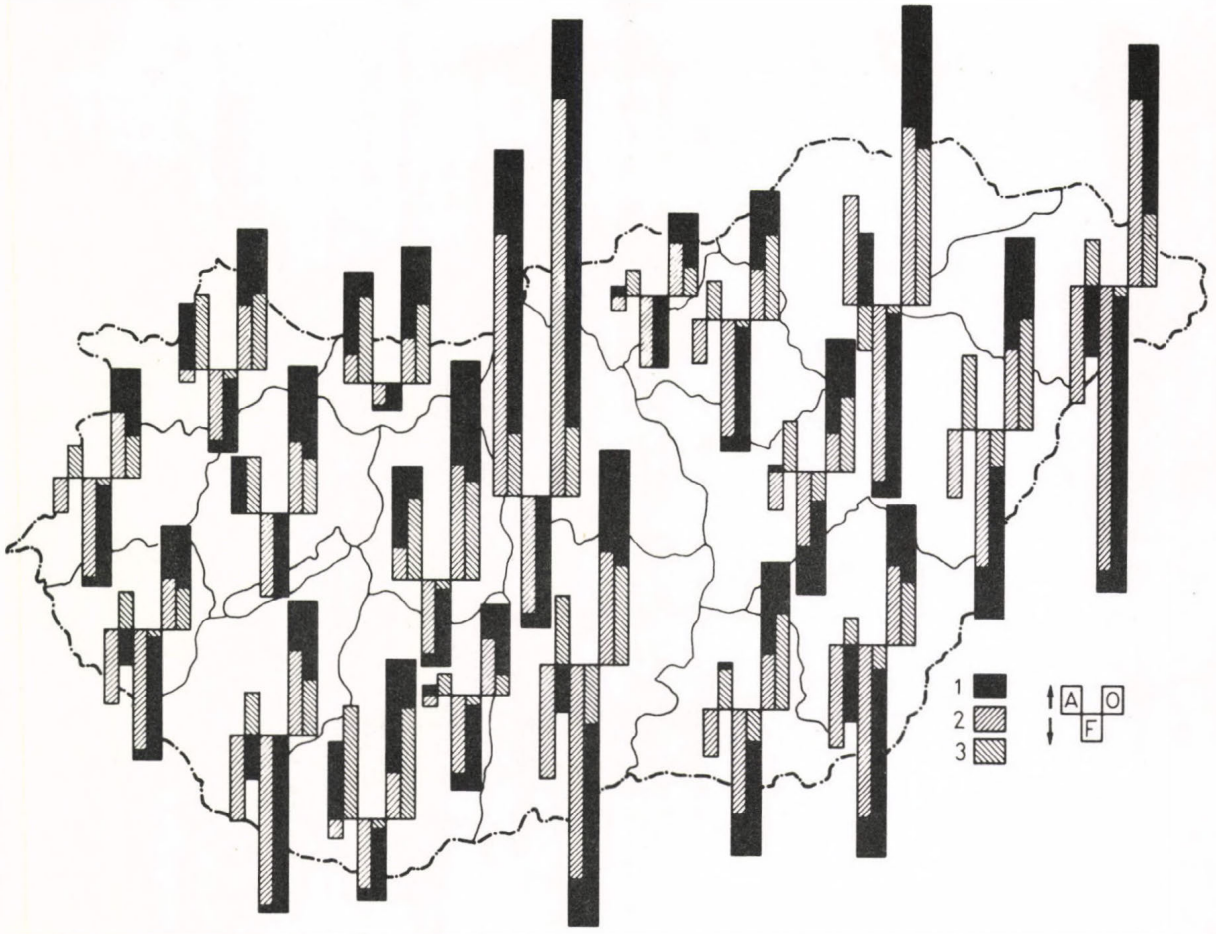

Fig. 3. Professional restratification (1960–1970). 1. Total, 2. rural, 3. urban population of the county. A = active population, F = farmer population, O = non-farmer population, ↑ = increased, ↓ = decreased

of occupational restratification is mostly linked with a transitional stage of economic development and therefore reflects a very unstable situation. Rapid changes can take place in either direction. If employment opportunities take a favourable turn, the decrease in the number of earners will stop, and settlements will be capable of retaining their population. Should unfavourable conditions gain ground, the negative effect will intensify, and clearly demonstrate the backwardness of the area (−A −F −O).

(b) A second type of restratification occurs when the number of earners decreases in both electors but unequally. If the number of agricultural earners decreases at a greater rate than that of non-agrarian employees, a regression will occur spontaneously, irrespective of whether it is a long- or short-term phenomenon. A more rapid shrinkage in the non-agricultural branches can only be explained by some purposeful action, such as the closure of non-agrarian places of employment or the annexation of such an area to another region.

(c) Out-migration and reverse stratification occur only sporadically and are triggered off by external factors such as the economic crisis of the 1930s, when many unemployed people returned to farming. In more recent years, closure of uneconomic coal mines produced a similar effect in a few villages. In this case commuters employed in the coal mines did not move to another mining district after reorganization but took up employment in strengthened local agricultural co-operatives.

There are no settlements in which no changes have occurred in the number of earners, and only a few in which the restratification within the two branches has passed off with the number of earners remaining unchanged.

Growth in the number of earners is characteristic of relatively few settlements. In general, earners are inclined to congregate in places offering abundant employment, i. e. in the towns and their environs, in settlements in industrial districts and in other industrial centres.

(d) Growth accruing from migration, without local restratification (+A +F +O), is characterisitc of regional centres offering non-agrarian employment opportunities. In this case, in addition to substantial growth in the number of non-agrarian earners, the number of agricultural workers also increases, although at a slower rate. The slow phase of industrialization was characterized by a variation of this type, in which agriculture received the larger share in the growth of earners. This kind of small-scale restratification, which relied on natural population growth, was very widespread in the years preceding the Second World War. More recently, however, this phenomenon has only been typical of those villages formed from scattered settlements.

(e) Local restratification, strengthened by in-migration (A −F O), is characteristic of the settlements of industrial districts, of towns and localities undergoing industrialization and of villages with good communications, located close to large centres (e. g. Budapest and Miskolc). In the latter case one may observe that as the rate of in-migration decreases so local restratification intensifies. There is a net outflow of persons from agriculture, even when non-agrarian employment is limited or non-existent, because towns, offering a wide variety of work, are within easy reach.

(f) Reserve stratification, linked with the sole development of agriculture, rarely occurs (A F −O).

To illustrate the various types of occupational restratification, County Borsod–Abauj – Zemplén, where areal polarization of the employed population is quite apparent, is the best example to take (Fig. 4). Most earners tend to congregate in the industrial nuclei of the Sajó Valley, although a distinctive agglomeration is emerging around Miskolc. Agricultural regions, too, may be clearly distinguished in the area adjoining the Great Plain, where stratification resembles that of lowland villages, while in the small villages nestling in the northern valleys of the country the process is similar to that occurring in the hamlet regions of Transdanubia.

POPULATION AND EMPLOYMENT

During the 25 years of industrialization following the war, the country's urban system has undergone a significant transformation, which has even affected the most traditional of villages. Rural and urban demographic trends are identical in many respects, although the outcome varies. Initially economic and social conditions in the villages varied greatly and even now differences manifest themselves in the available range of employment. In those settlements, where job composition is one-sided, full employment cannot be ensured and the population cannot be retained. In contrast, settlements offering diverse and plentiful employment attract the more mobile strata of the population. Between these two extremes there are numerous transitional forms.

Occupational shifts may take place without workers changing their residence, but restratification accompanied by residential mobility is more common. A combination of the two is restratification coupled with commuting, when persons seeking employment take work outside their place of residence.

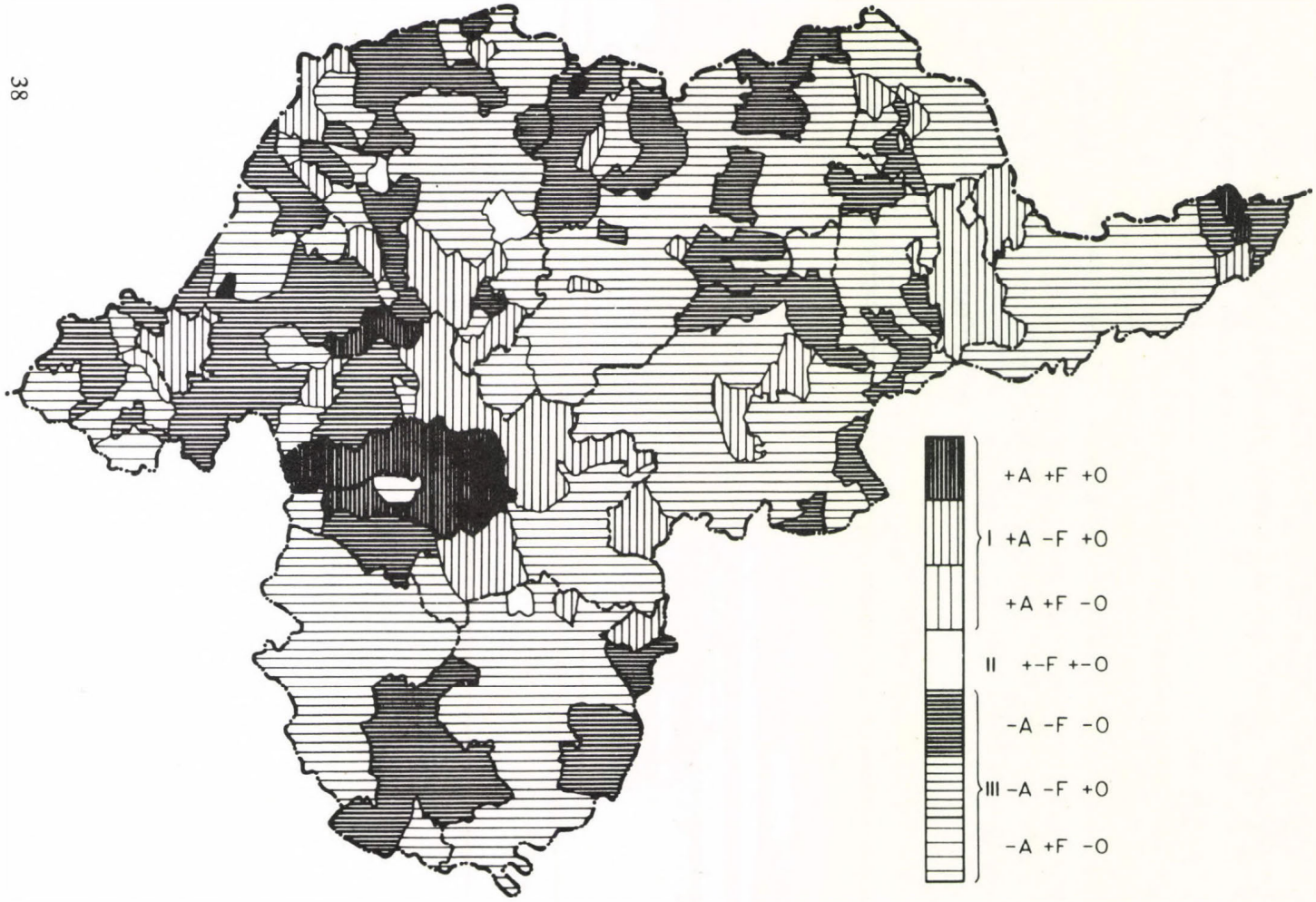

Fig. 4. Professional restratification of the active population in Borsod – Abauj – Zemplén County (1960-1970). I = Increased, II = unchanged, III = decreased. For other symbols see Fig. 3

In truly rural settlements agriculture continues to be the main source of employment, in spite of a substantial fall in farm labour, however, the occupational substructure is tending to incorporate more and more industrial activity. The application of modern agricultural methods may still release additional manpower but the majority will be unskilled women or persons in the older age groups. Young male manpower is already scarce in agriculture in many places today. The primary reason for this is that agricultural working conditions are not stimulating to attract and retain young people. Female workers can only be employed in farming seasonally, but with the organization of supplementary activities, the employment of women could be continuous.

Working away from one's place of residence is also more feasible for men. Commuting is mainly linked with industry, although in 1970 14.5 per cent of all commuters were employed in agriculture. The majority of agricultural commuters are engaged in white-collar managing occupations. This kind of commuting may increase in the future, but will remain different from industrial commuting. In non-agrarian branches (i. e. in industry), it is the work places that become concentrated and the places of residence dispersed, while in agriculture, covering extensive crop lands, it is the places of residence that cluster in the most suitable locality, where supplementary employment for immobile earners can also be organized. This, however, can only be accomplished quickly in the more populous lowland villages. In the hamlet regions, tiny villages can survive as agricultural units only, retaining their population to the extent allowed by economic conditions. Their development or abandonment depend on economic possibilities and require special consideration as the case may be.

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FUNCTIONAL TYPES OF RURAL SETTLEMENT IN HUNGARY

by

P. BELUSZKY

SALIENT FEATURES OF THE TRANSFORMATION OF THE SETTLEMENT PATTERN

Though the end of the Second World War was followed by rapid and large-scale social and economic changes in Hungary, it is only during the past decade that these changes have begun to accelerate the structural transformation of the settlement pattern. The process involves the same basic trends that had appeared earlier in the urbanization of economically highly developed countries. In Hungary the following salient features may be distinguished:

(a) The pace of structural change in the settlement pattern has lagged considerably behind social and economic progress. The settlement pattern is, as a rule, generally slow to respond to changes in the development and regional distribution of production and productive forces, but in Hungary this tardiness seems to be more marked than in most countries. This phenomenon has been brought about, among other things, by the large portion of investment, devoted to economic development and, as a result, the limited funds allotted to infrastructure in general, and to the growth and reconstruction of settlements in particular. The pace of industrialization has risen above the Western European average, and, in addition to the transformation of the country's economic system, social conditions have also undergone radical change. This manifold reorganization, which has progressed more rapidly than average, has been followed by a slower expansion of the less flexible settlement pattern than elsewhere.

(b) Since long intervals have to elapse before the structural changes in the settlement pattern can match the quantitative growth of, and regional changes in, productive forces, the effects of such growth and changes on the settlements have spread horizontally. (For example, the growth of urban population has lagged behind the increasing number of persons employed in industry and in the tertiary sector; the evolution proper of agglomerations has fallen behind the urbanization of the occupational structure; while the changing economic scope of individual settlements has not been succeeded by changes of similar proportion and character in their posi-

tion in the settlement hierarchy.) These effects, or rather the outcome of these effects, on the other hand, have gained ground with storm-like speed, covering zones of great extent. Though urbanization has also made headway and has become increasingly many-faceted since the 1960s – as can be seen from the rising population and industrial expansion in towns, from the systematic development of tertiary and urban functions as well as from large-scale urban reconstruction – the dynamic transformation of the settlement pattern can also be found in rural areas (cf. Fig. 1).

(c) Since the regional distribution and regrouping of population has not kept abreast with the concentration of productive forces, the spatial separation of places of residence and employment assumed large proportions. In Hungary every fourth wage-earner works other than in his place of residence. In addition to those commuting daily to their jobs, a great many persons work such large distances away that they only return to their homes weekly or fortnightly.

(d) Thus the effect of social and economic change appears, first of all, in the transformation of the occupational structure of rural settlements, notably in attaining an "urban character". This transformation involves some change in population numbers, but other features, such as the development of local functions, infrastructure, and the modification of village morphology, only follow the changes in occupational structure after considerable delay.

(e) In view of the rapid and spatially extensive changes that are in progress in rural areas, the character of rural settlements – continually subjected to the impact of urbanization – is unstable.

(f) It follows from the above that the number of transitional types, i. e. villages of mixed character, is comparatively high. The inherited and novel features of the settlement pattern – e. g. the "traditional" structure and aspect of villages with their rural way of life, in contrast to the high proportion of population in non-agrarian employment – produce a wide variety of combinations that may be juxtaposed within the same settlement, and even found on the same plot of land or in a given household.

Naturally, the characteristics outlined in the preceding paragraphs have influenced the selection of the method for investigating the functional classification of rural settlements in Hungary.

SOME METHODOLOGICAL QUESTIONS RELATING TO THE CLASSIFICATION OF RURAL SETTLEMENTS

THE DEFINITION OF VILLAGES AND TOWNS

Notions about the criteria for defining rural settlements are by no means unanimous in the geographical literature, although the idea of associating villages with settlements fulfilling an agricultural function seems to be on the decline.

1. The functions performed by settlements – i. e. their social and economic activities – may be divided into three groups according to their role in the settlement pattern. These are local functions, basic urban ("central-local") functions, and special ("extra-regional") functions.

Local and basic urban functions include those institutions which directly supply the population, and discharge duties concerned with the administration, organization and information of society. The difference between these two groups of functions lies in their hierarchical structure which is determined by frequency of use, threshold population and their position in the organizational hierarchy. Local functions satisfy the basic every-day needs of the population and occupy a low place in the hierarchy of services. Some scholars hold that agrarian activities may also be rated as local functions.

Basic urban functions occupy a higher place in the hierarchy of "services".

Institutions performing local and "general urban" functions are chiefly concerned with direct supply, administration and organization. Hence their spatial distribution is closely linked with population aggregations, i. e. with the settlement pattern, and they are necessarily occurring components of habitation areas. A similar combination of local and basic urban functions is fulfilled by institutions of identical scope which also necessarily appear in settlements or groups of settlements containing a given population minimum.

Urban functions that are neither local nor basic represent special spheres of action from the point of view of the settlement network, and their presence in the individual settlement units is not absolutely necessary.

2. There is no unanimous agreement as to the weight that should be assigned to these groups of functions in distinguishing the basic components of the settlement network, i. e. in separating villages from towns. In urban geography the definitions concerning towns and villages fall into three groups, all of which reflect a more or less identical view.

According to many workers in the field of urban studies and the official practice of several countries, for instance the German Democratic Republic, the Soviet Union

and Yugoslavia, it is the presence of special functions – above all industry, and occasionally tourism – that promote a particular settlement to the status of a town. Consequently, villages are identified with settlements of an agricultural character (H. Morgen 1960; G. Schwartz 1966; G. Reimann 1963).

T. Mendöl, an eminent Hungarian urban geographer, is of the opinion that "although in present-day Hungary the terms agricultural and rural mean the same thing in a large percentage of cases, they are not quite equivalent. There are non-agricultural functions and institutions that are found in most villages, and which cannot therefore be designated as urban functions and institutions, or as being characteristic of towns. Examples are primary schools, and general stores, i. e. the educational or retail functions that they perform". However, since educational or retail functions are regarded as local functions and are engaged in supplying the agricultural population, all things considered, Mendöl seems to imply that agricultural and rural settlements are identical concepts.

According to most scholars of urban studies, a town fulfils central functions within a settlement network being differentiated from other settlements on account of the regional division of labour. The scope of "central" is not uniform, however, for while the majority of research workers maintain that both special and basic urban functions are "urban-forming", and therefore "central", others hold the view that only central functions in the narrow sense (i. e. basic urban functions) are town-forming. It is also the author's opinion that only those settlements are towns in which certain basic urban functions have been concentrated, irrespective of the volume and structure of their special functions. Accordingly, villages are defined as those settlements which do not possess basic urban functions, irrespective of their economic character. For it can scarcely be doubted that the classification of settlements into towns and villages must be based on an appraisal of their individual roles within the settlement pattern. The volume and proportion of industrial (including the building industry), mining and agricultural functions existing in a settlement do not fundamentally influence its role within the settlement network.

