

Further Comments on the Conference Theme

David J.K. Amiran

The Hebrew University of Jerusalem*

John Fraser Hart stresses the cardinal point of the issue: mechanization has brought about a critical reduction of the labor force in agriculture, 'freeing or forcing hordes of farm youths to migrate to the city.' The size of this shift in employment and place of residence, however, depends on the type of agriculture. Field crops such as cereals or cotton allow maximum mechanization and require, therefore, a minimal labor force. Many vegetables and fruits, however demand at least picking by hand. Input of labor is therefore of a seasonal nature and such land use calls for mobility with most people retaining their rural place of residence.

However, even where labor is intensively used, motorization has facilitated rural depopulation because seasonal peak demands can be met by commuting. Marketing by truck and even by plane has 'globalized the market for farm products' and 'sounded the death knell of many small agricultural service centers.' This holds true no less for small than for large countries. The 'development towns' of Israel established in the 1950s according to Christaller's central place theory which was modelled on the basis of late 19th century Germany were a planning mistake from the very beginning. The role of motorization was not given sufficient consideration and the inhabitants pay the price for this even today.

The agricultural sector in western economies dropped from a level of 50-80 percent of total labor force in mid-19th century to 5 percent or less today. Correspondingly the urban sector grew in importance. Due to modern development of technology and the volume of trade, which Gottman calls the 'quaternary sector of the modern transactional society', the economic weight of the city outweighs by far the power of the resistance of the rural-agricultural sector.

It is, therefore, but natural that developers who 'can produce and deliver what their fellow citizens want' are especially active at 'the metropolitan frontier ...where some of the most intensive agricultural uses of land are being converted into some less intensive urban uses.' Fraser Hart believes that 'urban encroachment on agricultural land, the conversion of agricultural land to nonagricultural uses, is inevitable. It is the result of natural economic processes, and trying to prevent or stop it is akin to trying to halt the incoming tide.' The changes in tech-

* Department of Geography, The Hebrew University of Jerusalem, Jerusalem 91905, Israel.

nology and their economic consequences require changes in planning. To quote Hart: "We live in a world that has outgrown its traditional structures of settlement and of administration, and we are trying to figure out how to adapt these outmoded structures to the rapidly changing needs of contemporary society."

This certainly is a fair presentation of present-day development in many advanced countries. But should economic processes be the only elements of planning? There are some basic geographic facts which concern natural resources that must be considered as inputs in planning. To disregard them will have adverse economic effects. As facts of the *natural* environment they are more rigid and less amenable to manipulation than economic factors. This requires the application of geographic considerations into the planning process, beyond operating according to standard models.

In this context the matter of scale becomes significant. As long as we operate in national frameworks and do not arrive at complete globalization of the economy, scale will retain its significance. This is well-illustrated by contrasting a large country such as the United States of America with even a tiny one such as Israel. The area of Israel, 21,950 km² is but 0.24 percent of that of the continental United States, while Israel's population of 5.8 million amounts to about 2 percent of the USA. Density in Israel is, thus, more than eight times that of the United States..

The 'inevitable' encroachment of urban uses on agricultural land is, therefore, acceptable in a country with vast land resources. The lower cost of transportation per ton/km justifies this economically.

In Israel pressure is especially heavy on land at the metropolitan frontier. In fact large parts of metropolitan areas occupy the most valuable agricultural land. As elsewhere, this is a carryover from the pre-technological age when large cities developed as centers of flourishing agricultural areas. But whereas a large country such as the United States of America can afford to convert prime agricultural land to urban uses and shift agriculture elsewhere, Israel has no available land elsewhere. It's non-arid area amounts to c. 100,000 km² equalling 80 percent of the area of the state of Connecticut. No more than 73 percent of this is cultivable, the rest being rocky upland. In fact only 4,370 km² are under cultivation i.e., 20 percent of the total area and 47.5 percent of the cultivable land. This equals 87 percent of the area of Delaware, the smallest state of the continental United States, excepting Rhode Island.

A country of this size with a restricted area of cultivable land which does not want to be dependent for the majority of its food and other agricultural supplies on imports, must, therefore, preserve a reasonable part of its prime agricultural land for agricultural use, even if its conversion to urban uses would be more remunerative.