PLANTATION FARMING: ITS WIDER APPLICATION IN AGRICULTURAL CLASSIFICATION

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Agricultural classification schemes have traditionally assigned plantation farming to predominantly tropical areas. Yet the Agricultural Revolution continues to favor, on an increasing scale, most or all of those characteristics long considered most typical of the plantation, *viz.*, crop and areal specialization, highly rationalized cultivation and harvesting techniques, large operating units, management centralization, labor specialization, massive production, and huge capital investments. Many farms, therefore, have been rapidly acquiring plantation characteristics and in areas well beyond the low latitudes. Meanwhile, the older, and more "traditional," plantations have been further rationalizing their operations. Why this lag of classification behind actual events? It would seem that the principle reason is too rigid a plantation definition. Economic forms are rarely static; modification is the rule, and the rate of modification has been constantly quickening. The plantation, as one of the most rational of economic forms is therefore especially susceptible to change. What is needed, then, is a more flexible concept of the plantation, one that will recognize its dynamic nature and not consign it to decline as soon as it deviates from classification criteria set up in a particular historical period. Although there has never been complete agreement on a definition of the plantation, there are several commonly-held biases.

BIASES IN THE PLANTATION DEFINITION

Perhaps the oldest of these biases is the view of the plantation as a solution by the white man to his supposed inability to do manual labor in the tropics. Not until the last world war was this view, which was rooted in the skepticism of eighteenth-century European philosophers concerning possibilites of overseas colonization by Europeans, authoritatively contradicted by research.[1] This was the work of the physiological climatologists, who, in effect, concluded that there are no climates in which man cannot work effectively. Nor do past and present plantation areas show a strict correlation with tropical climates. Plantations were first developed in Iran and the Mediterranean Basin and are not unimportant there today. Plantation farming also is a thriving occupation in the southwestern and southeastern United States and in certain sections of Australia, Chile, and the Republic of South Africa. Plantations also have been recorded for areas well beyond the subtropics, such as Iceland, Ireland, and parts of colonial New England. Today many fruit, vegetable, sugar beet, tobacco farms in the northern United States and sugar beet farms in northwestern Europe

[1] Jean Gottmann, *La Politique des États et leur Géographie* (Paris: Armand Colin, 1952), p. 35. Also D. H. K. Lee, "Physiological Climatology," in *American Geography: Inventory and Prospect*, eds. P. E. James and C. F. Jones (Syracuse, N.Y.: Syracuse University Press, 1954), pp. 470-483.

display marked plantation characteristics. Certain Soviet *kolkhozes,* specializing in crops like sugar beets and cotton, are about the nearest equivalent to the California "factory farm."

Another climatic bias, but more influential indirectly, is the common restriction of the plantation classification to those large-scale farms producing tropical or subtropical crops. Waibel narrowed the restriction further by labeling as a plantation only those enterprises raising crops that required complicated processing, this being necessary to preserve the product on its long trip from lower to higher latitudes.[2] Both of these restrictions have lost much of their meaning in the last several decades, again particularly since the second world war. Numerous traditionally middle-latitude crops are now being cultivated extensively by plantation-type enterprises. Probably the best single example is that of California, where sugar beets, vegetables, and deciduous fruits are grown in quantity. Advances in crop selection have also made possible advances of normally tropical or subtropical crops into cooler zones, as shown by the northward extensions of cotton, tea, grapes, and citrus fruit in the Soviet Union. Technological advances also continue to make ever more tenuous the association by Waibel of complex processing with low latitude location of plantations. Industrial methods, from sorting, packing, washing, and waxing by machine to vacuum-packing and freezing, are being applied to a growing number of crops heretofore not considered the plantation type and not necessarily located in the low latitudes. Nor do all crops raised in the plantation manner need complex processing, as illustrated by bananas.

Crop biases in the plantation definition also show in the prominence given to monoculture. Plantations, however, have never been strictly monocultural in that food crops have commonly been raised for plantation personnel. Then, as soil deterioration and unsettling of the biological balance have become problems, remedying crops (in particular, legumes) have taken their places beside the money crop. More recently, marketing problems have been encouraging the addition of one or more money crops. Another reason for this move in some areas is, surprisingly enough, mechanization. Although one of the most potent forces favoring one-crop cultivation, it also makes available more area and cultivating time, not all of which necessarily has to be given to the one crop. Also, the longer machinery is used, the quicker its costs can be amortized.