DEFINITION OF THE FUNCTIONAL TYPES OF RURAL SETTLEMENTS

1. Until recently the basic administrative communes and functional units (villages) were more or less identical in Hungary. As a result of two independent processes, however, administrative divisions less and less match the basic units of the settlement

pattern. One of the processes can be observed in the agglomeration zones, where, owing to the close connections between places of residence and employment brought about by daily commuting, the original settlements and associated administrative units have lost their independence and have become members of a higher-order agglomeration.

The other process has emerged in regions where hamlets and small villages are frequent, villages of less than 1000 inhabitants predominate in about half the country. In such areas efforts have been directed, and planned support has been given, to the concentration of local services. "Village districts" have been formed under the administration of joint councils which continually endeavour to develop the educational, cultural, health service, and commercial functions of the central settlement in order to raise the level of services. At the same time a decline in the local functions of small villages may be observed, and primary schools, and local councils, for instance, cease to operate. In these hamlet regions the large agricultural concerns generally embrace several villages, and the emergence of village districts tends to break up the compact and independent socio-economic units of individual villages. Most service functions are relocated in the village district centre and as a result the "subsidiary villages" lose their independence as individual settlements and become spatially separated parts of "the central village", even when the spatial unity of places of residence and employment has not been disturbed. Regular visits to institutions supplying every-day needs may create the same close connection between the central and subsidiary villages as that existing between residence and employment.

The consequences of the two processes outlined above are only identical to the extent that the administrative units (i. e. communes) can be regarded less and less as separate settlement units. The concentration of local functions generated by the second process merely means that two or more – sometimes 6 or 7 – previously independent villages are brought together to form a single functional settlement unit. Their "village character", however, invariably prevails even after the amalgamation. If, on the other hand, a village loses its independence as a separate settlement through agglomeration, then it does not retain its rural characteristics, as it becomes part of the inner agglomeration of a town. (This process, by the way, sets limits on the spread of non-agricultural villages.)

In spite of the above phenomena, the classification of the rural settlements was accomplished on the basis of communes, the elementary units of statistical information. We are fully aware of the fact that the functional limits of towns often overlap administrative boundaries, which means that under the category rural settlements

the map may include villages that are functionally part of towns. This distortion is partly compensated for by distinguishing the boundaries between residential and working areas. One must also take into consideration a phenomenon mentioned in the introduction, namely that the agglomeration and urbanization processes, owing to their recentness, manifest themselves primarily in the occupational structure and commuting. Their effect on other facets of human activity is as yet slight.

2. When defining functional types, the proportions of local, basic urban and special functions within each settlement must be taken into account. The most intricate problem in distinguishing functional types is to compare the weight of each economic branch in each member of a settlement group. To solve this problem various experiments were carried out: for instance, a comparison was made of value creating in the particular branches of a settlement's economy. The trials have convinced us, however, that the only index for comparing functions that can be easily applied is still the number of persons occupied in each function. A classification based on occupational structure is not identical with one based on functional types, because a considerable part of the rural population work outside their village which serves only as a place of residence. Most rural commuters only return weekly or fortnightly to their homes, in which they consequently spend little time. Occupational statistics do not reflect unambiguously the urban or rural character of a function either (e. g. the designation commercial clerk includes the sales people of both groceries and jewelleries). The proportion of inactive earners (comprising mainly pensioners) is quite high and their numbers must be taken into account in producing a rural typology, although they cannot be attached to any economic function. Finally the supplementary agricultural activities of the non-agrarian rural population also represent an important factor not recorded in the occupational statistics.

Thus, in the functional classification of the rural settlements of Hungary the following principles have been taken into consideration.

(i) Villages are defined as those settlements in which no basic urban functions can be shown to exist.

(ii) In the classification, communes have been selected as fundamental units.

(iii) Discrimination as to type has been based on the occupational structure of villages, while the extent of the residential function has been determined by the proportion of persons working away from their homes.

Occupational structure has been determined by the proportion of active earners in the communes.

(iv) Apart from occupational structure, other indicators have also been used in the determination of some of the special functions (e. g. overnight guests per head

of resident population in the evaluation of recreational and tourist functions).

(v) In establishing the individual types, the dispersion around the mean of both the occupational structure and the degree of commuting for each settlement has been used. The threshold values of individual functional types have been based on the figures obtained from these calculations.

(vi) The proportion of industrial earners, including those in the building industry, in the occupational structure of rural settlements averages 35.4 per cent (this value is not identical with the corresponding national figure, because unweighted averages have been used in the calculations), with a standard deviation of 14.5 per cent and a coefficient of dispersion of 50.6 per cent. Using the standard deviation, the degrees of industrialization are as follows:

I_1 35.5 – 50.0 per cent industrial wage-earners, including the building industry
I_2 50.1 – 64.5 per cent industrial wage-earners, including the building industry
I_3 64.6 – 79.0 per cent industrial wage-earners, including the building industry
I_4 79.1 per cent and more industrial wage-earners, including the building industry

Similarly the proportion of agricultural earners averages 46.0 per cent, with a standard deviation of 18 per cent and a coefficient of dispersion of 45.6 per cent. Again using the standard deviation, the following agricultural groupings have been obtained:

A_1 46.1 – 64.0 per cent agricultural earners
A_2 64.1 – 82.0 per cent agricultural earners
A_3 82.1 per cent and more agricultural earners

The number of persons employed in the tertiary sector in rural settlements averages 18 per cent, with a standard deviation of 7 per cent and a coefficient of dispersion of 50.1 per cent. Owing to the lower average and the smaller absolute value of the standard deviation, the tertiary groupings cover the range T_1 to T_9, viz.

T_1 18.1 – 25.0 per cent of all employees in the tertiary sector
T_2 25.1 – 32.0 per cent of all employees in the tertiary sector
T_3 32.1 – 39.0 per cent of all employees in the tertiary sector
T_4 39.1 – 46.0 per cent of all employees in the tertiary sector and so forth

Of the wage-earners living in rural settlements, an average of 19.6 per cent work outside their place of residence, with a standard deviation of 8.4 per cent. In order to obtain a more accurate picture of "mixed" types, values one standard deviation below the average were also taken into account.

I_0 21.0 – 35.4 per cent industrial earners, including the building industry

A_0 28.5 – 46.0 per cent agricultural earners

D_0 11.2 – 19.5 dormitory settlement (per cent, outward commuters)

The values of several groups of functions may well exceed the average in some settlements. A large number of outward commuters (D_3, D_2), on the other hand, determines the character of a settlement, irrespective of the occupational structure of the population.

A classification based on this method produces a good many sub-types of the main groupings, at any rate many more than if the types are distinguished simply by certain threshold values (e.g. all villages with more than 60 per cent of the active population employed in agriculture are classed as settlements of an agrarian character). This procedure therefore offers an opportunity for defining, with great accuracy, the mixed or transitional village types which are in the initial stage of functional transformation. The number of such settlements – as outlined above – is very high and varied (Fig. 1).

VILLAGE TYPES IN HUNGARY

AGRARIAN VILLAGES

Settlements of an agricultural character raise the least difficulties over the identification of occupational structure with function, although the manpower attraction of large agricultural concerns, such as state farms, forestry and in recent years agricultural co-operatives, may be quite appreciable, leading in some cases to the formation of residential ("dormitory") villages of agricultural workers.

In accordance with the figures given in the preceding section, agrarian villages have been defined as those settlements in which the proportion of agricultural workers is 46.1 per cent or more. The discrimination of sub-types has been based on the intensity of secondary functions.

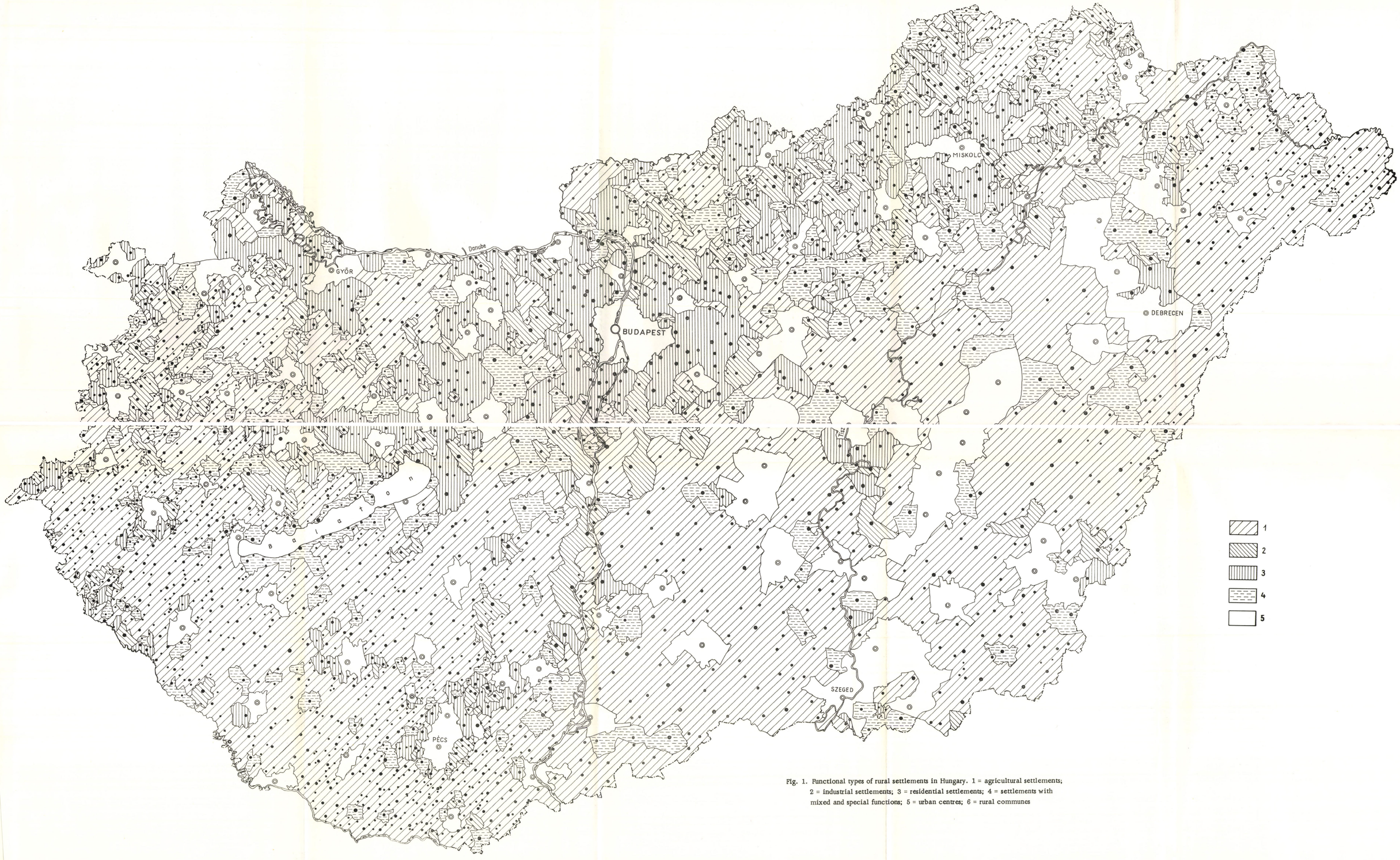

Fig. 1. Functional types of rural settlements in Hungary. 1 = agricultural settlements; 2 = industrial settlements; 3 = residential settlements; 4 = settlements with mixed and special functions; 5 = urban centres; 6 = rural communes

Possible types of agrarian village:

A_3	villages predominantly of an agrarian character
A_2	villages of a decisive agrarian character, without definite secondary functions
A_2T_1	A_2 villages with secondary tertiary functions
A_2T_2	A_2 villages with secondary tertiary functions
A_2I_0	A_2 villages with secondary industrial functions
A_1	agrarian villages without secondary functions
A_1T_1	A_1 villages with secondary tertiary functions
A_1T_2	A_1 villages with secondary tertiary functions
A_1T_3*	
A_1T_4*	
A_1I_0	A_1 villages with secondary industrial functions
A_1I_1*	
$A_1T_1I_0$*	
$A_1T_2I_0$*	
$A_1I_1T_1$*	

As regards the A* types, their agrarian character is still distinct, but the intensity of other functions is so strong that such types are classed as villages of mixed character. When the residential function assumes such a magnitude (D_3, D_2, D_1) that it exercises a significant influence on their character, settlements are classed as villages of residential or mixed (residential-agrarian) type, despite their agrarian occupational structure. A more moderate residential function (D_0) may occur in A_1 and A_2 type villages which are consequently classified as agrarian villages with a secondary residential function.

Thus, depending on the intensity of the agrarian function, three different levels of A type village may be distinguished. Type A_3 includes settlements of a predominantly agricultural character (with at least 81.4 per cent of earners employed in agriculture), where there is no possibility for secondary functions to arise. This type is rare even in the distinctly agricultural districts of the country. Of the 3100 rural settlements, 158, i. e. 5.1 per cent belong to this type. Their proportion is usually higher in those regions where the settlement pattern comprises hamlets and small villages as, for example, in County Baranya, with 9 per cent of villages belonging to category A_3 and in those areas where scattered settlements were amal-

gamated to form single communes in the early 1950s, for instance, in County Bács-Kiskun, where 11 per cent of villages form part of this category. While in the hamlet regions the population of individual settlements generally remains below 500 and in no case exceeds 1000, in the areas of scattered settlements communes of two or three thousand inhabitants – for example, Lászlófalva (2832) and Bócsa (2651) – have also been included in category A_3. However, the bulk of the population of these communes live on fragmented agricultural holdings, the proportions being 92 per cent in the case of Lászlófalva and 84 per cent in the case of Bócsa.

A_2 type villages, in which the proportion of agricultural earners varies from 63.8 to 81.3 per cent, are still specifically agrarian settlements, although secondary functions may well be present. Among the secondary functions, an above-average development of the tertiary sector is encountered most frequently. In all, 640 of the rural settlements of the country belong to this category, forming unbroken areas in many of the agricultural regions. In the case of A_1 type villages, agriculture may lose its definitive role, and some may have to be grouped with settlements of mixed functions. A wide belt of A_1 type villages surrounds the emergent agglomerations and towns of the agricultural regions.

In addition to the intensity of the agrarian function and the occurrence and types of secondary function, the nature of agrarian activity as well as the weight and importance of particular production methods and individual agricultural branches provide further room for classification. The criteria for this kind of classification have not, however, been elaborated in this research.

INDUSTRIAL VILLAGES

Of the 3100 or so villages in Hungary, the number of employees in the manufacturing industry exceeds 500 in 116 and 200 in 126 of them. In other words 7.7 per cent of rural settlements contain an industry worthy of note, although this does not imply that they possess a distinctive industrial character. At the same time, on the basis of occupational structure, there are 373 settlements that are specifically industrial, plus a further 600 settlements in which a sizeable proportion of industrial earners live. It is obvious that the majority of villages that are characterized by an industrial occupational structure are residential in character. In the urban-like agglomerations, industrial and residential villages have become interlinked to such an extent that their "rural character" is now questionable; they primarily represent statistical-economic units.

Industrial villages may be divided into sub-types by applying principles similar to those used in the classification of agricultural villages, namely:

- intensity of industrial character;
- the presence and types of secondary functions;
- the proportions of individual industrial branches and the nature of their relationship to "regional types".

I_4 and I_3 type villages have a predominant industrial character, and only the tertiary sector appears as a secondary function. The majority of I_2 and I_1 type industrial villages, on the other hand, are of mixed character. In addition to the emergence of the tertiary sector, the residential function frequently occurs in industrial agglomeration zones.

The sub-types of industrial villages are as follows:

I_4	villages predominantly of an industrial character
I_4T_1	villages predominantly of an industrial character with secondary tertiary functions
I_3	villages predominantly of an industrial character without secondary functions
$I_3T_1I_3$	villages with secondary tertiary functions
$I_3T_2I_3$	villages with secondary tertiary functions
$I_3A_0I_3$	villages with secondary agrarian functions
I_2	villages of a decisive industrial character, without definite secondary functions
$I_2T_1I_2$	villages with secondary tertiary functions
$I_2T_2I_2$	villages with secondary tertiary functions
I_2T_3*	
I_2T_4*	
$I_2A_0I_2$*	villages with secondary agrarian functions
I_2A_1*	
$I_2A_0T_1$*	
$I_2A_0T_2$*	
$I_2A_1T_1$*	
I_1T_1	industrial villages with secondary tertiary functions
I_1T_2	
I_2T_3	
I_2T_4	

$I_1A_0I_1$ villages with secondary agrarian functions
I_1A_1*
$I_1A_0T_1$*
$I_1A_0T_1$*
$I_1A_0T_2$*
$I_1A_0T_3$*
$I_1A_1T_1$*

The A* types are classed as villages of mixed character, while the appearance of a residential function was treated in the same way as with agrarian villages.

VILLAGES POSSESSING SPECIAL FUNCTIONS

An above-average development of the tertiary sector mostly occurs as a secondary function (T_1, T_2), although in some instances is associated with settlements of mixed type (T_3, T_4). On the other hand, the T_5 or even more developed tertiary sector may comprise the leading functions in some settlements. The following possible types may be distinguished: T_5, T_6, T_7, T_8 together their combinations with functions A_0 and I_0.

The tertiary sector comprises those persons who are employed in transport, trade, servicing enterprises and the civil service. Its advanced state of development may result from an above-average prevalence of tourism, recreation and service activities. Villages possessing a tertiary sector may be divided into further sub-types as follows.

1. Villages with tourist and recreational functions. It is rather difficult to ascertain whether a village belongs to this category because data on occupational structure cannot uniquely determine this functional type. The occupational structure of villages that are commonly known to possess recreational functions may in some cases be characterized by a predominance of agricultural or industrial population. (For example, in 1970 the proportion of agricultural earners was 46.0 per cent in Balatonfenyves, while in Balatonfőkajár the number of industrial, including building workers, and agricultural earners amounted to 48.5 per cent and 24.8 per cent, respectively.) Therefore, in order to help distinguish this type, official classifications, listing Hungarian health and holiday resorts and other places with amenities of a similar kind, have been consulted and the ratio of overnight guests per head of resident population per annum taken into account.

The recreational function is most fully developed in those settlements which have, from the outset, owed their growth to tourism. Their administrative status may link them with other settlements but regionally and from the point of view of morphology they can be clearly distinguished, while their functional dependence on the major local central place is not very strong either.

The health resorts with secondary, mostly agrarian, functions have evolved from agricultural settlements. In these villages the ratio of overnight guests per head of resident population exceeds 100 per annum and without exception they are "classified" as holiday resorts. Their number along Lake Balaton is considerable.

The recreational function may also occur as a component of villages of mixed character (mostly with T_2 and T_3 occupational structures), and may appear as a secondary function as well. Within this category are included mainly tourist centres such as Nagyvázsony, Balatonszentgyörgy, Abaliget, Zebegény and Jósvafő, frequented by Hungarian and foreign visitors alike.

2. Service activities do not form a leading function in any of the rural settlements of the country. It is also exceptional for them to comprise part of mixed functions. As a secondary function, however, they occur frequently, chiefly in the "central villages" of the hamlet regions, where a relatively limited administrative function shows up in the occupational structure because of their small population size. This function usually appears (as a secondary function) in the more densely populated, advanced industrial villages as well.

3. Transport mostly occurs as a secondary function, but along trunk routes and in the neighbourhood of railway junctions it may also lead to the emergence of villages with mixed functions.

VILLAGES OF MIXED CHARACTER

All rural settlements in which no one function reaches the "threshold" level (I_1, A_1, D_1 or T_5), or where several go beyond it, are classed as villages of mixed character. A great many of these exist in Hungary, 37.2 per cent of all settlements being assigned to this category. The number of sub-types is also large, among which villages of an agrarian-residential type occur most frequently. These settlements represent the vanguard of the spread of urbanization. (For a listing of sub-types one is referred to the description of villages possessing agrarian, industrial and special functions.)

