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# The Settlement Structure in Rural Areas : Implications of Functional Changes in Planning\*

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This paper deals with rural settlement in its wider context, i.e., both villages and service towns. It therefore refers to the whole settlement fabric based on agriculture, as distinct from settlement based on non-agricultural functions.

From the point of view of settlement geography, the twentieth century is distinguished by the transformation from agricultural to non-agricultural functions. This process develops at different degrees of intensity in various areas (Table 1). In the countries which have followed this trend furthest, less than 10 per cent, and in recent years even less than 5 per cent, of the working population are engaged in agriculture. At the same time the whole range of modern agricultural technology permits this vastly reduced labour force to produce an increasing volume of agricultural goods. One should not forget, however, that in many developing nations a high percentage of the national labour force is still employed in agriculture, e.g. Sudan 85.8 per cent, Thailand 82.0, Pakistan 75.0, India 72.9, Indonesia 67.2 (data for all these countries ca. 1960). These countries, therefore, are significantly different from the technologically advanced ones, discussed in the present paper.

Throughout history and until the turn of the last century agriculture was man's primary activity. Consequently, the vast majority of settlements in all countries were villages and farmsteads, housing the agricultural population, accompanied by a range of service towns of different density and hierarchical structure which as *central places* provided the necessary services for the agricultural population.<sup>1</sup>

The change from agricultural to non-agricultural employment makes an increasing part of the existing settlement structure obsolescent and maladapted. It brings about a whole range of adaptations, of which major ones might be listed as follows.

*Migration* of rural population, including that of towns in rural areas, to the large cities. In many countries the largest metropolitan cities with their strong attractions are absorbing a high percentage of migrants from rural areas.<sup>2</sup> In some countries, where the rural to urban migration is most intensive and the gap between (most) rural and (some) urban standards of living most glaring, the majority of these migrants end up in central or peripheral slums where living conditions are barely better, sometimes worse, than the rural misery from which they wanted to escape.

As far as the rural area is concerned, migration brings about the *depopulation and regression* of some villages and towns. For obvious reasons this process is selective. It will affect marginal, distant and isolated areas more strongly than

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\* Based on a paper presented at the 22nd International Geographical Congress, Montreal, Canada, August 1972.

Table I. Percentage of national labour force employed in agriculture, forestry and fishery, in selected countries

UK	1891.	11	1931	5.8	1961	3.8	1971	1.7
USA	1890	38	1930	22.1	1960	6.5	1970	4.3
Belgium	1890	22	1930	17.0	1960	7.2	1970	4.6
Canada			1931	31.1	1961	12.1	1971	7.4
France	1890	46	1930	35.6	1960	21.5	1970	13.4
Italy	1890	58	1936	48.2	1960	28.3	1970	19.0
Chile			1930	34.7	1960	27.7	1970	21.2
USSR	1897	58			1959	38.7	1970	24.6
Hungary	1890	76	1930	53.1	1960	38.4	1970	24.6
Brasil			1940	65.8	1960	53.7	1970	44.2

Source: ILO: *Yearbook of Labour Statistics, 1937, 1942, 1970*. Geneva, Montreal

those well integrated into the settlement fabric. In extreme cases it leads to abandonment of individual settlements or of settlement areas, and generally villages and towns experience regression by losing some of their manpower, usually the type with the greatest initiative, and some of their economic force. Consequently, such towns lose some of the volume and, at certain stages, even range of demand for services. The result of this process of regression is a deterioration in services and in quality of the population, as well as a deterioration in opportunities for the remaining population. All these factors in turn serve to aggravate and accelerate the process of depopulation and regression in those rural areas affected by them.

On the positive side, de-agriculturization leads to an increasing occupational polarity; one part of the village population becomes highly specialized farmers employing all the paraphernalia of modern mechanized science-based agriculture, very different from the *simple* peasants of former generations, who still form the majority of people in the world at the present time, but a growing majority of people in the villages enter the non-agricultural labour force. This takes a variety of forms, partly depending on the location of the rural area in question and its proximity to major urban and industrial centres of the nation.