Crop biases in previous agricultural classification schemes have also encouraged the underestimation of the extent of plantation area. Engelbrecht's "Die Landbauzonen der Erde,"[3] which has strongly influenced German and American geographers to this day, emphasized crop regions, not agricultural systems, and restricted plantation activity to those crops that were thought "typical" of plantations, *i.e.*, low latitude crops. Whittlesey's "Major Agricultural Regions of the Earth,"[4] still considered by most

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[2] Leo Waibel, "Probleme der Landwirtschaftsgeographie," *Wirtschaftsgeographische Abhandlungen,* Nr. 1 (1933), p. 18.

[3] Hinrich Engelbrecht, "Die Landbauzonen der Erde," *Petermanns Geographische Mitteilungen, Erganzungsband* 45 (1930), pp. 286-297.

[4] Derwent Whittlesey, "Major Agricultural Regions of the Earth," *Annals, Association of American Geographers,* 26 (1936), pp.199-240.

American geographers as the definitive agricultural classification, was based on more criteria; yet it, too, assigned plantation farming mainly to tropical crops ("Plantation Crop Tillage"). Even Eduard Hahn, who was one of the first to concern himself with the plantation form and who was much more system-oriented than either Engelbrecht or Whittlesey, maintained that the tropical zone location was the most important characteristic of the plantation.[5]

Still other views on the nature of the plantation face revision as major changes take place in its character. No longer are plantations restricted to a single-owner, capitalistic type of operation. Now they may be run also as a stock company or as a cooperative with management decisions made by a private company or by the state. Plantations in several areas are also reducing their dependence on foreign markets by concentrating more on home demands, while others actively pursue both outlets. Plantations are also reducing their dependence on labor by extensively mechanizing. Labor is becoming increasingly more expensive as people move to the cities in search of opportunity, a movement strong in both developed and underdeveloped areas. In underpopulated areas, mechanization is promoting the spread of plantation farming into areas previously thought unsuitable for agriculture. Nor can the traditional view of plantation labor as a poverty-stricken and ruthlessly exploited group be uniformly defended. Despite such social contrasts as the Soviet *kolkhozian* and the South African Negro, forces are working everywhere toward the formation of a worker who is better paid, provided with health and security services by the government, trained in machinery operation, and imbued with the attitudes of an industrial worker. Ethnic differences between labor and management groups are also being obliterated as workers move into supervisory positions and buy plantations from former owners.

Plantation Typology and Terminology

The wide distribution and numerous variations of the modern plantation make for a rich typology. The continuing spread of farming technology makes increasingly difficult a primary classification of plantation types based on the peculiarities of geographic region, but it does sharply differentiate plantations as to the complexity of processing operations and the nature of the associated capital equipment. Walter Gerling has been the first to construct a plantation typology using these two criteria,[6] although technological advances since his proposals make it necessary to add many more plantation types to his original list of seventeen. These additions have come about in two ways: new crops being raised and processed in the plantation manner, and new types of preparation being applied to crops that have already been contributing to plantation production (*e.g.*, freezing).

A further addition to the Gerling typology that seems necessary is a secondary classification based on social structure. Although production is

[5] Eduard Hahn, "Die Wirtschaftsformen der Erde, "*Petermanns Mitteilungen,* 38 (1892), pp. 8-12.

[6] Walter Gerling, *Die Plantage* (Wurzburg: Verlag der Stahel'schen Universitatsbuchhandlung, 1954), p. 47.

the principal object of the plantation, an inseparable by-product is a way of life. Three categories can be recognized: the individual, or corporate, plantation, based on a free economy; the state, or government, plantation, with a strictly planned economy; and the cooperative plantation, which is managed by the government but depends on the world market.

The application of the term "plantation" to all these varieties of large-scale farms practicing intensive agricultural operations is not approved by all. Some would substitute "industrial farm," but its newness, its contradiction in terms, and the practice in many sections of applying the term to any farming system extensively employing rationalized procedures reduce its usefulness. Binns has suggested "estate,"[7] but for many the word suggests leisurely, rather than highly commercialized and rationalistic, farming. Other terms have also been suggested but none is so widely known as "plantation," despite the social connotations often associated with the word. "Plantation" also has a natural and historical basis as a term that is largely and objectively economic, *i.e.*, one that refers to an area of cultivated crops, often large. Expansion of this meaning on the economic level would certainly seem more appropriate than selection of an entirely different term which may be more pertinent at the moment but would have far fewer users.

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[7] Bernard O. Binns, *Plantations and Other Centrally Operated Estates*, FAO Agricultural Studies, No. 28. (*Rome: Food and Agriculture Organization of the United Nations*, 1955), p. 8.