RESIDENTIAL VILLAGES

Regardless of occupational structure, a village may possess a residential function. If commuting assumes mass proportions (D_2, D_3), it will condition the functional type of a settlement, irrespective of occupational structure.

Villages with residential functions play an increasing role in the settlement network of the country. Residential settlements display a wide variety of types, origins and features. Some have been transformed from long-standing agrarian villages by the extension of commuting zones in consequence of an improvement in transport; others have been established by people leaving the large cities and industrial agglomerations. While the majority have constant and close functional relationships with the settlements to which their inhabitants daily commute to work, some have looser links on account of a large proportion of pensioners and inactive earners. Frequently in industrial agglomerations a sizeable industry flourishes locally alongside large-scale outward commuting, while some settlements may even attract considerable amounts of labour from elsewhere, although a great many of their inhabitants work away from their homes. In other places a manifest mingling of residential and recreational functions may be observed, for instance along the Danube north of Budapest, or along the northeastern shore of Lake Balaton. Thus, in placing settlements into the residential village category, one is faced with a great variety of origins and a diversity of functions.

The judgement of whether certain residential villages have advanced to the level of towns can only be formed through individual case studies. Not even the stage of development of a residential function can furnish a reliable basis for settling this question. (In this context one must consider whether the centre of labour attraction is an urban settlement or not, the trend in relationships among local functions and how long the residential function has existed.)

GENERAL CONCLUSIONS

Rural settlements may be classified on the basis of numerous additional features, ranging from planimetric outlines of settlements through population dynamics to sociological rating. But even an examination of the functions of villages cannot confine itself to a classification based on economic scope and on the relationship between work place and residence, as has been presented in this chapter, although this forms the basis of that classification. This is especially true when one wishes

to classify "village districts" in contrast to single settlements or villages, i. e. coherent units of the settlement network. The pattern of life is motivated by several factors even in villages of identical type. Such factors are the size of settlements, their place in the settlement network, the way in which they are linked with towns and agglomerations (e. g. an industrial village may play a different role in the settlement pattern when located in isolated surroundings than when it is a member of an industrial agglomeration), whether the population of villages is concentrated into compact aggregations or dispersed in the form of scattered farmsteads, and the historical circumstances surrounding the evolution of a function (e. g. the life of industrial villages is still governed by how long their industry has been in existence). Thus a geographical classification of "village districts" cannot be fully accomplished by the method applied. That is why no attempt has been made to distinguish such districts on the basis of functional types, and why this stage of the author's research has been concluded by the mapping of the geographical distribution of types.

From the numerical distribution of functional types it is evident that villages of mixed character occur in large numbers and that the incidence of the residential function, either as a leading or a secondary function, is high. All this is a consequence of the horizontal transformation of the settlement pattern, outlined in the introduction. Villages characterized by mixed functions or secondary residential functions may also emerge at considerable distances from industrial areas, when they form special "pre-urbanized" zones. In these settlements the occupational structure of the population is already urban in character although the standard process of agglomeration has not yet been experienced (e. g. population often decreases because industrial workers are inclined to move to the vicinity of their remote places of employment rather than commute which might necessitate 2 1/2 to 3 1/2 hours' travelling time to work and home again). Furthermore, many traditional elements of life have been preserved and the transformation of the village morphology has made little progress. A special type is brought into being by occupational regrouping in districts located far from towns or places of industrial employment, the inhabitants of which are absent from their homes for one or more weeks at a time.

Of the large number of villages with residential functions only a few (scarcely more than one-fifth) have become closely linked with an agglomeration. This is why "residential villages" are still prevalent in Hungary today. At the same time, however, there are a few distinct areas where agglomeration in the strict sense has occurred. In some instances zones of such high density have been formed that the traditional definition of a settlement has lost its validity (e. g. between the towns Esztergom and Komárom along the Danube, and at the nucleus of the Borsod Industrial District).

This pre-urbanization process is expected to be only transitional in some villages and "village districts", because industrial earners are inclined to leave their homes as soon as they find a suitable dwelling in the neighbourhood of their place of employment, and as a consequence of this migratory trend the occupational structure of their former place of residence becomes simplified.

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THE HAMLET AND FARMSTEAD REGIONS OF HUNGARY: PLANNING PROBLEMS

by

L. LACKÓ

The two most characteristic types of rural settlement in Hungary, which differ from each other in practically every respect, are the hamlet regions and the villages surrounded by scattered farmsteads. These two types of settlement have stood in the forefront of interest both in research and planning in recent years. The reason for this is that the living conditions of people in these settlements are much behind the rest of the country, and numerous questions and special planning problems surround their future.

Hamlets (small villages) are defined as settlements of less than 1,000 inhabitants, their number in Hungary is 1,500 with a total population of 830,000. Apart from these, a significant number of villages with populations of less than 500 can also be found in the country (700 in all).

Hamlet aggregations are typical of Transdanubia and the northern part of the country. While the average population of villages in Hungary is 1,700 in some Transdanubian counties (Baranya, Vas, Veszprém and Zala) an average of only 600 to 900 people live in each village. Hamlet regions may also be clearly delimited by examining the pattern and values of settlement density (number of settlements per 100 km^2). Compared with a national average of 3.4, we find values of 7.4 in County Zala, 7.1 in County Baranya, 6.7 in County Vas, and over 5.0 in Counties Nógrád and Borsod-Abaúj-Zemplén. Hamlets are mostly found in the hilly and mountainous areas, and the following general characteristics may be distinguished. Individual hamlets are located at relatively small distances from one another, yet they are, for the most part, very isolated on account of the topography and usually inadequate communications. Economic functions are underdeveloped with the exception of some mining villages. The standard of infrastructure is low and per capita income appreciably behind the national average. A direct consequence of these circumstances has been the decline in the population of such settlements over many decades. A further essential feature of hamlet regions is their location between, or along the boundaries of, economically (mainly industrially) and culturally advanced centres or districts.

The farmstead regions represent the counterpole of hamlets in many respects. The population sizes of villages with scattered farmsteads are between one and a

half times and twice the national average; farmstead districts occupy extensive areas and the settlement nuclei, to which the farmsteads administratively belong, are consequently associated with the Great Hungarian Plain; settlement density is very low in such areas (1.3–1.4/100 km^2). The economic basis of such districts is agriculture but the detached farmsteads are less adaptable to large-scale collective farming than to the former system of private farming. Therefore, the economic basis of settlements incorporating a farmstead district is not as clear-cut now as it was a few decades ago. The living conditions of the population are below average – just as in the case of hamlets – but an accurate assessment of the situation is hampered by the limited amount of information available on those actually living in farmsteads. Thus the inner parts of settlements incorporating extensive areas of scattered farmsteads are comparatively well developed and it is only in the more peripheral districts lying within the administrative boundaries of the settlements that really backward conditions are encountered. On account of the lack of relevant data, however, a numerical expression of these circumstances is difficult to achieve. The population of farmstead districts generally shows a tendency to diminish, but in those areas where crop-growing or the more simple forms of collective farming are prevalent, that is, where a certain economic basis of living on detached farms exists, the population is stable. The farmstead areas are characteristically agricultural, living standards are far below average, communications and transport facilities are inadequate (within the administrative districts), and the opportunities available for schooling are limited.

RURAL RESEARCH INTO PRESENT CONDITIONS

In recent years, planning authorities have devoted increased attention to questions of social policy. Thus the problems connected with living conditions have received special consideration within the context of regional planning. Both the five-year plan commencing in 1976 and the long-range plan include among their major objectives measures to prevent inter-regional disparities in economic development and living standards increasing any further. It was during the review of tasks linked with these objectives that the necessity of paying particular attention to areas afflicted by unfavourable conditions was raised, as a significant portion of the country's population lives in such areas. In previous plans, attempts to ease significantly the difficulties of these areas miscarried. Starting from several different conceptions, research projects have been launched to explore the situation in the above-mentioned regions so that, after a detailed appraisal of factors and interactions, more efficient planning may be accomplished. The work which is in progress in the Geographical Research Institute, Hungarian Academy of Sciences, under the guidance of Gy. Enyedi, and in the Scientific Institute for

Town Planning under the guidance of K. Perczel deals with research on underdeveloped areas within the framework of an investigation encompassing the whole country. This contrasts with a project completed in 1973-1974 which analysed only those areas in which the marked effect of unfavourable physical conditions and an underdeveloped urban system were assumed on the basis of earlier rural research results. * This investigation distinguished four basic categories, namely the hamlet regions, the farmstead districts, the significantly underdeveloped areas in general, and the agricultural areas with unfavourable physical conditions.

In the present research, about 1,350 hamlets (with a total population of 1,200,000) and about 300 settlements in the farmstead districts (total population 1,200,000) were analysed. For each settlement 140 variables and 96 indices computed from these were subjected to inquiry. This information covered the demographic and occupational characteristics, educational level, housing conditions, communal and retail services, educational facilities, cultural conditions and the state of socialist industry and co-operative agriculture in the various settlements.

SALIENT CHARACTERISTICS OF THE HAMLET REGIONS

The principal demographic trends in the hamlet regions comprise a significant decrease in population (falling by 5 to 15 per cent between 1960 and 1969), natural increase well below average and considerable migration. As regards age composition, the proportion of population between 0 and 14 is low, while that of persons over 60 years of age is high. Both marriage and birth rates are below average.

The occupational structure in hamlet regions is characterized by a high proportion of economically active populations. On considering the distribution of active earners by major economic branches, one can see that the proportion of persons employed in industry, including the building industry, is low, whereas that of agricultural workers is much higher than average.

Many of the indices pertaining to housing conditions indicate an unfavourable situation in the hamlet regions: population density is high as is the proportion of dwellings built before the turn of the century while the proportion of houses with piped water is low. Other indices present a more favourable picture: the number of rooms per dwelling is comparatively high while the proportion of rooms with earth floors, and of dwellings with walls of adobe, mud or beaten earth are low.

* For details see Lackó, L. (1974): The situation of regions afflicted by unfavourable conditions in Hungary. (In Hungarian.) Tervgazdasági Közlemények, 7.

(This is obviously a direct consequence of the fact that the primary building material in hilly and mountainous regions is not adobe but stone.) Additionally, the proportion of dwellings with bathrooms as well as electricity and gas is high in comparison to other unfavourable areas. In this respect one can clearly observe the beneficial influence of relatively well-developed neighbouring districts and towns.

The retail supply situation in hamlet regions (trading area compared to number of inhabitants) appears favourable, and yet trade per head of population in terms of main commodity groups taken either singly or as a whole is significantly below the average.

Day-nurseries are of a rather low standard and overcrowded in these areas. In contrast, primary school indices display a very favourable picture, because of age structure and birth rate. The indices relating to educational level demonstrate that the proportion of persons having primary school and secondary school certificates is somewhat higher than in other areas with unfavourable conditions, while the radio and television subscribers' index is comparatively high. One may again attribute the comparatively high educational and cultural level of these localities to the influence of their environs and traditions.

The industrialization level in hamlet regions approximates the general level found in areas of unfavourable potentialities, although the average wage of the occupied population is slightly higher than the national average.

Physical conditions are disadvantageous for agricultural production, since the proportion of slopes steeper than 12 grades is high. Yield and net production value per unit area are very low as are wages.

In order to study in detail the characteristics of hamlet regions we selected County Baranya as a sample. Multiple correlation and regression models were used to analyse the changes affecting living conditions, and the following conclusions were drawn.

Housing conditions are chiefly correlated with the number of inhabitants and educational level. Trade per head of population is mainly related to number of inhabitants, educational level, occupational structure and the state of retail supply. Educational level, on the other hand, is mostly correlated with age structure, occupational structure and the per capita utilization of electric power, while population change is closely related to the age of dwellings and level of housing amenities.

SALIENT FEATURES OF FARMSTEAD DISTRICTS

An examination of the demographic data and indices for farmstead districts demonstrates that the population of these areas has only slightly decreased during the past decades; both natural increase and permanent net migration differences

are relatively low. The proportion of out-lying population is very high (averaging 28 per cent). Age group composition does not display any unusual features save, perhaps, for the proportion of 0–14-year-olds which is somewhat lower than average.

The indices referring to employment standards and the proportion of inactive earners approximate the averages for areas having unfavourable potentialities. It is a little surprising that in the sectoral distribution of earners the proportion working in industry, including the building industry, is somewhat higher, and that in agriculture lower, than the respective proportions recorded for unfavourably situated areas as a whole.

Housing conditions in farmstead areas are, generally speaking, backward. The average number of rooms per dwelling is small; the proportion of rooms with earth floors is high, and many dwellings have walls of adobe, mud or beaten earth and were built before the Second World War. In this context one may mention, as a more favourable feature, the low population density and the comparatively high proportion of dwellings with bathrooms. Of the indices describing housing amenities it is important to note that the proportion of dwellings with electricity installed is appreciably below that found in the areas having unfavourable potentialities.

Commercial supply indices also reflect low standards, and it is particularly surprising that per capita retail trade indices are very high.

Regarding the number of available places in day-nurseries and the number of pupils per primary school class room and per teacher, the situation in the farmstead districts is about the same as that in areas with unfavourable potentialities. Educational level is slightly better than average.

Based on the relative number of active industrial earners, the industrialization level of farmstead districts is above average, whereas gross fixed assets would suggest that it is significantly below the mean. An unusual industrial structure, predominantly light and food industries, is indicated by the low average wage as well as by the very low level of gross industrial fixed assets per worker.

The mean gold value of agricultural land is very high, and fixed and public assets per unit area also surpass the average. Agricultural co-operative members receive high wages, while the proportion of persons with very low incomes is below the average, and the proportion with high incomes above the mean. Yield and net production indices per unit area are also significantly better than average.

For the multiple correlation and regression analysis County Bács-Kiskun was selected as an example, and the following relationships were revealed.

Housing conditions correlate with educational level, age and occupational structure, and the proportion of out-lying population. The indices describing communal services chiefly relate to the proportion of out-lying population, educational level, and age and occupational structure. Trade indices are stochastically correlated mainly with educational level, the number of inhabitants, the proportion of out-lying population and commercial supply level. The relative number of radio and television subscribers is related to the proportion of out-lying population and occupational structure.

Educational level correlates with occupational structure, electric power consumption and the number of inhabitants. Population change, on the other hand, is mainly related to the age distribution of dwellings and occupational structure.

To lay a better foundation for planning, we selected from the above-described areas the most underdeveloped, where the unfavourable conditions survive most persistently. In this context standard of living was regarded as the fundamental criterion. Taking into consideration the complexity of the task and the different nature of the various operating factors, we applied factor analysis. Each settlement examined was characterized by 27 variables, including the number of inhabitants, housing conditions, housing amenities, the availability and standard of day-nurseries and schools, educational level, trade, cultural conditions and occupational structures. (It was not possible to incorporate variables concerning income because these could only be determined for settlements where industrial or agricultural co-operatives existed.) The first factor was unambiguously identified with living conditions and, furthermore, readily lent itself to further analysis because it explained 49 per cent of the total variance. After a brief survey of factor loadings, it became clear that living conditions are mainly correlated with the number of inhabitants, educational level, occupational structure and out-migration: the factor value is determined, to a great extent, by per capita trade school availability and standards, electric power and gas consumption as well as the qualitative characteristics of dwellings. The area under consideration was categorized on the basis of the main factor scores for each settlement (Fig. 1) which demonstrate that while the hamlet regions generally belong to the lowest level of development, only part of the farmstead districts can be so categorized. (It is evident from this as from other investigations that the scope of the initial data, the amount of detail available for the area and the method of computation exercise a significant influence on the results obtained. For example, a Transdanubian village of 300 inhabitants was considered to have the same weight as a large village in the Great Hungarian Plain with a population of several thousands, income data was not processed at all, and so forth.)

However, in spite of the well-known limits of factor analysis, we obtained useful results on the hamlet regions and scattered farmstead areas for further evaluation.

The main factor expressing the living conditions of hamlet regions highly correlates with the proportion of persons with a secondary school-leaving certificate, actual population increase and, negatively, with the proportion of agricultural earners. In addition to these, the number of inhabitants, the proportion of persons with primary school certificates and the proportion of dwellings with bathrooms also play an important role.

In the case of farmstead areas, the correlations with the main factor are different in several respects, thus relationships are strongest with the proportion of agricultural earners and the number of television subscribers per 1,000 inhabitants, although

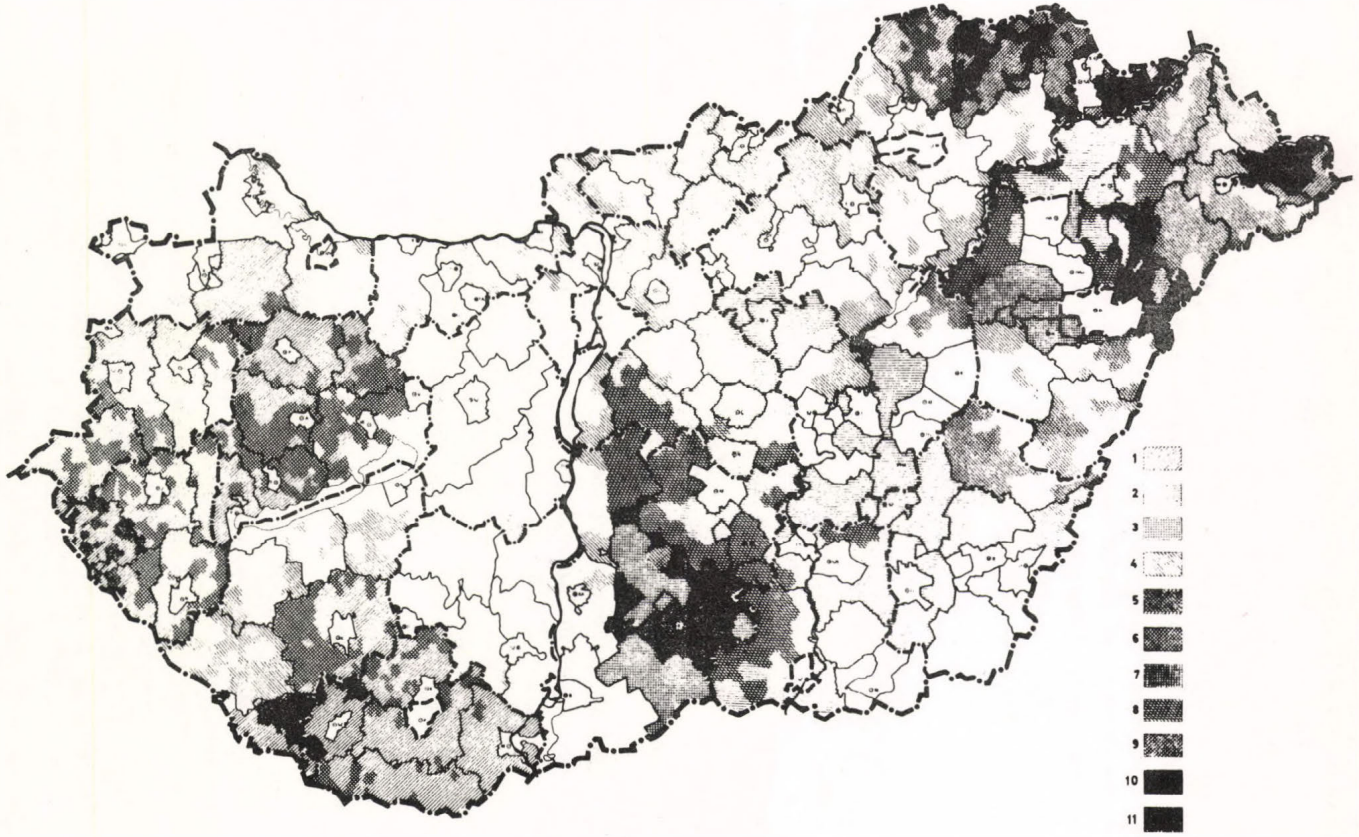

Fig. 1. Areas with unfavourable development conditions in Hungary. 1 = Areas with small villages (hamlet areas); 2 = detached farmsteads; 3 = backward areas; 4 = agricultural areas with unfavourable natural endowments; 5 = backward areas with small villages; 6 = hamlet areas with unfavourable natural endowments; 7 = detached farmsteads in backward areas; 8 = detached farmsteads in areas with unfavourable natural endowments; 9 = backward areas with unfavourable natural endowments; 10 = backward areas of small villages with unfavourable natural endowments; 11 = backward detached farmstead areas with unfavourable natural endowments

the proportion of persons employed in transport, trade and other branches, electricity consumption per capita, and per capita sales of clothing and miscellaneous industrial articles are not far behind.