*Non-residential employment and commuting.* Increasing numbers of people formerly employed in agriculture find employment in industry, manufacture, and services in nearby towns or in the area in general. They remain residents of the village for socio-economic reasons. The pressure on housing in the fast-growing towns and its consequent high cost are a frequent reason for this choice. For many people, strong family or community ties are the decisive motivation to maintain residence in their native village. The environmental and social disadvantages of urban life versus the ease of accessibility are an additional potent factor. In extreme cases, erstwhile villages turn into dormitory settlements, especially those located near cities.

*Introduction of non-agricultural branches of the economy into villages.* Two types of economy are most common; first and foremost is *industry*, whose antecedents date back a long way in Europe, e.g. the Swiss watch industry or cottage

(home) industries elsewhere. In recent decades this trend has intensified and expanded considerably, with sizeable industrial plants being located in villages and transforming them. The availability of land for plants and a resident labour pool are powerful incentives, as are the absence of industrial congestion and environmental deterioration, and incentives in taxation offered by the local authorities.

Secondly, and of lesser importance, there is the development of the *resort industry* in villages. Here the village makes use of its rural and scenic environment as a resource base. Often the mountain village has a particular resort potential, offsetting in part its locational and technological disadvantages in agriculture. In a very general way, as the urbanization rate grows in a population, so the demand increases for recreational facilities, and likewise the opportunity for villages to utilize this demand. It is important to note that recreation makes considerable demands on land use, both in areas directly used for recreational purpose and in adjacent areas, where deleterious uses are prohibited.

All these changes, eroding traditional village functions or transforming them, bring about basic changes in the structure of rural settlement. An increasing number of villagers adopt non-agricultural occupations. Many of these people are in regular working contact with larger towns, the more so as modern transportation makes the towns much more easily accessible than in the horse and buggy days described by Christaller. The result is a decreasing importance of the service functions of the traditional central place in the rural settlement fabric, i.e., the *obsolescence* and consequently regression of *many a small town*.

These trends of development which spread to an ever larger number of nations should by the end of the century, for the first time in human history, lead to an occupational structure in which agriculture is no longer the first-ranking branch of occupation in the world's population.

As this situation approaches, and the process will most probably intensify during the twenty-first century, our settlement structure based on villages as its main element will become obsolete. Agricultural villages will in future be accessories to the settlement fabric only, whereas towns with inhabitants engaged in non-agricultural occupations will form its basic element.

This fundamental change in settlement structure which was initiated by the industrial revolution requires a thorough re-assessment of priorities in planning for land-use. A rational allocation of reasonably large continuous tracts of land for urban and for agricultural use, as well as reserves of recreational land adequate for the projected size of future populations, should guide future planning. Agriculture can no longer have automatic first call on land, but as far as possible the best soils should be set aside for agricultural use. Villages will have to yield to the needs of urban expansion, including such space-consuming installations as airports. The high economic and social cost of these adaptations is part of the price man has to pay for basically changing his settlement structure.

In short, the transition from a prevalently agricultural-rural to a prevalently urban settlement pattern requires basic and far-reaching adjustments of settlement structure and of its related land uses.

#### NOTES

<sup>1</sup> A specific and well developed type of such a hierarchical pattern was analyzed by Christaller, and served as the take-off for Central Place Theory. Cf. W. Christaller, *Die zentralen Orte in Süddeutschland*. Jena: Fischer, 1933.

I owe to my colleague Dr. A. Gonen the appropriate observation of the strange and unfortunate incidence in timing by which Christaller published his study in 1933, at a time when his main thesis was becoming obsolete, and that the community of scholars showed more infatuation with theory than critical examination of facts when Central Place Theory reached its peak development in the nineteen-fifties and sixties.

Compare furthermore the pertinent comments by William Applebaum in *Geographical Review*, Vol. 62, 1972, p. 435.

<sup>2</sup> Compare the observations by Mark Jefferson in: The Law of the Primate City, *Geographical Review*, Vol. 29, 1939, pp. 226-232; and D. H. K. Amiran, The Structure of Settlement: Needed Adaptations to Change, *Geographica Helvetica*, Vol. 26, 1971, pp. 2-4.