The standard of living conditions is therefore chiefly linked with demographic characteristics and educational level in the case of hamlets, whereas in the farmstead areas, occupational structure and electric power consumption are the most important.

It is hoped that the results of this investigation – which have also revealed certain internal relationships among the individual settlement types – will help to raise the standards of rural planning.

PLANS AND PLANNING POSSIBILITIES

In rural planning three basic components can be distinguished:

1. the conception of the medium- and long-range development plans of governmental organs for individual settlement types;

2. the National Settlement System Development Conception, approved by the Government in 1971, which set itself the task of establishing a proportionate urban structure in the country in the long term;

3. the urban system development plans, worked out for each county by the respective County Council, with due consideration to the preceding and other standpoints.

These plans, above all, encompass the factors directly influencing the living conditions of village population (housing, educational conditions, commercial and communal services, etc.), and are only secondarily concerned with the alteration of the productive sphere. In this study we have focussed our attention on the living conditions of people living in individual settlement types, among other things because this is one of the key questions ofmedium- and long-range regional planning in Hungary at present.

As a result of social and economic development, living standards have risen quite rapidly, especially during the past 15 years. However, the general rise displays pronounced regional variations, and disparities between towns and villages as well as between individual village categories have become more conspicuous. The village population is more aware of the relative backwardness of its living conditions than previously, among other things because its composition has undergone radical change: nowadays only 40 per cent of those living in villages are employed in agriculture (30 years ago this figure was 75 per cent). Thus, while the majority of the rural population now work under modern conditions, they live and are housed in relatively primitive circumstances. Significant disparities may also be observed between villages of identical size located in different parts of the country (Fig. 2).

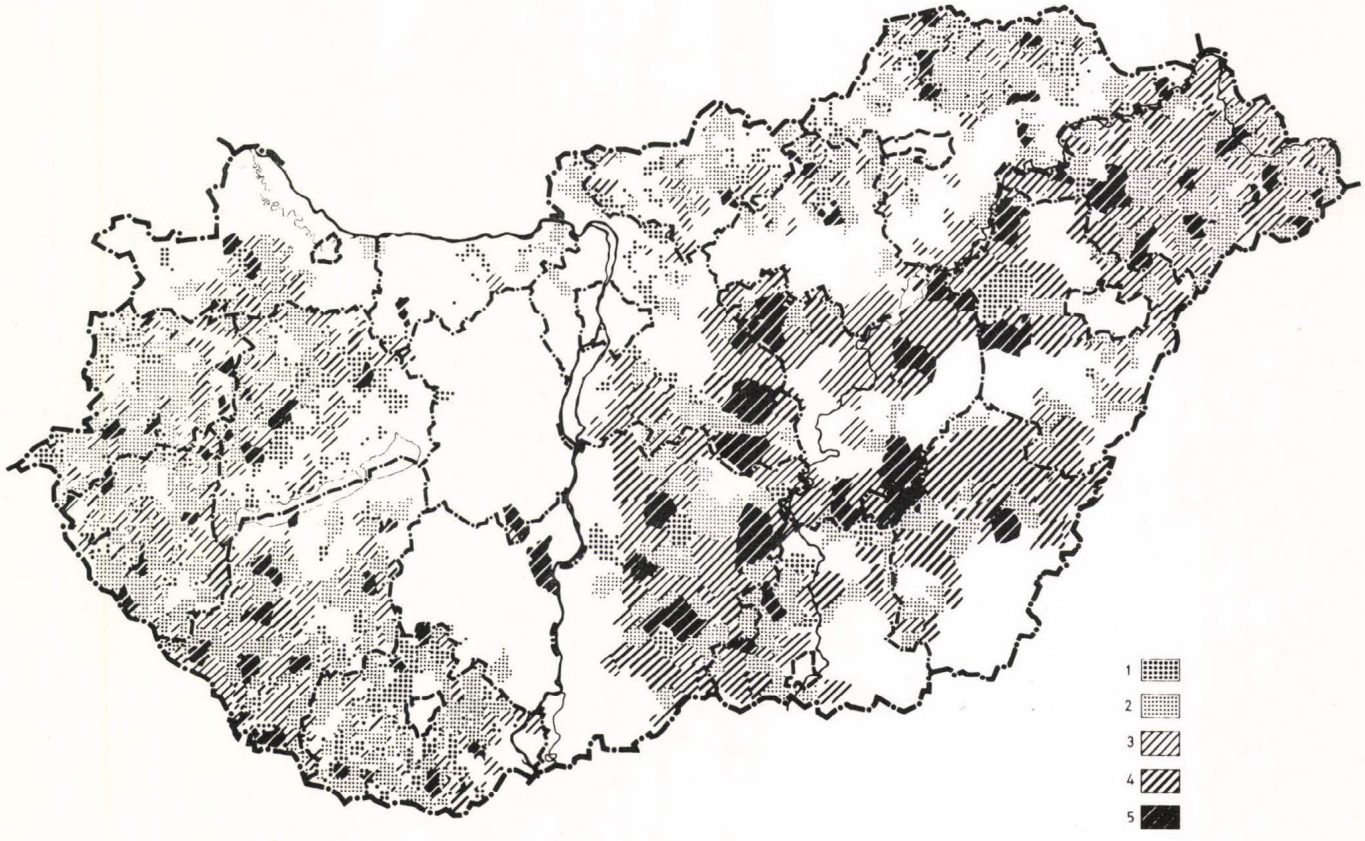

Fig. 2. Living conditions of areas with unfavourable development conditions (results of a factor analysis compared to national average). 1 = Very low; 2 = low; 3 = average; 4 = high; 5 = very high

The main task of regional development policy in Hungary is to reduce the appreciable regional differences in living conditions. It is part of this policy that significant disparities in living conditions, due to the character and location of places of residence, must not be allowed to last much longer. Some variation is, of course, acceptable in the long term, but the basic services, like water, electricity and dwellings, must be made available everywhere. The lack of these intensifies rural-to-urban migration and, in turn, places increasing demands for the construction of flats and infrastructure development in urban areas. This, in turn, taxes to the utmost the capacity of the national economy and leads to a strained situation. At the same time, a considerable number of dwellings, and in some cases public institutions, remain vacant and unused in the villages, and so a certain part of the national wealth is not taken advantage of.

In consideration of the results of the various analyses, the following major tasks should be accomplished during the next five-year plan:

- efforts must be made to reduce existing differences among rural settlements with respect to housing conditions in general, housing amenities, infrastructure and to the availability of basic public institutions;
- in the fields of health services and public education, the moderation of differences between urban and rural settlements must also be set as an objective;
- among villages special attention must be paid to the development of "central" settlements which, in addition to supplying their own population, must satisfy the daily needs of those living in the immediate environs.

As we have already mentioned, the causes of the formation of hamlet and farmstead regions, the regional distribution of such areas and their present characteristics vary. However, there are common attributes and problems, too. The latter include the backwardness of living conditions compared with other areas. One of the common reasons for this is that the population of both hamlet regions and farmstead districts is rather scattered, hindering the economic operation of both infrastructure establishments and public institutions. Neither type of settlement is expected to "disappear" in the near future (15 to 20 years), which is why great importance is attached to the development of central settlements or, in the farmstead districts, of parent settlements and peripheral centres.

In general rural development, the central settlements mentioned above play a different role. The National Settlement System Development Conception and the Urban Settlement Development Plans for the individual counties have categorized each settlement of the country according to the functions that they well fulfil. Thus, we can speak, for example, of Budapest, as the national centre, and of the next five largest cities (Miskolc, Debrecen, Szeged, Pécs and Győr), as major higher-grade centres, and so forth. The lowest grade in this hierarchy is represented by about 2,200 "other settlements", which have not been assigned any function, immediately above which is the category of lower-grade (major and partial) centres. The latter are the designated central settlements which should, in principle, form

the backbone of the rural settlement system, taking care of organization and service provision in their environs. (There are 908 of these in Hungary.) Experiences gained in the past two or three years have shown, however, that the majority of central settlements have not been able to carry out their tasks because they themselves have public utility and infrastructure deficiencies to grapple with. The population of neighbouring villages have not migrated to these settlements but have preferred to move to more remote towns and urban-like settlements. The primary reason for this is that the central settlements have an inadequate infrastructure and public institution network, and thus are not attractive to would-be migrants.

In the near future the following measures will have to be taken to help develop the areas whose settlement structure consists of hamlets and farmsteads. Investment funds for water supply and road construction in the central villages will have to be increased, electrification of those farmsteads which are in comparatively favourable locations and are therefore likely to survive will have to be carried out; construction and modernization of all-weather public roads linking farmsteads to the central settlement is needed to enable those living on isolated farms to avail themselves of the services provided by the public institutions of their respective central settlement; graded instruction in the four upper forms of primary school must be quickly introduced everywhere in order to improve the standard of primary education.

In addition to raising the necessary finance, the accomplishment of these objectives will require an appropriate re-allocation of internal investment funds for these particular tasks: compared with the period of the first plan, more will have to be spent on road construction and on water supply and sewage systems, while less should be assigned to trade, education and health services. The willingness of the population and agricultural concerns to make financial sacrifices in the interest of developing their environment will continue to be as important a factor in hamlet and farmstead regions (and generally in the villages) as it has been in the past. The population will mainly contribute to the construction of dwellings and water supply and agricultural concerns to road building.

In the following 15-year plan period, the fundamental objectives established for the hamlet and farmstead regions will be essentially identical with the tasks defined in the five-year plan. The attitude of planning organizations must partly be based on already available experience, which means that the transformation of these settlement types must not be forced by such measures as bans on building or by other restrictions. Lasting success can only be achieved by the planning authorities if they are able to foresee and prepare for future changes in the country's urban system through the exploration of social and economic trends. According to the data of the past few years, the population of hamlet regions and farmstead districts has been decreasing by 2 per cent each year. In the hamlet regions, the fall in population is at approximately the same rate everywhere but

in the case of farmstead districts marked variations can be observed, the decrease being considerable east of the river Tisza, but only minimal in the area between the Danube and Tisza. The major task of practical planning is to create the conditions for more effectively satisfying the population's demands, within the financial bounds established, in as many central settlements and regional centres as possible. Essential changes in the country's urban system can only be expected to materialize in the long term (30 to 50 years), and thus an appreciable diminution or transformation of the hamlet regions and farmstead districts is only likely to take place after the completion of several long-range plans. In the meantime, however, no effort must be spared to improve the living conditions of the population in the areas under consideration.

THE GROWTH OF RURAL INDUSTRY

by

Z. TATAI

INTRODUCTION

Rural industry in Hungary has grown substantially and its structure and characteristics have undergone considerable change during the past three decades. In its expansion it has relied on the large-scale industrialization of the country, in the course of which a great number of industrial works have been located in rural areas. Such regional development programmes as those aiming at the accelerated development of the Greater Budapest area also promoted the expansion of village-sited industry.

Before the Second World War, rural industry was comprised of mining, handicrafts and food-processing, but these traditional branches have largely been forced into the background now. The closing of worked-out and therefore unprofitable mines has caused the rural coal industry to decline, but many of the surface buildings have been converted to accommodate a host of smaller processing factories which have been located in former mining villages to provide employment for the population. The realignment of agriculture has rendered some occupations redundant (e. g. blacksmiths and coach-makers), and introduced new ones (e. g. motor mechanics). The nature of rural services has also been transformed: new trades, such as plumbing, machine-setting, and the repair of household appliances, have emerged in the villages. In the 1950s artisans providing rural services were squeezed out of the country's economy by a discriminative fiscal policy. During the last decade the Government has set a new course by granting tax allowances and by passing favourable decrees to increase the population engaged in services, nevertheless few applications have been lodged to date. So in the smaller villages services remain inadequate, whereas in the larger settlements prevalent on the Great Hungarian Plain, they have assumed urban characteristics.

Food-processing became markedly concentrated in the 1950s and 1960s, and the small village mills, dairies and bakeries ceased to operate. Bulk food-processing turned out to be more economic although the transport of milk or bread, for example, was enormously increased. The establishment of large food-processing factories, however, to replace the network of small concerns which satisfied local consumer demand, proved to be inexpedient, and during the past decade the agricultural co-operatives have been building small productive units to take care of local dairying, meat-packing and bread-making.

TABLE 1
Distribution of active earners and dependents, living in villages, according to the branches of the national economy (in per cent)

Branches of the national economy	Active earners and their dependents				Active earners			
	1941	1949	1960	1970	1941	1949	1960	1970
Agriculture	73.5	71.9	53.9	42.6	76.9	76.0	59.5	42.2
Industry	12.6	12.9	20.7	27.3	10.0	10.4	18.1	28.6
Building industry	2.4	2.1	7.3	9.0	1.7	1.6	5.7	7.7
Transport and communications	2.7	3.2	6.3	7.5	2.0	2.4	4.8	6.3
Commerce	3.0	2.5	3.5	4.7	2.8	2.3	3.5	5.5
Others	5.8	7.4	8.3	8.9	6.6	7.3	8.4	9.7
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

It is interesting to note that folk art, which was well on the way to becoming extinct before the war, is now thriving again as city dwellers show an increasing interest in its products. The folkcraft industry is mainly in the hands of co-operatives whose organizations include both central handicraft workshops and individual master craftsmen working at home.

Thus the old structure of rural industry has undergone fundamental change, and many modern factories have been located in rural areas. Rural manufacturing now exercises a notable influence on the life of rural settlements.

THE RELATIONSHIPS BETWEEN THE GROWTH OF INDUSTRY AND THE SETTLEMENT PATTERN

THE EVOLUTION OF VILLAGES INTO TOWNS

From the point of view of urban geography rural industrialization is important because it is the most effective process transforming villages into towns. During the past 30 years, 33 new towns have been formed in Hungary, ten of which owe their existence exclusively to the concentrated and rapid growth of industry. These are Dunaújváros, Tatabánya, Oroszlány, Komló, Ózd, Ajka, Várpalota, Kazincbarcika, Leninváros and Százhalombatta. They are also called socialist towns because their urban aspect is solely the outcome of socialist industrialization. Industry has also been instrumental in the development of 20 additional rural settlements into towns. Only 3 new towns (Siófok, Keszthely and Balatonfüred) exist in the country, which have developed essentially on account of tourism, but even in their case the effects of industrial expansion have not been negligible.

According to the 1973 data, 210 thousand people worked in the industrial establishments of those settlements which have grown into towns during the past three decades, a figure which amounts to 12 per cent of the country's total industrial labour.

How villages evolve into industrial towns in Hungary

1. The expansion of large-scale industry has been accompanied by considerable housing and urban development in some settlements. Rapid population increase and higher supply standards have been the grounds for giving such places urban status. Examples are: Komló, Oroszlány, Dunaújváros and Leninváros.

2. In other instances the largest centrally located settlement of an area has grown considerably through industrial development, and neighbouring villages have been annexed to it. Thus, the town of Várpalota has been formed from the

villages of Várpalota, Inota and Pétfürdő; Ajka from Ajka, Bódé, Tósok and Tósokberénd; Tatabánya from Felsőgalla, Alsógalla and Bánhida; and Kazincbarcika from Sajókaza and Barcika.

3. Some villages became a component part of nearby towns through extensive building and construction in peripheral areas. Areal convergence is followed by legal unification, and the villages are officially annexed to the towns. For example, the village of Zagyvapálfalva has been attached to the town Salgótarján, and Diósgyőr, Hejőcsaba and several other mining villages to the town Miskolc. It seems that one or more villages have been annexed to almost every rapidly developing industrial centre.

Industrial growth has continued to be a decisive factor in the transformation of villages into towns. Long-range regional development conceptions include plans to assign important regional organizational functions to 49 rural settlements, from which new towns will emerge when they attain the level of urban status. Industry already plays a predominant part in the economy of most of these settlements, for it is the major component of employment and urban development. Among the members of this group Paks, where the country's largest electricity generating plant (operated by nuclear power) is being constructed, demands the greatest attention at present. In a few years' time, through industrial progress, conditions will certainly be sufficiently mature for this settlement to become a town.

PRINCIPAL TYPES OF RURAL INDUSTRIAL SETTLEMENTS

Another study in this volume is concerned with the functional classification of rural settlements. There the author also defines some of the types of industrial village although his analysis is based on occupational structure only. Here industrial villages are classified chiefly according to their industrial and tertiary activities.

(1) Industrial villages of an urban character and with regional organizational functions. Most villages fulfilling regional organizational functions have reached such population sizes – generally 10,000 inhabitants or so – and created such an urban-like environment that they may soon satisfy the requirements for being upgraded to towns. The development of these settlements has been accorded a position of particular importance in national planning. The authorities have estimated expected population growth in each of the settlements, and have undertaken to ensure, within limits, the infrastructural preconditions of development.

A long-range development programme approved by the Government and encompassing the whole settlement network assigned secondary central organizational functions to 22 settlements and partial functions of the same kind to 27 others, none of which have an urban rank at present.

Among these settlements there are quite a few whose role and progress in the national economy are largely determined by industrial growth, although they may also exert a considerable influence on their surroundings in the fields of public administration, trade, education and other branches. These are the settlements that are expected to develop into new towns in the near future.

The settlements under consideration usually include an urban nucleus formed earlier, to which have been added in recent years water and sewage systems and new modern housing estates. The 49 settlements described above contain 7.5 per cent of the rural population of the country and 20 per cent of rural industry, the latter figure being based on the number of industrial employees.

(2) Industrial villages of an urban character but without major regional organizational functions. During the past decades modern housing estates have sprung up, usually in the vicinity of large industrial works. These have gradually grown, and some of them have now developed into settlements of several thousand inhabitants. They have mostly been designed and built in modern manner, with basic commercial, sanitary, educational and cultural services provided at the construction stage. These housing estates have been erected as part of industrial investment, often in the neighbourhood of old villages, but separated from them.

The new habitation areas just described do not usually exert an appreciable attractive force beyond their immediate environs, and their residents mostly work in the industrial establishments connected with the habitation area. The flats are mainly occupied by professional and managerial staff holding leading posts and by senior skilled workers. Most other workers commute to the factories from surrounding villages. Examples of such settlements are Szőny, Almásfüzitő, Balatonfüzfő, and Nyergesújfalu. Neighbouring villages are connected with such rural industrial centres primarily through daily commuting.

(3) Old industrial villages. Certain branches of industry have traditionally been "rural". Of the sugar refineries of Hungary, many are located in villages, for instance, at Petőháza, Ács, Ercsi, Selyp, Sarkad, and Mezőhegyes, and the newest one will also be constructed in a rural area, at the village Kaba, within a few years. The country's distilleries, starch-works, hemp-processing factories and raw-silk factories are also located in villages. These branches of industry rely on local agricultural produce and mineral resources, and are mostly operated seasonally. Their influence on the development of settlements is not very significant.

Brick-making, tile and cement production as well as glass-making and potteries have about the same significance in rural industry as the branches mentioned above. They are found in such old industrial villages as Herend and Hollóháza, renowned for their china industry, and Parád and Tokod, which acquired fame on account of their glass-works. These parts of industry play a somewhat more important role than those described in the first paragraph of this section, in that they effect the modern building-materials industry and the standard of home-

building. Speaking of the glass-making and china industries, one must also mention the influence of foreign master craftsmen who arrived late in the last century, and helped to transform the traditional rural way of life.

(4) Mining villages. Industrial settlements include a special group, namely that of mining villages, which have grown up mostly in the vicinity of coal seams, although some owe their existence to the establishment of mines exploiting ores, stone and other minerals. For instance, bauxite is mined at Úrkút in Transdanubia, while the population of Uzsa, also in Transdanubia, earn their living through quarrying. In Northern Hungary, the economic foundation of Recsk is based on the mining of non-ferrous metals and that of Rudabánya on iron ore mining.

At the begining of socialist industrialization, particularly in the 1950s, mining in Hungary was increased in order to satisfy a rather strained economic policy of rapidly developing heavy industry on the strength of domestic resources. This offered grounds for paying special attention to the development of mining settlements. However, local labour supply could not satisfy the manpower requirements of the industrial establishments and the authorities had to create suitable conditions for incoming workers, parallel with the industrialization process. The large-scale development of mining in those days had an appreciable effect on the formation of the new towns of the country.

However, the coal industry has since declined and been restricted to certain regions only, with the result that the significance of rural mining has also diminished. Other, developing branches of mining such as bauxite and crude oil tend to settle their workers in towns rather than build new housing estates in rural areas.

During the past decades, the organized building of modern suburban homes with gardens, either with state subsidies or company support, has become widespread in mining villages, and simultaneously most of the dilapidated pre-war quarters have been demolished. In the mining villages infrastructure supply and the maintenance of industrial sites was provided mainly by the companies themselves until the 1960s. In recent years, however, the operation of public utilities and the management of public institutions have been transferred to local councils. This has also been justified, in many places, by the changing economic structure of villages.

(5) Industrial villages in agglomeration zones. The emergence of agglomerations around industrial centres is a process consequent upon the growth of industry, and the development of the zone is closely interrelated with that of the centre.

Agglomerations are usually associated with those industrial centres where industrial enterprises try to overcome their labour shortage and other obstacles to progress by setting up subsidiary factories in neighbouring villages. As the size, manpower requirements and relative overgrowth of such centres increase, so the tendency to expand intensifies. As a result, industrial agglomeration comes to surround the large industrial centres. In Hungary the most remarkable example of

this process is the Budapest agglomeration, although similar phenomena may also be observed in the neighbourhood of other industrial centres.

In the villages of the Budapest agglomeration, which covers an area about 30 kilometers in diameter, the rate of industrial growth surpasses the national average, in spite of Government restrictive measures. In the immediate vicinity of the capital, part of industrial development is controlled by systematic plans based on centrally granted investment. The area includes such large industrial centres as Szigetszentmiklós and Dunakeszi.

The location of industry in the outer belt of the agglomeration is frequently a random process. It is chiefly induced by labour shortage, although the factories located in the outer ring draw upon the same manpower resources as urban industry. On the other hand, it seems highly advisable to move those industrial plants which require much space and cause air pollution to rural areas and relocate them in a dispersed manner.

THE PROGRESS OF SOCIAL INDUSTRY IN THE VARIOUS SETTLEMENT TYPES

A Government resolution adopted in 1959 on the location of industry substantially modified its regional distribution not only on a county basis but also in relation to certain aggregations of settlements. The number of workers in state-controlled and co-operative industry increased by 55 per cent between 1958 and 1973, the respective percentages being 6 in Budapest, 124 in the country towns, and 53 in the villages. During the same period, 21 new towns emerged, mostly as a result of industrial development in villages. If we include these former villages within the rural category, then the figure for the industrial growth in villages increases to 84 per cent, while that for the country towns falls to 103 per cent. While in 1958, 45 per cent of all industrial workers were empolyed in the capital, 33 per cent in the country towns, and 22 per cent in the villages, by 1973 the figure for Budapest had fallen to 31 per cent, that for the country towns had risen to 47 per cent, while the proportion in village-sited industry remained the same. When those villages that were given the status of towns over the period are again reassigned, then the proportion of industry sited in rural areas increases to 26 per cent. The active population of the settlements which have grown into towns during the past three decades numbers 209 thousand, which is 26 per cent of the active population of the country towns, 12 per cent of total industrial manpower, and more than half the industrial workers of present-day villages.

In the fifteen years under consideration, the industrial labour force in present-day villages increased by 130 thousand. Thus the villages, while "producing" new towns, have more or less retained their former share of socialist industry. But when

TABLE 2

Changes in the number of persons employed in socialist industry between 1958 and 1973, grouped according to types of settlement

Year	Persons employed in socialist industry										
	in the whole country		in Budapest		in villages				in towns		
	number in 1000s	growth in per cent	number in 1000s	growth in per cent	number as percentage of the nation's total	number in 1000s	growth in per cent	number as percentage of the nation's total	number in 1000s	growth in per cent	number as percentage of the nation's total
1958[1]	1124.9	100.0	510.1	100.0	45.4	247.8	100.0	22.0	367.0	100.0	32.6
1965[2]	1504.0	133.7	602.5	118.1	40.1	312.0	125.9	20.7	589.5	160.6	39.2
1970[2]	1729.0	153.7	592.8	116.2	34.3	374.7	151.2	21.7	761.5	207.5	44.0
1973[3]	1738.7	154.6	538.5	105.6	31.0	378.7	152.8	21.8	821.5	223.8	47.2
1973[x]	1738.7	154.6	538.5	105.6	31.0	456.0	184.0	26.2	744.2	202.8	42.8

[x] The number of persons employed in industry in those settlements pronounced towns between 1958 and 1973 is incorporated in the data for villages

1 From statistical data on Hungarian industry, Central Statistical Office, p. 212

2 From the data for settlements of central scope, Central Statistical Office, pp. 70 and 83

3 From the Regional Statistical Yearbook 1974, Central Statistical Office, pp. 72 and 82

we take into account the fact that industry also existed in the villages annexed to towns, and that the larger agricultural concerns maintain significant industrial activities, which are not included in industrial statistics, then it is clear that during the past fifteen years manufacturing has expanded in the villages at least as rapidly as in the towns.

THE SECTORAL COMPOSITION OF RURAL INDUSTRY

Major industries found in rural areas are the chemical and building material industries, and a few branches of food-processing. In recent years engineering and light industry have also advanced in the villages, particularly the former which has expanded with the construction of several new large and medium-sized factories. Thus we find that the rural industrial base that has emerged of late, partly by the expansion of small-scale plant but mostly by the establishment of new factories, is now capable of sustaining its own further development. The growth of village-sited industry is facilitated by the fact that a considerable body of surplus manpower still exists in the villages and their environs that can be drawn into production.

(a) Mining. The regional distribution of mining activities is determined by physical conditions. In some places mining is also practised by rudimentary "small-scale" methods to supply local demand. Such are the quarries, sand-pits and gravel-pits, of local significance, whose output in comparison to that of industrial mining as a whole is slight. Mining in the proper sense employs large-scale production methods in order to satisfy national requirements. In the villages coal mining has a prominent role, although quarrying and the mining of bauxite are also important in several places.

In the past decade about fifty mining operations have ceased to exist and approximately one-fourth of domestic coal requirements is now met by a new mine at Visonta. Operational concentration and technical modernization have been successful, and the nature of pit-work has also changed. Earlier the mining work force included a significant proportion of "seasonal" persons who worked in agriculture in summer and in the mines in winter, or practised small-scale peasant farming in addition to mining. This type of mineworker has now completely disappeared.

(b) Metallurgy. The overwhelming majority of the Hungarian metallurgical industry is at present concentrated in three country centres, at Dunaújváros, Miskolc and Ózd, although the contributions of Salgótarján and the capital (Csepel Works) are also notable. Although these metallurgical bases now form parts of towns, they were, without exception, first set up in villages. The large-scale growth of metallurgy and coal mining had an urbanizing effect on their surroundings and, as a result, Salgótarján was given urban status in the years following the First

World War, and Ózd directly after the Second World War. Diósgyőr and Csepel were later incorporated in Miskolc and Budapest, respectively.

At present two metallurgical works of national significance are located in villages at Borsodnádasd and Apc. Of the two, the Borsodnádasd Sheet-Iron Works is the larger, employing several thousand persons, but unfortunately using mostly out-of-date techniques, and producing goods in small series. Instead of being closed, as was planned earlier, the Sheet-Iron Works has taken on a new line in recent years, namely the making of bus discs and other products, and as its reorganization has now begun its future seems assured. An aluminium foundry is operated at the village of Apc.

(c) The chemical industry. The larger cities provide unfavourable locations for the various branches of the chemical industry. Chemical works usually cause environmental pollution, require large quantities of water and coal or hydrocarbons as raw material sources. This is why many nationally important chemical works were located in villages and were later to develop into large industrial bases. Such are the Nitrogen Works at Balatonfüzfő, on the northeastern shore of Lake Balaton, the Sulphuric Acid and Superphosphate Factory in nearby Peremarton and the Subsidiary Chemical Materials Factory in Papkeszi. Along the upper stretch of the Danube, north of Budapest, a string of chemical factories is located, whose voluminous water requirements can be supplied from the river. These include the Lábatlan Paper Mill, the Almásfüzitő Alumina Factory and the sole factory of the domestic textile industry which produces synthetic fibre. At Sajóbábony in Northern Hungary, and at Tiszavasvári in County Szabolcs, basic chemical materials, primarily pharmaceuticals, are produced in bulk. Many of the chemical works located in villages have attained national and even international importance, although it should be mentioned that small and medium-sized plants are almost totally absent from rural areas.

(d) The building materials industry. In Hungary this branch of industry is mostly located in villages, and several factors account for this. Firstly, the building industry is mainly located in those parts of Hungary where raw materials and sources of energy are readily available, to minimize transport requirements; secondly, no significant co-operation with other branches of industry is required; thirdly, manpower requirements are relatively low. Thus, brick-making and quarrying, which rely on the direct exploitation of mineral materials, are predominantly located in villages. The production of cement and especially that of prefabricated building elements, on the other hand, is frequently sited in the neighbourhood of towns. In fact, the latter is almost exclusively found in urban areas. It is interesting to note that while the old glass works are in villages, those constructed since the war have been located entirely in towns.

(e) Engineering. Engineering emerges, as a rule, in industrial centres, where a well-developed infrastructure, skilled labour and the conditions for co-operation in production are available. As far as rural areas are concerned, most of the large

engineering factories established in villages in Hungary before and after the Second World War were engaged in the production of munitions. Their location was determined by military precautionary measures, although they have since gone over to the manufacture of non-military goods. For example, the aircraft factory constructed at Szigetszentmiklós is now the base of the Csepel Motor Works.

Another branch of engineering located in villages consists of small and medium-sized factories, most of which are affiliated units of parent concerns, and produce component parts and constituents to complement the activities of the main enterprise. In recent years companies in Budapest have set up numerous comparatively modern medium-sized factories of this kind in villages, in some cases to locate factories that have been directed to move out of the capital. For instance, in Berettyóújfalu, a large factory employing 2,000 persons has been built to do the work of several plants forced to move from Budapest.

(f) Light industry. All the branches of light industry may be found in the villages. This sector has undergone a particularly rapid expansion during the past 5 to 10 years, greatly facilitated by the labour shortage in the towns, especially in Budapest, and by the desire of women living in villages to avail themselves of employment opportunities.

A major part of the timber industry is located in villages. Most of the primary conversion of timber is done within the framework of forestry, in the vicinity of wood-felling and cutting. The rural wood-working industry is operated mainly in small and medium-sized factories of low technical standard, but a few larger concerns may also be encountered. It is these village-sited factories that produce most of the sawn timber, parquet blocks and pit props needed by the country's economy. The rural handicraft industry, the production of household woodenware and wooden tools are also important.

Furniture factories may be found in almost every large town of the country but their numbers in the villages are insignificant. However, some of the factories formerly in the capital have been relocated, and amalgamated with old furniture-producing units in rural areas in recent years. This is how modern medium-sized factories each employing 4 or 5 thousand persons have come to be established in the villages Jánosháza and Encs.

The various branches of the textile industry show a varied location. Silk mills in addition to those in the capital have been located in the two villages of Szentgotthárd and Tolna. The primary processing of hemp and flax is also done in villages, although the further work of spinning and weaving is mostly completed in the larger centres of textile industry.

Until recently, the large mills of the cotton and wool industry were located only in the capital and in the older towns. The deepening manpower shortage in the capital in the last few years, however, has induced the relocation of some processes and their movement to areas with labour reserves. Without making substantial new investment, the embroidering, spinning and weaving processes were

partly transferred to subsidiaries, which had been relocated in the country, and partly to members of industrial and agricultural co-operatives. To facilitate the work, the companies either lent their own machines, or allowed the co-operatives to do the necessary operations locally.

This attempt on the part of the textile manufacturers to overcome a labour shortage is not a lasting solution because of complex transport linkages, the low technical standards involved and organizational difficulties. At present several companies in Budapest are building modern medium-sized factories, employing 500 to 1,000 persons, in the large villages of County Szabolcs, where manpower is still available. Owing to the increasing labour shortage, companies in the industrial centres, especially in Budapest, are compelled to move out to suitable villages of 5 to 10 thousand population where the locally available manpower and the population of surrounding villages can be attracted to medium-sized and large industrial works. The services which they provide for their employees include nurseries and kindergartens, and improved commuting conditions.

Knitwear manufacturing is expanding rapidly at present. Within this branch, some of the handicraft and homecraft co-operatives are increasingly inclined to purchase knitting machines in order to dispense with manual work and to mass-produce their small-series products.

The country's largest boot and shoe factory is located at Martfű, a not very large village in the Great Plain. In recent years, however, a number of other large factories, employing more than 1,000 workers, have also emerged as a result of multiple expansion – state-owned enterprises at Körmend and Bonyhád and co-operatives at Endrőd and Rakamaz. The country's largest and still expanding tannery is operated at Simontornya, an industrial village of urban character.

The manufacture of clothing in villages is mainly practised in co-operatives as well as a cottage industry. During the last few years, linked with the reorganization of coal mining, many surface buildings of former mines have been converted into clothing factories, manufacturing ready-to-wear articles. This is a feature of several mining villages in counties Nógrád and Borsod where it provides employment for miners's wives.

(g) The food industry. The regional distribution of the food industry has radically changed during the past three decades. Many of the small processing units have been closed, the capacity of older large factories expanded and new plants established. It was in the larger centres of consumption that food processing mainly had a chance to grow, although in the last five years medium-sized processing plants have been erected both at agricultural production sites and in the smaller centres of consumption, mostly affiliated to the larger agricultural co-operatives. To encourage the establishment of dairies, meat-processing plants, poultry-packing units and bakeries, considerable state subsidies are granted, irrespective of whether the plant in question is founded by an industrial undertaking or a co-operative farm.

Within the rural food industry, sugar refinery is the most widespread branch, 7 of the country's 11 refineries being located in villages. The construction of the first new refinery since 1945 has also been commenced in recent years in the village of Kaba in county Hajdú. The country's largest sweet and chocolate factory is also located in a rural area, in the village Szerencs, and a new plant of similar proportions is planned for one of the villages of county Hajdú. A few large distilleries and starch-manufacturing plants can also be found in rural areas, as can most of wine production. Some of the old village mills have been converted into fodder-mixing units, which often supply the livestock of several farms and villages.

THE MODE OF VILLAGE INDUSTRIALIZATION

(a) The construction of new factories. The most successful form of industrial expansion is the establishment of large new modern factories, for that is when the selection of the most suitable site can be most consistently considered.

Owing to the large investment required for the building of new factories in villages, such projects are launched only if their realization in existing industrial centres is deemed impracticable for locational reasons, or if other factors, such as the proximity of raw materials, transport requirements and pollution control justify their establishment outside urban areas. The new factories, which have been built in villages in the past decades, are mainly engaged in producing building materials, chemicals and foodstuffs.

(b) The expansion of existing factories. The expansion of the capacity of existing factories may be accomplished in several ways. One method, which is frequently advocated, is to build a virtually new factory by the side of an earlier established plant, with a capacity possibly exceeding that of the old one. The existing professional and organizational strength as well as an adequately developed level of industrial infrastructure will usually assure the economic and safe realization of such projects. This method is chiefly applied in the chemical industry.

In some village-sited factories, new units are almost continually added to the old nucleus. An always available way of expanding the capacity of existing factories is to remove production bottlenecks. As a result of technological progress, new production techniques are introduced from time to time, and factories are often inclined to link the application of new methods to a significant expansion of capacity. The advantage of expanding existing factories is that the reorganization, supported by prevailing demand and existing financial assets, can be achieved elastically. Continual expansion, however, may in many cases disturb smooth production, and the size of available buildings or some technical restriction might possibly encumber the application of up-to-date techniques.

(c) Utilization of existing buildings. It is only during the past decades that industrial enterprises have gradually brought into the production process the suitable but underused or redundant buildings in rural areas. New factories have been established in a number of architecturally unimportant country houses, in redundant administrative offices and on former military premises.

A distinct class of such industrial appropriations are the agricultural machine stations. These were set up in the early 1950s in order to modernize small-peasant farming by providing machines for smallholders. After the large agricultural co-operatives had become widespread, the machine stations were rendered redundant, but by this time they formed sound bases for the growth of village industry, by virtue of their suitably equipped buildings, their well-developed industrial infrastructure and their team of professional and skilled workers. Most of them have now been converted into engineering workshops.

A large number of buildings, such as workers' hostels and office blocks, have also been released in connection with the reorganization of coal mining. They have been used mainly to accommodate light industry, notably clothing factories, paper-processing works and boot and shoe factories. The utilization of existing building resources for industrial purposes is in itself quite sensible, but unfortunately in many cases buildings of relatively inferior quality have also been appropriated. Consequently the investment savings anticipated at the outset have not always materialized at the implementation stage, and, furthermore, the introduction of up-to-date techniques and modern business management have been hindered.

(d) Expansion of council-operated enterprises into large-scale industrial works. At the beginning of socialist industrialization, smaller private undertakings were transformed into locally owned industrial enterprises under the supervision of local councils. They were located, as a rule, within the built-up areas of larger urban-like villages, in an environment unsuitable for extensive development. These enterprises continually increased their production during the first decade following the Liberation, even though they did not receive any significant investment. From the late 1950s, when the industrialization of rural areas began to gain ground, the councils set themselves the task of finding new sites for their enterprises in order to prepare the way for more rapid development. The old premises were converted into servicing enterprises or demolished to make room for village development projects.

The new industrial sites were selected, in conformity with the village-planning programmes, within the confines of the settlements, at places where conditions for rapid expansion were available. Having in general modest investment funds for development, the local councils applied the cheapest possible methods in building their new plants. A common occurrence was to take over from large industrial companies, free of charge, such machines as were no longer used by their former owners. Thus locally operated enterprises had to content themselves with low technical standards, and could increase production only by becoming more labour-

intensive. In any case local employment problems pressed the councils to support the establishment and expansion of plants employing as many people as possible. It is self-explanatory that these locally operated enterprises had to produce articles that were demanded by the market and provided a sizable profit. For further expansion they had to rely on the accumulation of their own development funds as well as on the councils' support which was granted in the hope of providing better employment opportunities for the population.

Many of these locally operated enterprises became so large within a few years that their control within the framework of the councils became cumbersome, while their demand for technical development funds exceeded local assets. At the same time, the big industrial companies, wishing to expand their production capacity rapidly and at low cost, were willing to take over the larger local enterprises that were ripe for further development, with or without compensation.

In many instances the county councils set up undertakings from their own assets with the express purpose of later transferring them to the big industrial companies for further development. The large companies, especially those in Budapest, willingly took over and improved locally operated enterprises of comparatively low value, particularly in those areas where manpower was readily available. In this way they were relieved of the first and most difficult stage in the formation of a new company, and obtained a fully operational production unit promptly and cheaply.

(e) The relocation in rural areas of the industry of Budapest. Before the Second World War, Hungarian manufacturing industry was excessively concentrated in Budapest. Even as late as 1958, 46 per cent of all workers in socialist industry were employed by companies operating in the capital. In 1959 a Government resolution was passed on the location of industry, aiming at a more proportionate regional development and lessening of the capital's industrial weight. In giving effect to this resolution, part of the industry of the capital was to be transferred to the country, in particular to those areas where employable manpower was available.

Industrial activity may be transferred from the capital to the country in two ways: either whole factories are transplanted or alternatively particular industrial processes. The relocation of whole factories is regulated by Government decrees. The authorities have directed the resettlement in rural areas of those companies whose fixed assets are considerably out-of-date, whose protracted maintenance at their present site would hinder the progress of city development and whose functions can be adequately performed in the country. Such removals open up important new sites for city development, and lighten the capital's heavy employment burdens, In the case of transplanting whole factories, either new premises are built on location or existing ones are expanded. The resettlement costs are borne partly by the companies themselves from their own assets, and partly by subsidies drawn from a relocation fund. This fund is provided by the national exchequer and allocated by municipal councils.

Particular industrial processes are in general transferred to rural areas by the companies, in their own interest, although state subsidies may also be requested. So far mainly textiles and engineering works have moved out of Budapest.

SUMMARY

As we have seen, industry in rural areas has undergone radical change and developed at a rapid pace during the past three decades. The changes are closely linked with the general social and economic transformation of country and village alike.

The fact that over one-fifth of the nation's industry and about one-third of provincial industry are located in villages is indicative of the weight of village-sited industry in the national economy. But if we add to this the industry of the villages which have grown into towns during the past three decades through industrial development, then the importance of rural industrialization becomes even clearer.

In past years, while the industrialization of villages progressed at a rapid pace, both research workers and the organs of economic control and management either refused to consider the industrialization of rural areas or, by advancing general economic efficiency arguments, regarded it as an ill-considered programme. In spite of principled reservations, Government organs helped or condoned the industrial development ambitions of councils and local authorities.

Obviously, the large-scale growth of industry which has taken place in rural areas cannot be considered as mere chance, nor can it be thought of as a mistake. We can probably best approach the truth if we accept it as a normal process under existing domestic economic and social conditions.

The full employment of manpower released by agriculture in towns and old industrial centres can only be partially achieved. Such a large body of employable labour remained in the villages that the authorities have been forced to provide work for them either at or in the general area of their place of residence. Rural industrialization represents an essential means of reducing intra-regional disparities in economic level. The settlement of industry has in many cases entailed infrastructure development and urbanization.

The rural industrialization of the past decades has presented both favourable and unfavourable features. While it has ensured efficient development in some parts of the country, it has also involved the foundation of factories in settlements that can never furnish profitable operational opportunities. Those factories which have been set up in agglomeration zones and are not closely linked with the area cause difficulties in the labour organization of large enterprises. When industrial activities falling outside the scope of agriculture have been introduced in the large co-operative farms, attention has occasionally been diverted from the main line of production and financial means have been heavily drawn upon.

TABLE 3
Main industrial data for 1973

Designation	National total	In villages	The share of villages as per cent of national total
Number of industrial establishments	10,158	3,384	33.3
Number of employees per industrial establishment	171	112	5.0
Number of persons employed in socialist industry (in thousands)	1,738.1	378.7	21.8
Amount of electric power utilized (in thousand kW/hs)	11,800	2,071	18.0
Motive power (in kW)	7,135	1,640	23.0
Total fixed assets (gross, in thousand million Forints)	377.5	76.8	20.4
Value of machine plant (gross, in thousand million Forints)	174.6	36.0	20.6

The economic and technical levels of village-sited industry are generally not behind those of urban establishments (Table 3), and as for those settlements which have grown into towns during the past three decades, their industry is characterized by large new up-to-date factories. Between the industries of villages and old towns, however, essential disparities still exist. The long-standing and gradual development of local manufacturing industry in towns, which incorporates a system of medium-sized factories, is more coalescent and united than the industry of villages. The engineering and light industries in rural areas include a low proportion of really large plants and a high proportion of industrial co-operatives

employing many workers but operating at low technical standards. These conditions tend to reduce the level of the whole of rural industry.

Considering the demographic and settlement characteristics of the country as well as the residential capacity of the towns, industrial development can be expected to continue in the villages during the next few decades. The further dynamic growth of present-day industrial villages is an important element of not only the development of industry but also of the planned extension of the settlement network. A great deal of elaboration will be necessary to ascertain what kind of industrial growth and what trends are to be advocated in the various types of rural settlement. Relying on the results of such research, the promising development trends should be promoted more purposefully than before, and at the same time the economically unwholesome, excessive fragmentation of industry, the setting up of unviable small plants, and in general the expansion of industrial activities in settlements incapable of ensuring profitable production, should be counteracted more consistently than hitherto.

The more systematic and efficient development of rural industry will contribute to the improvement of the living standards and living conditions of the rural population, and to a gradual moderation of rural-urban differences.

CHANGES IN THE LIVING CONDITIONS OF THE RURAL POPULATION

by

GY. BARTA

THE CONCEPT OF RURAL LIVING CONDITIONS

During the 30 years since 1945, the face of Hungarian villages has been fundamentally transformed. The migration of labour from agriculture to the larger towns generated by rapid industrialization, the reorganization of agriculture into large collective farms, the spread of mass communications and improvements in public transport have all contributed to the process. These socio-economic changes have also decisively affected the living conditions of the rural population. Since 1945, industry has exerted an extremely strong pull on labour which has had two consequences. In the first place, rural living standards have been favourably influenced through the provision of higher wages than those obtained from farming and through the employment of excess agricultural manpower. In the second place, the relative shortage of farm labour has necessitated the mechanization of agricultural production which, in turn, has improved working conditions. The reorganization of agriculture into large collective farms has fundamentally changed social conditions in villages in that land and the means of production have become common property, thereby reducing income and property disparities among the agrarian population.

The successful economic operation of farmers' co-operatives has also raised agricultural living standards. Better conditions have encouraged the adoption of a more modern urban life-style and the application of up-to-date technical know-how. The spread of mass communications and improvements in public transport have ended the isolation of Hungarian villages which had retarded development for centuries. As a result, the sharp differences between the traditional rural way of life and modern urban living conditions have diminished.

The term living standards is defined as the entirety of the population's living conditions, and is meant to convey some idea of the extent to which the totality of actual needs are met within a given society. Accordingly, when appraising the living standards of a population, one must consider not only consumption levels and patterns, availability of suitable ranges of goods to satisfy demand, earned income, total family income, and per capita income, but also working conditions, working hours, time involved in travelling to and from work, physical exertion at work, occupational mobility, the possibilities for changing occupations, the

number and structure of vacancies, opportunities of young people for continued education and the adequacy of infrastructure supply.

Owing to the limits of this study, the author has been compelled to confine the scope of the analysis to the factors that fundamentally determine the living conditions of the rural population, namely income, consumption and infrastructure supply. Income disparities between rural and urban populations and among social groups are one way of explaining varying consumption patterns. Although attempts at balancing income levels may provide some opportunity for reducing consumption disparities, the survival of traditions and the differences between rural and urban life-styles may prevent, or at least slow down, the evening-out of consumption habits.

It is particularly in the analysis of income and consumption that one should not consider the rural population to be a homogeneous group. The amount of income, and the level and pattern of consumption are much more dependent on social and occupational divisions than on regional location. (Table 1.)

TABLE 1
Occupational structure of villages and towns

	Percentage of active population in 1970		Σ	Distribution of occupied population in the communes, per cent
	villages	towns		
Agriculture	84.6	15.4	100.0	42.2
Non-agricultural	40.0	60.0	100.0	57.8
White-collar occupations	27.8	72.2	100.0	10.2

Although agriculture is the primary rural activity, the proportion working in other branches of the economy is, in some places, far from negligible. Therefore, an analysis of rural living conditions cannot be limited to an investigation of the living standards of the agrarian population, even though the question deserves careful consideration.

Infrastructure supply is that element of living conditions which least depends on socio-occupational position, the level of provision affecting those living in the same residential area to more or less the same extent. At the present stage of economic development in Hungary, the most significant infrastructure differences are those existing between villages and towns.

CONSUMPTION

Not only is the consumption of a group or stratum of the population determined by the stage of economic development in the given society, but also by the conditions of distribution. Consequently, it is chiefly income that determines consumption levels and patterns within the rural population, although habits and traditions will also exercise an important influence.

The population of Hungary consumes between 92 and 98 per cent of its income. In the case of the peasantry and those with dual incomes, the share of consumption is 92 to 95 per cent, and 97 to 98 per cent for the rest of the population. From these data two conclusions can be drawn:

(a) The proportion of income spent on consumption by individual social categories is similar. Thus consumption levels conform with income levels, i.e., consumption by the peasantry is identical with that of non-agricultural workers and 23-25 per cent below that of the white-collar stratum.

(b) Those living in peasant or dual income households usually save more of their income than the rest of the population, which relates to the somewhat less secure circumstances of farming and to traditional peasant values.

As earnings in agriculture and industry even-out, however, the consumption level of the peasantry has increased significantly, rising more than twofold between 1957 and 1972. But even so it has remained below the national average – up to 220 per cent during the same period – although growing some 2-3 per cent faster than that of the population with dual incomes.

The produce from household plots and allotments in kind from agricultural co-operatives plays quite an important part in the consumption of the peasantry, and even in that of the non-agrarian rural population who cultivate small-holdings in their spare time.

Some 28 to 29 per cent of total consumption on the part of the rural population was from their own production in 1970. However, the proportion of consumption from home-grown produce has rapidly decreased during the past decades, from one fifth of total consumption in 1950 to less than one sixth in 1966.

A tendency of general validity is that progress in economic development brings about changes in consumption patterns. The decreasing proportion of income spent on food and the increasing weight of services represent typical indicators of this process.

On examining Table 2, one would assume the consumption pattern of white-collar workers to be the most advanced, in that the proportion of foodstuffs consumed is the lowest and the weight of services highest. But disparities in income and consumption levels between white-collar workers and other social groups are so considerable that the comparatively low consumption of foodstuffs by white-collar workers, assessed either in kind or value, exceeds the consumption of all other population groups, in spite of the lower proportion.

TABLE 2

Personal expenditure by major population groups in 1972 (in per cent)

Household expenditure	White-collar workers	Other workers		Population with dual incomes	Peasants
		in towns	in villages		
Foodstuffs	30.2	34.4	35.5	36.3	38.5
Consumer goods	6.4	7.3	7.4	8.5	8.2
Industrial articles	35.9	34.7	34.4	34.7	31.5
Services	16.2	14.5	9.8	8.3	7.2
Building, real estate and other purposes	11.3	9.1	12.9	12.2	14.6
	100.0	100.0	100.0	100.0	100.0

It is obvious from the consumption pattern displayed in Table 2 that urban dwellers have better opportunities for making use of services. As it is unlikely that the rural population has a lower desire for services than townspeople, the causes of the low consumption are most readily explained by the underdeveloped level of regional services.

The proportion of industrial articles consumed is nearly identical in all groups. As far as articles of clothing are concerned, it is only the consumption on the part of the peasantry that is somewhat lower than the national average of 87-40 per cent.

The differing proportions of building costs between towns and villages indicate that state subsidies for such purposes are only available in urban areas and that the costs of rural house-building must be borne in full by the individuals concerned. Rural and urban trends in the patterns of consumption are essentially similar: in the context of total consumption the proportions of both foodstuffs and consumer goods have decreased, the proportion of industrial articles has risen significantly, while the weight of services has only slightly grown.

Regarding the composition of industrial articles a slight distorsion in the proportion of durable consumer goods as well as building materials and articles of clothing can be observed.

In examining the question of whether rural and urban consumption disparities have diminished, comparison can be best accomplished by the measurement of consumption elasticity. This method effectively demonstrates how much greater or smaller are the relative changes in particular elements of consumption in relation to changes in total consumption, i.e. what percentage change in the particular elements of consumption can be assigned to a 1 per cent change in total consumption (Table 4).

The consumption patterns of workers, and technical and clerical personnel in towns compared with those of peasants and those with dual incomes are now much more similar, particularly as regards foodstuffs and industrial articles. Disparities in the use of services between the two strata and between rural and urban dwellers remain unchanged, however, in spite of the fact that the consumption of services by peasant and dual income households increased at a faster rate than their total consumption. The slackening of the rural growth rate in clothing is an unfavourable trend.

Changes in the consumption of a particular group of products depend not only on qualitative and quantitative variations in consumption but also on changes in price level, and in this regard the consumer price index in Hungary in 1973 was 14 per cent higher than in 1960. Since the totality of products required by the various social classes, strata and groups vary, changes introduced in the price of each article affect the population in different ways. This explains why the consumer price index for white-collar and other workers increased by 117.3 per cent, while that for the agricultural and dual income population climbed by only 109.9 per cent.

TABLE 3
Changes in consumption pattern between 1962 and 1972

	Workers, and clerical and technical personnel				Peasants and population with dual incomes	
	in towns		in villages			
	1962	1972	1962	1972	1962	1972
Foodstuffs	45.7	38.9	47.0	40.8	55.6	46.0
Industrial articles (excluding clothing)	25.8	31.7	27.3	35.1	23.5	33.7
Clothing	13.8	13.3	14.9	13.5	14.0	12.7
Services	14.7	16.1	10.8	10.6	6.9	7.8
	100.0	100.0	100.0	100.0	100.0	100.0

TABLE 4
Coefficients of consumption elasticity

	Workers and other employees		Peasants and population with dual incomes
	in towns	in villages	
Foodstuffs	0.9	0.9	0.8
Industrial articles (excluding clothing)	1.2	1.3	1.4
Clothing	1.0	0.9	0.9
Services	1.1	1.0	1.1

In summary, the favourable changes in the consumption patterns of the peasantry and dual income population can be accounted for not only by the rising standard of living but also by the nature of price rises which happened to be less disadvantageous for them. In other words, differential price changes have also contributed to a reduction in the disparities existing between the consumption patterns of the rural and urban population.

CONSUMPTION OF FOODSTUFFS

In addition to a general analysis of consumption, a separate investigation of the consumption of foodstuffs is highly desirable, because its structure and changes therein are important indicators of the stage and process of economic development.

In 1972 foodstuffs amounted for over 60 per cent of total material consumption, including some 41 per cent of consumer goods.

The disparities in Table 5 between rural and urban consumption patterns of foodstuffs when expressed in terms of calories and of value demonstrate that peasant and dual income households consume foodstuffs of higher nutritional value content but of lower cost, while the consumption of foodstuffs by white-collar and workers' households in rural areas has not caught up with urban consumption in terms of either value or calories.

In comparison with urban consumption, the rural population use more fat, flour, vegetables and fruit, but less meat, milk and dairy products. The reason for an above-average consumption of sugar in peasant households is probably the tradition of home-distillation.

The most significant change in the consumption of foodstuffs is the evening out of consumption habits between the rural and urban population and among the

different occupational groups (Fig. 1). During the period 1960 to 1970 the amount of fats, flour and potatoes used in village households decreased considerably while the consumption of sugar increased. Although this represents a positive process, the consumption of milk and dairy products has stagnated, and still accounts for a low proportion of rural food intake, while the majority of meat consumption is derived from poultry which has a lower nutritional value.

TABLE 5
Per capita consumption levels of foodstuffs in 1972
(Urban areas = 100)

Households	Daily consumption of foodstuffs in calories	Value in Forints
Urban	100	100
White-collar and other workers in rural areas	98	85
Dual income	110	92
Peasant	112	99

Regional disparities are slight. Consumption levels are above the national average in Transdanubia and in the southern part of the Great Plain, and somewhat below average in the Northern Central Uplands and in the central and northern areas of the Great Plain. The proportion of foodstuffs within total consumption is regionally homogeneous, exceeding the average only among the peasant and mixed households of Eastern Hungary. The internal structure of the consumption of foodstuffs, however, exhibits more significant variation. The rural population of Western Hungary possesses the most modern habits, with per capita consumption of milk and sugar exceeding the national average by 54 per cent and 15 per cent respectively, while the use of meat, vegetables and fruit is also above the average. By contrast in Northern Transdanubia and in the southern and central parts of the Great Plain, the consumption of foodstuffs may be described as average, while in Southern Transdanubia, and in Northern and Eastern Hungary, eating habits are more traditional, characterized by an above-average use of flour, potatoes and fats.

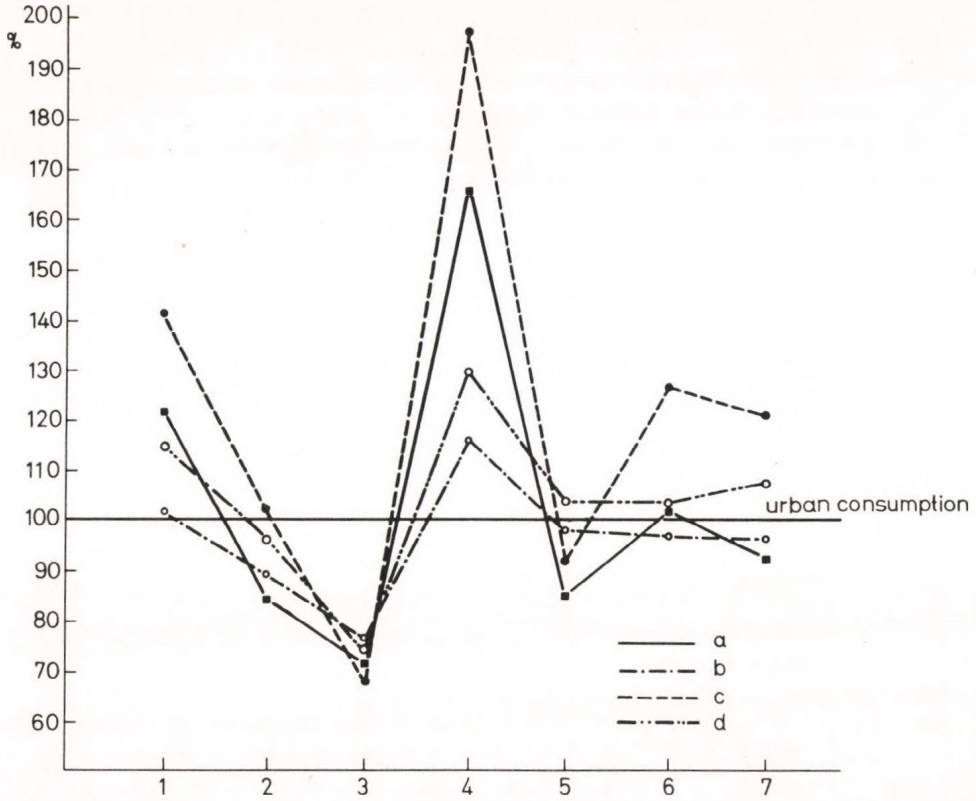

Fig. 1. Rural food consumption, 1960-1970 (compared to urban consumption). a = Rural worker and white-collar families (1960); b = rural worker and white-collar families (1970); c = rural farmer and part-time farmer families (1960); d = rural farmer and part-time farmer families (1970). 1 = Fats; 2 = meat; 3 = milk; 4 = flour; 5 = sugar; 6 = potatoes; 7 = fruit and vegetables

INCOMES

The distribution of purchasing power is controlled by income policy. The income of the population consists of two basic structural elements: earned income and social benefits. The dual principle behind income policy involves distribution according to work done and needs arising, within which one of the main objectives is the expansion of social benefits. This is well illustrated by the ratio of wages to social grants over and above earned income which changed from 82 : 18 in 1957 to 74 : 26 in 1971. However, consumption increases and living conditions

improve not only through the raising of real income and the expanding of social benefits but also through the growth of the active population.

Since the Liberation, policies concerning living standards, income and wages have continually been modified in compliance with the changing objectives of economic policy. In order to furnish an adequate description of the present position regarding income, we must first look at wage conditions in past years.

Although after 1945 income differences among the agricultural population were reduced by the liquidation of large estates and the redistribution of land, the immediate post-war economic depression and wage policy centred on industrialization during the yerars of reconstruction meant that there was no substantial change in the pre-war income ratio between workers and peasants. Parity of income between the two classes could only be achieved in the second half of the 1960s. In 1960 the average monthly wage of agricultural labourers and technical and clerical personnel amounted to only 84 per cent of average earnings in industry. The personal income of members of co-operative farms and peasants farming individually was far behind that of even agricultural labourers and personnel, amounting to about 50 per cent of their average monthly income. The personal income of individual farmers, comprising more than one tenth of the agrarian population, was even less than that of co-operative farm members.

The increasing migration of labour induced by the socialist transformation of agriculture, the ensuing shortage of labour in farming, the consolidation of the collective farm system and an economic policy designed to raise peasant living standards, all brought about decisive changes in the income situation. While the real personal income of the peasantry and dual income population increased by 54 per cent between 1965 and 1970, the real income of white-collar and other workers rose only by 40 per cent during the same period. In addition to the decreasing proportion of the labour force in agriculture from 38.7 per cent in 1960 to 25.7 per cent in 1970, the fall in the number of purely peasant families and the growing number of dual income families also tended to equalize incomes. In 1960 only 35 per cent of peasant families contained workers or technical and clerical personnel, but by 1970 this proportion had risen to more than 60 per cent.

Natural conditions considerably affect the success of agricultural production. Consequently, there are marked regional variations in profit-sharing among co-operative farm members, even though there is state-help in the form of differential taxation and other extra support of communities cultivating land of inferior quality. In 1970 the annual earned income of co-operative members varied between Ft. 13,000 and Ft. 25,000 among the 19 counties of the country, the difference between the extreme values being almost twofold. Production from household plots accounted for about 30 per cent of national agricultural production in terms of value and constituted some 40-50 per cent of the income of agricultural workers. At present no accurate data are available on the regional profitability of household plots, but it is clear that in those areas where natural conditions are

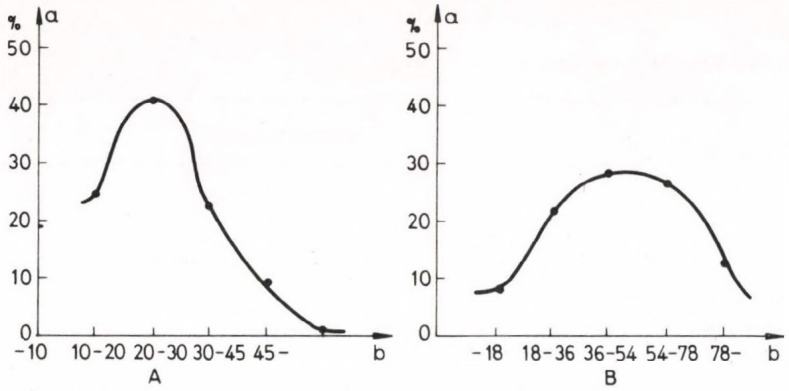

Fig. 2. Categories of farmer families according to yearly net incomes. A = 1960; B = 1970; a = percentage of farmer families; b = yearly net income per family (in 1,000 forints)

favourable and the earnings of co-operative farms are higher than average, the household plots also fare generally better. This, of course, further enhances the regional differences in agricultural income.

In spite of the marked regional variations in agricultural earnings, the incomes of farming families have become more balanced lately (Fig. 2). The decision to expand the scope of social benefits for members of co-operative farms has strongly contributed to this favourable process. For instance, in 1958 the pension system was extended to include collective farm members, and although the pensions and other allowances are rather low, this social measure had affected the income of approximately 310 thousand people by 1965.

As for industry, the regionally differentiated wage system was stopped in 1953, which means that any regional disparities now occurring in industrial wage levels are due to its diverse structure, occupational wage differences and the proportion of skilled workers. However, since 1945 occupational wage differences also tended to even out. For example, in 1969 the average hourly pay of miners was 31-37 per cent higher than that of skilled workers employed in the textile and food industries. On account of the higher hourly pay in mining, the wage levels in large-scale rural industry rose 7 to 8 per cent above those of similarly employed workers in Budapest. Nevertheless, industry possesses a much more balanced regional wage structure than agriculture. Thus in 1970 the average monthly earnings of industrial employees in Budapest exceeded the national level by a mere 4 per cent and in all towns combined by only 1 per cent.

As regards the income of the rural population working in industry, one cannot give a clear-cut assessment because only every second industrial worker is employed locally, i.e. while 40 per cent of all industrial employees reside in

TABLE 6
Distribution of active earners in 1970 (in per cent)

Region	Active earners		
	in industry, incl. building industry	in agriculture	other
Budapest	53.9	2.7	43.4
Country towns	51.6	12.5	35.9
Villages	36.3	42.2	21.5
Hungary	44.2	25.7	30.1

villages, only 20 per cent of industrial jobs are to be found outside the towns. According to approximate calculations, the average earnings of workers employed in village-sited industry are estimated to be only 2—2.5 per cent below the national average.

The total income of workers is composed of 87 per cent personal income and 13 per cent social benefits in kind. (Personal income includes money benefits which amount to 34-35 per cent of total social benefits.)

The comparison of agricultural and industrial earnings is quite an intricate task because the income of a co-operative farm member also includes the work done by the rest of his family on the household plot. It is also difficult to compare industrial and agricultural working hours.

In 1971 the average member worked 186 days on the co-operative farm, which corresponds to about 60-62 per cent of the working time of industrial workers. But, in addition to this, time devoted to the household plot must also be taken into account, and when this is done, it is probable that there is no essential difference between agricultural and industrial employment as far as working time is concerned. After making allowance for the above difficulties of comparison, one can still claim that agricultural and industrial earnings had become equalized by the end of the 1960s.

Social divisions affect income differentials to an essentially greater extent than differences in occupational structure. Comparing incomes among the social strata of the country, one finds that the average income of workers, peasants and dual income population was 22 per cent, 17 per cent and 18 per cent, respectively, below that of white-collar workers in 1970.

Differences between rural and urban incomes are in the final analysis determined by disparities observable in occupational structure, social class and the proportions of wage-earners and dependents.

TABLE 7
Earnings of families by regional differentiation

Region	Families of			
	agricultural manual workers	non-agricultural manual workers	white-collar workers	inactive earners
	in per cent			
Budapest	0.5	42.2	31.1	26.2
Country towns	6.5	47.3	24.5	21.7
Villages	25.3	42.2	10.2	22.3
Hungary	14.7	43.6	18.7	32.0

On examining average earnings in agriculture and industry, it is clear that rural and urban occupation structures have hardly any differentiating effect on the income levels in villages and towns. On the other hand, the differences may relate to the varying stages of industrial and agricultural development throughout the country. However, since the relationship of agricultural and industrial incomes to the national average is opposed in the major part of the country, the extreme values even out when per capita income is calculated from all data. Exceptions to this are county Komárom, where both industrial and agricultural earnings rise above the average, and counties Szabolcs-Szatmár and Somogy, where they are the lowest in the country. Industrial and agricultural earnings in counties Hajdú-Bihar, Békés and Vas are also below average (Fig. 3).

As we have seen, incomes among the various social strata show quite large variations, which are reflected regionally and also between rural and urban areas. Thus earnings in Budapest are 16 per cent higher and in the villages 11.4 per cent lower, than in the country towns. However, it is not only the varying structure of society that has an influence on rural and urban income patterns but also the regionally differentiated earnings of families belonging to the same social stratum. In 1972 the average income level of white-collar workers in Budapest was 20 per cent higher, and in the villages 10 per cent lower, than that of people in similar occupations living in the country towns. Deviations of a similar nature but of a smaller magnitude can also be observed in the per capita incomes of workers (Table 7).

The number of wage-earners in individual households is practically identical in towns and villages, but the size of households, or rather the proportion of dependents, varies considerably (Table 8). That the size of a family or household

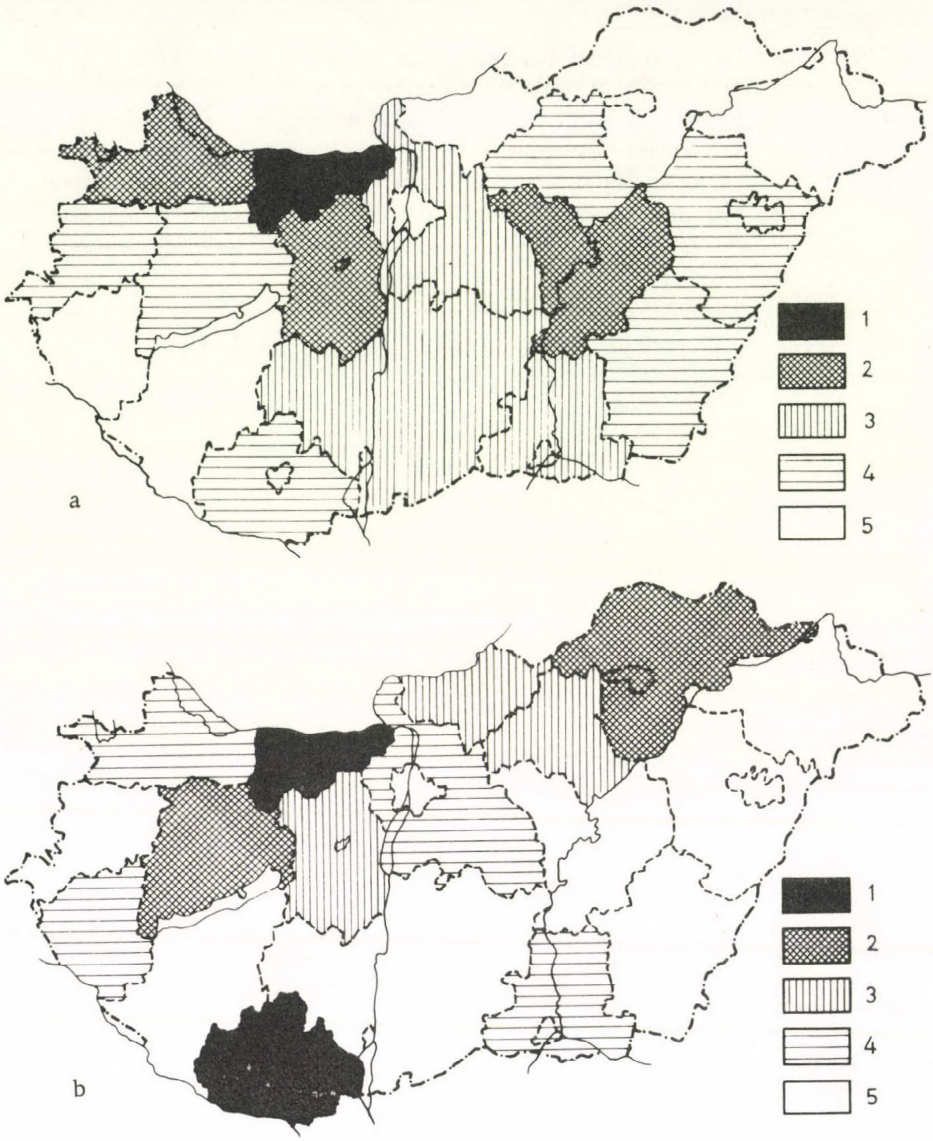

Fig. 3. Monthly incomes of rural industrial workers and co-operative farmers, 1971. a = Per capita averages of rural industrial employees (in forints): 1 = 2,350–2,500; 2 = 2,200–2,350; 3 = 2,050–2,200; 4 = 1,900–2,050; 5 = 1,750–1,900. b = Per capita averages for work in common fields (in forints): 1 = 2,000–2,500; 2 = 1,750–2,000; 3 = 1,500–1,750; 4 = 1,250–1,500; 5 = 1,000–1,250

TABLE 8
Regional distribution of wage-earners and dependents in 1970

Region	Number of persons	Number of active earners	Number of inactive earners plus dependents per 100 active earners
	per 100 households		
Budapest	254	140	82
Country towns	289	144	101
Villages	317	144	120
Hungary	295	143	106

plays a large part in determining trends in living standards is demonstrated by the fact that the income of households in Budapest is only 2 per cent higher, and the income of village households only 2.8 per cent lower than that of households in the country towns.

In summary, one may conclude that the causes of rural and urban income differences are to be sought in the differing proportion of wage-earners and dependents on the one hand, and in the diversity of the social class structure on the other. The analysis of consumption has shown that although social stratification has a differentiating influence both in villages and towns, rural and urban consumption patterns indicate still greater disparities than those demonstrable among the individual social classes. Therefore the characteristics of rural and urban life-styles exercise a greater influence on consumption patterns than income differences between villages and towns.

Naturally, occupational structure and social stratification are closely related concepts, for it is the transformation of the occupational structure consequent upon economic development that brings about changes in social stratification in a given social system. During the past decades, the decline in the agrarian population, the increasing number of professional and skilled workers and general technical improvements have all helped to reduce differences among the social classes living in villages and to even out the income levels of villagers and townspeople.

INFRASTRUCTURE SUPPLY

In Hungary the concept of infrastructure includes the production of material goods, and the system of institutions and establishments designed to provide services to the population. Of the productive branches, commerce, transport and storage are regarded as part of infrastructure and among the non-productive branches, those connected with the improvement of the skills and competence of the labour force and with labour-force supply. In economic analyses backwardness of infrastructure is usually approached from the viewpoint of fixed funds, i.e. on the part of establishments, but the functions performed by them are disregarded.

The branches of infrastructure are as follows:

- the transport, communication and energy networks;
- public utilities (water, electricity and gas supply and sewage);
- public institutions and establishments (housing, educational, cultural, health, commercial, public catering, warehousing and storage establishments).

Experiences gained so far indicate that differences in infrastructure supply play a greater role in causing regional disparities in living conditions than do regional variations in personal income. In the distribution of income a range of 25-30 per cent exists among the counties, while the differences in infrastructure supply are much greater, amounting to 1.5 to 2 times more. Still more pronounced are the variations between villages and towns within each county, and the less favourable living conditions of the rural population basically arise from inadequate infrastructure supply.

Inter-county variations in infrastructure, on the other hand, call attention to the fact that the standard of supply available for a particular group of the population is determined not only by a rural or urban place of residence but also by the region and county in which they live. The degree of village supply also depends greatly on geographical location.

When the equalization of the standard of infrastructure supply in the various parts of the country was considered, two problems cropped up. The first was a theoretical issue involving the definition of basic supply. In other words, the level of infrastructure which could reasonably be required in the villages at the present stage of economic development in Hungary had to be defined.

Accordingly, the following were used as indicators of basic supply: public utilities (water, electricity and gas supply and sewage); transport and communications (railway or bus station, and post office); availability of housing; education (elementary school); health service (pharmacy, National Health Insurance district surgery, and doctor); cultural establishments (cinema, community centre, and library); and trade (grocery shop).

The other problem was of a more practical nature, dealing with the measurement of the adequacy of supply. As infrastructure is a highly complex concept, to describe it by a single indicator would present technical difficulties, because we

would have to transform qualitative criteria into quantitative data. Therefore to illustrate the varying degrees of rural supply, on the one hand, the most typical indicators of infrastructure were investigated separately, and on the other, a complex method was applied to provide a more comprehensive overview, by determining the degree of supply in a given settlement or region and expressing the corresponding data of other areas in comparison with it. In this way the percentage values of the various constituents became combinable. Depending on the purpose of a particular analysis, the average infrastructure levels of the villages, towns, selected counties or of the whole country were used as the standards for comparison.

CHANGES IN RURAL INFRASTRUCTURE LEVELS

As has already been mentioned in the analysis of consumption patterns, the inhabitants of Hungarian villages must spend a larger portion of their income on the building and renovation of houses and flats than townspeople, because the overwhelming majority of state-owned flats have been constructed in urban areas. Only about 6 per cent of the dwellings built in villages during the period 1950 to 1970 were state-owned, although 44-47 per cent of all new homes completed during the past years have been erected in rural areas. However, in spite of the large number of newly built homes, the demolition or abandonment of old houses and the migration of the population from villages to towns, housing availability in terms of inhabitants per 100 dwellings is lower in rural areas. In 1970 compared with a national average of 315 persons per 100 dwellings, the value for Budapest was 300, 318 for country towns and 319 for the villages. These differences are explained by the larger families one usually finds in rural areas, for otherwise the housing shortage is much more acute in the large cities than in the villages.

As far as home amenities are concerned, rural dwellings are less adequately equipped than those in urban areas. As a result of the rural electrification programme, all Hungarian villages had been connected to the public electricity supply by 1963, although, because the cost of linking each home with the mains supply has to be borne by the owners, electricity is not available in every rural dwelling as yet. Even so, progress has been significant, for while only 46 per cent of the population had electricity in their homes in 1949, this had risen to 90 per cent by 1970. Electricity has also been made available to an increasing number of villagers, the proportion rising from 60 per cent to 88 per cent between 1960 and 1970. In the towns 97 per cent of the dwellings have so far been wired. Relatively less favourable is the situation in those lowland areas where scattered settlements and farmsteads are frequent. Thus, in counties Csongrád and Bács-Kiskun, only 65-70 per cent of the population benefit from an electricity supply. Water and gas services and sewage are far from being up-to-date, although the

rate of extension deserves credit. In 1949 the number of dwellings with plumbing installations amounted to just under 20 per cent, a figure which remained practically unchanged until 1960. The most remarkable progress ensued during the following 10 years, and by 1970, 41 per cent of all Hungarian homes were connected with the watermains. (In highly developed western countries the corresponding figure exceeds 90 per cent, but in Italy, for example, it is around 70 per cent.) In Hungary, running water has been laid on in only about 62 per cent of newly built homes (1966-1970), compared with 100 per cent in the highly developed western countries, 100 per cent in the German Democratic Republic and 95 per cent in Czeshoslovakia.

In Hungarian villages the number of dwellings with piped running water barely reached 4 per cent in 1960, but by 1970 had exceeded 10 per cent. When we also consider that a mere 19 per cent of dwellings built as recently as 1960 to 1969 had water installed, then we can form a true picture of how much time will be required to improve the backward situation.

In the field of sewage the situation is even more critical. By 1960 only 16 per cent of Hungarian homes had been connected with the public sewer system, and even by 1970 this proportion had only reached 37 per cent.

Mains sewage provision is very rare in the villages as yet, rising from 2.5 per cent of village homes in 1960 to only 5.4 per cent in 1970, although septic tanks have increased rapidly in popularity, the number of dwellings so provided rising from 9 per cent to 44 per cent over the same period. This demonstrates the contradiction between income and demand, on the one hand, and the possibilities of public construction restricted by a limited budget, on the other.

Gas supply, either in the form of cylinders of propane-butane gas or from the mains, has become widespread since 1960. Gas was used by nearly 14 per cent of the country's population in 1960 and by 60 per cent in 1970. As regards villages, the use of gas has spread even more rapidly, 2 per cent of the village population taking advantage of the available supply in 1960, and 45 per cent in 1970.

As far as education is concerned, each village may reasonably expect the establishment of an elementary school. According to a 1968 survey, there were 115 villages, mostly in Southern Transdanubia, in which no such institution was available to the public, although the average number of inhabitants in these villages did not exceed 160. In 1970 one class room was shared by 34 pupils in villages and by 38 pupils in towns. The village figure appears the more favourable, but does not reflect the actual situation, for in the above classification a well-equipped school employing many highly qualified teachers may be included in the same category as the ungraded elementary schools of sparsely populated settlements in which frequently only one class room is used for teaching purposes. In order to raise the standard of rural education, measures have been taken to close down gradually such ungraded schools where attendance is small and to concentrate the

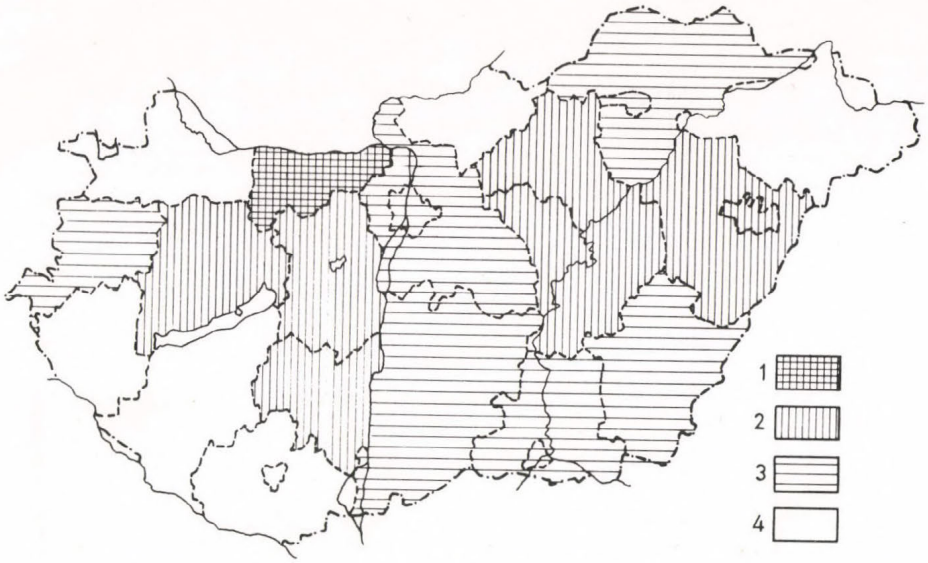

Fig. 4. Supply with infrastructure of the rural population by counties in per cent, 1970. 1 = > 125; 2 = 105–125; 3 = 95–105; 4 = 80–95. National average = 100

pupils of neighbouring villages into appropriately graded elementary schools. Initiatives have also been launched to promote the establishment of boarding schools for pupils living on isolated farmsteads.

One of the most suggestive indices of health services is the number of doctors per 10,000 inhabitants, which in 1972 was 7.5 in the villages, 36 in the towns and 46.4 in Budapest. The low standard of the rural health service is indicated by the lack of National Health surgeries and resident doctors in at least half of the villages of the country. The living conditions of approximately 20 per cent of the rural population are considerably aggravated by this inadequacy.

Food shops, which are an elementary component of basic supply, exist in almost every village. In this field difficulties arise from the insufficient choice of goods rather than from problems of availability. The business turnover of co-operative retail trade, which furnishes most rural supply, has for years been increasing more rapidly than the state sector. Efforts to bring about a gradual improvement in supply conditions in the villages also exist, but for the time being it is not possible to meet even local demand which is continually growing on account of the decreasing consumption of home produce.

In order to represent the level of present-day infrastructure supply, some 14 factors of basic supply were examined and combined into one indicator. According to the calculations, the basic supply level of the villages amounts to 85 per cent

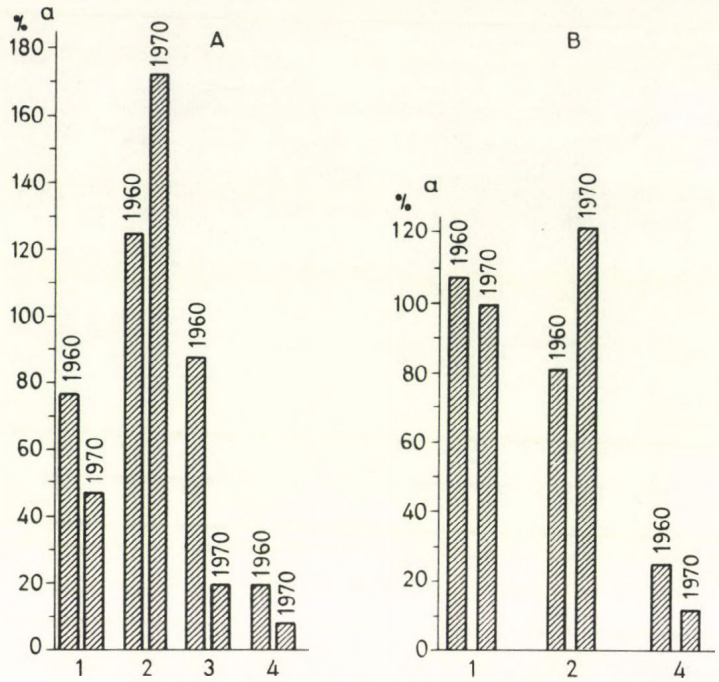

Fig. 5. Dispersion coefficients (deviations from the average) for selected housing equipment. A = on county level, for urban + rural population, B = on county level, for rural population; a = the dispersion coefficient. 1 = Water system; 2 = sewage system; 3 = gas; 4 = electricity

of that of the towns. (One must add here that the factors under consideration constitute only a part of urban supply, since the towns play a special role in the economy, performing central functions over and above those required by the local inhabitants.)

Figure 4 shows the different levels of village supply in each county. In terms of adequacy of supply, the counties of the Great Hungarian Plain occupy a median position, while county Komárom rises conspicuously above the others, the level of rural supply being nearly twice as high as that of villages in the average county. Among the counties where the villages are very small only in county Veszprém is the adequacy of supply better than average, thanks to the Lake Balaton tourist traffic. A slight positive correlation exists between village supply and the ratio of the density of population to the number of villages by counties ($r = 0.46$).

The calculations have shown that differences in housing and public utilities greatly enhance the backwardness of villages. A comparison of corresponding data indicates that rural housing and public utilities amount to 73 per cent of

urban levels. But at the same time these are the infrastructure elements that also cause significant differentiation among villages, although the degree of variation is now decreasing both in towns and villages (Fig. 5).

In spite of the poor correlation between the present-day level of infrastructure supply and population density, the greatest problems that arise in the general development of rural infrastructure are still those connected with the growth of tiny villages, sparsely populated settlements and farmsteads. Owing to the limited economic resources of the country, major development is only profitable in the more densely populated villages. For example, according to technical estimates, the per capita cost of constructing a water supply system in an area where population averages 10 persons per hectare is four times greater than the amount required in a settlement where population density is 80 persons per hectare.

The migratory movements of the population are directed from the less densely inhabited villages and farms towards the larger settlements, and consequently an ever-increasing number of people is concentrated in the latter. Thus the number of small villages in which comprehensive economic development seems impossible in the near future, is gradually decreasing.

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THE ENVIRONMENTAL PROBLEMS OF AGRICULTURAL LAND USE IN RURAL AREAS

by

I. BERÉNYI

Change in the relationship between society and environment is a two-way process: the environmental elements (such as relief and water conditions) are increasingly utilized, owing to economic and technological development; at the same time, ever sharper regional differences arise as a result of differences in the degree of their utilization.

Territorial concentration of production can be observed not only in industry but also in agriculture where environmental damage similarly occurs. In the following, we outline the transformation of land use in rural areas and its correlation with the principal trends in the economic development of the country. Also the environmental effects of changes in agricultural land use are surveyed.

RURAL AREAS OF AGRARIAN CHARACTER

Rural areas of agrarian character are those regions lying outside the industrial-urban agglomerations in which more than 70 per cent of the available area is under cultivation. Soils are classified as being of high, average and low gold-crown value, which serves as the basis for land taxation, and gross agricultural production per unit area. The environmental effects of the application of chemicals, mechanization, and mode of land utilization can be considered equal in all three categories.

To obtain a more accurate analysis of the effects of agrarian production on the environment, the above territorial categories have been further subdivided on the basis of ecological potential, i.e. relief and soil quality, and production orientation, i.e. crop production, animal husbandry, and vine- and fruit production.

The territorial types, delimited according to these additional criteria are (Fig. 1):

1. Agricultural areas of high productivity
   (a) intensive arable cultivation and animal husbandry;
   (b) vine- and fruit production;
   (c) irrigation.

2. Agricultural areas of average productivity, located
   (a) in the hilly regions;
   (b) on sandy soils;
   (c) on partly alkaline soils.
3. Agricultural areas of low productivity, located
   (a) in cold, wet, hilly regions;
   (b) on sandy soils;
   (c) on alkaline soils.

FACTORS INFLUENCING LAND UTILIZATION IN RURAL AREAS

The degree of land utilization of an area generally depends on the level of socio-economic development. In addition to the above-mentioned factors, land use in Hungary has been affected by the political boundaries having been changed after the First World War. Following the disintegration of the Austro-Hungarian Empire, Hungary lost those areas where the extractive industries predominated and was left with an overwhelmingly agricultural territory, a territory, which in relation to domestic demand and export possibilities was by no means commensurate. During the inter-war period, the exploitation of coal, bauxite and crude oil led to the growth of several industrial centres in Northern Hungary and Transdanubia while the longer established urban-industrial agglomerations, especially Budapest, quickly expanded. Simultaneously the area under agricultural use decreased.

Following the Second World War the agrarian area temporarily expanded under the influence of domestic market conditions and the land reform. However, the exceptionally fast industrial development that started in 1950 led to a reduction in agricultural manpower, which in turn quickened the expansion of large-scale farming and the intensification of production, resulting in a declining use of territories of low production capacity.

Owing to the advance of tourism, which has accelerated since the 1960s, new forms of rural land utilization have been introduced. The formation of resort areas along the Danube Bend and in the environs of Lake Balaton has brought about significant changes in the agrarian character of these areas, owing to settlements having grown in size and assuming altered functions. In these areas, the territory under cultivation has decreased by 50 to 70 per cent.

The change in the land use pattern of Hungary, and the dynamic development of some areas and the backwardness of others have been determined by the interplay of industry, agriculture and tourism. In the last few years, however, besides these factors, it is possible to witness an ever increasing social demand to form "passive" natural environmental zones, parallel with the development of intensive economic regions. These "passive zones" can be maintained with the help of measures to


GYŐR
BUDAPEST
MISKOLC
DEBRECEN
SZEGED
PÉCS
Balaton
Danube
Tisza
B I./1
B I./2
B I./3
B I./1-3
B II./1
B II./2
B II./3
B III./1
B III./2
B III./3
A
B I.
B II.
B III.
C
D
E

protect the still existing natural regions of the country, while they can be enlarged by the withdrawal from cultivation of poor agricultural land. A number of conservation areas and two national parks — one in the Hortobágy, the other in the Kiskunság — are the result of these efforts during the last few years.

THE ENVIRONMENTAL PROBLEMS OF AGRICULTURAL LAND USE IN RURAL AREAS

1. Arable land, including animal husbandry, occupies most of the areas of high productivity, namely, the Mezőföld, Outer-Somogy, Bácska, the Middle-Tisza Region, the southeastern parts of the Great Plain and the Hajdúság loess ridge. Here the following environmental problems appear.

The use of chemicals is an essential factor of plant cultivation. In Hungary, the use of artificial fertilizers has risen from an average of 14 kg per hectare between 1951 and 1960, 81 kg between 1960 and 1970, to 216 kg in 1973. Naturally these national averages hide important territorial differences in accordance with production intensity. For example, in the Mezőföld, where productivity is high, the value in 1973 was 318 kg, while in Northern Hungary, a much poorer area, the average use of artificial fertilizer was 114 kg per hectare.

The negative effects of the widespread application of fertilizers, because plants are not able to fully utilize the effective agents which thus accumulate in the soil, must be taken into consideration. This process in mainly caused by the dry summers characteristic of Hungary and, consequently, by low soil humidity. During the rains of the autumn the accumulated fertilizer can percolate downwards and pollute the groundwater. This is rather a large problem in the Nyírség (Northeastern Hungary) and in the Danube-Tisza Interfluve, as groundwater is mainly used in the supply of livestock there.

Fertilizers are also accumulating in the surface drainage, as a result of which rivers and lakes are witnessing an over-abundant growth of aquatic vegetation.

Nevertheless, insecticides are the most dangerous, because pollution of the surface drainage by them can devastate micro-organisms and mean immediate danger to fish stocks. Additionally, they also eliminate many agriculturally useful insects. As a consequence, some insecticides, for example DDT, have been banned, and a 17 per cent decline in their use can be demonstrated between 1968 and 1973.

However, during the same period, the application of herbicides grew threefold, and harmful effects, such as a decrease in the number of useful insects and birds, have already appeared in limited areas. Wind erosion has also become more dangerous in vine-growing areas because of the removal of weeds.

The mechanization of plant cultivation has already been completed in the arable areas. The same cannot be said about vine- and fruit-growing, however, where only some of the processes, such as cultivation and plant protection, have been mechanized. One can notice the unfavourable effects of mechanization in the sandy, vine- and fruit-growing areas, as wind erosion, gully erosion in hilly regions are becoming more intensive because of widely spaced rows.

In Hungary, between 1951 and 1960 an average of 76 thousand hectares was irrigated, which between 1961 and 1970 had grown to 204 thousand hectares (311 thousand hectares in 1973), 77 per cent arable and 20 per cent grassland. During the 1960s, irrigation expanded rapidly on the most fertile soils along the Danube and Tisza rivers, where the return on investment was the fastest. A general reclamation of the area is needed by the improvement of irrigation techniques to prevent the harmful accumulation of salts in the soil.

Large-scale farming has reduced the production element of rural residential areas, and the large gardens and courtyards located in rural settlement have lost this function. Their utilization might come into the fore in the near future, however, by providing a more satisfying rural environment in that the intensive agrarian zones of the country are poorer in natural elements than some of the urban agglomerations.

In summary, the environmental problems of the zones of intensive agriculture originate from two sides: on the one hand we have the technology of production with which is associated the application of chemicals, mechanization and irrigation, and on the other hand, there is the need for rational land use and for physical planning.

2. Agricultural areas of average productivity are to be found in regions of sandy and alkaline soils, and on the eroded hills. In these areas the progress of agrarian production has been slower than in the intensive regions, and manifests itself in the following features:

- the establishment of large-scale farming has not yet been completed;
- the technical level of agriculture is only average;
- the structure of production is of mixed character;
- only moderate improvements in production are possible from local capital accumulation.

Average productivity in these areas suggests that the negative environmental impact of chemical applications, mechanization and irrigation is insignificant. The physical planning tasks in these areas are of much more importance, however, and are derived from the partial specialization of large-scale farms, and from the settlement network of small villages on the hilly areas, and scattered farmsteads on the sandy soils. Besides this, the intensification of productions presupposes reclamation and soil improvement. Agrarian areas of average productivity can be divided into three types on the basis of ecology basis, production orientation and settlement network.

The Danube-Tisza Interfluve and the Nyírség have much in common in the way of general problems related to the agricultural environment. The possibilities for utilizing the sandy soil are similar in both areas, and the intensive cultivation of fruit, vines, industrial plants, and vegetables is the most effective orientation. The formation of large-scale farming cannot be achieved solely by the fusion of small holdings, and the modernization of production necessarily calls for the reorganization of the scattered settlement pattern. Hence the intensification of agrarian production leads to involved physical planning problems.

In areas of average productivity, which are situated on mainly alkaline soils, reclamation, soil improvement and afforestation are the principal methods for protecting the environment. These soils have been cultivated since the second half of the 19th century, after the rivers were regulated. The ecological fundamentals, for example, soil capability and natural vegetation, were consequently altered because the groundwater was lowered, and the soils became alkaline. The general reclamation of such areas is an urgent task because of the frequent occurrence of inland water, on the one hand, and the need to improve the soil and extend irrigation, on the other.

In the hilly areas of Outer-Somogy and the Völgység, large-scale farming and the modernization of production are restricted by the topography and by the network of small clustered villages of under 500 population. Because of the dense valley network, it is difficult to consolidate the farmland into units large enough for efficient mechanization. As a result of the spatial concentration of production, hilly regions that were formerly agricultural undergo change in two directions: first, in central settlements the demand for residential and industrial sites increases, while secondly, because of the declining utilization of low productivity, areas of idle land and infrastructure become evident. Two directions of environmental change can be recognized in areas of average productivity.

First, the regional concentration of agrarian production can only be considered in those areas where the conditions for expansion of dwellings and farms are favourable. In these areas the need to establish an infrastructure framework will presumably grow, and the problems of dwelling, and the rational location of farm centres will still exist. A more intensive utilization of the environment is possible only with the help of soil improvement, reclamation, and the formation of terraces.

A totally different kind of development can be expected in those limited areas where the ecology is adverse and where the intensification of production cannot be achieved. Here the establishment of intensive branches or the taking of the land out of cultivation and concentrating on the natural landscape elements of forest and water cannot be ignored.

3. Areas where the ecology is generally unfavourable, owing to cold periods during the vegetation season, steep slopes and eroded soil, are unsuitable for large-scale farming. Out-migration occurs at a high rate while such areas are

isolated and peripheral from the viewpoint of transportation. These regions may be considered backward areas. The border regions of Northern Hungary and South-western Transdanubia are two such areas; these suffer environmental problems caused by a decline in the intensity of agrarian land use.

At present, 15 to 20 per cent of the arable lands is idle, and the co-operatives can exist only with the help of significant state support. In the near future one may expect a slight modification in the present cultivation pattern, with the proposition of meadow and pasture land increasing at the expense of arable cultivation and with a general strengthening of the intensity of production. Employment cannot be ensured for the inhabitants, as these territories have no economic potential with the exception of forestry. For this reason, out-migration is intensive, although as these areas are rich in natural beauty, tourism and a resort function could possibly grow.

In summary, it is apparent that the three types of rural agrarian land use have different effects on the environment.

In areas of high productivity the intensification of production is changing the environment. This process manifests itself in the consolidation and growth of large-scale farms and in the changing utilization of the inner parts of rural settlements. Environmental protection emerges first from the viewpoint of production technology (chemical applications, mechanization and irrigation) and secondly from the urgent need for physical planning.

In areas of average productivity increasing disparities in productivity levels are the result of two processes. On the one hand, farming is being intensified in areas with favourable conditions, while, on the other, one can recognize a slight decrease in the utilization of areas of low productivity.

The general development problems of such areas stem from the settlement network, the farm concentration and modernization in production.

The intensification of farming in areas of low capability is not a rational one, although a more extensive form of utilization is possible by afforestation, by increasing the areas of meadows and pastures, and by constructing reservoirs. The one-sided agrarian function of such regions could be counterbalanced by the development of resort areas and tourism.

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