

# Agriculture

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## What Imprint Does Agriculture Make on the Cultural Landscape?

Flying from the West Coast of the United States to the East Coast, if you have a window seat you will see the major imprint agriculture makes on the American cultural landscape. The green circles standing out in the grain belts of the country are places where center-pivot irrigation systems circle around a pivot, providing irrigation to a circle of crops. The checkerboard pattern on the landscape reflects the pattern of land survey system and land ownership in much of the country.

The pattern of land ownership seen in the landscape reflects the cadastral system—the method of land survey through which land ownership and property lines are defined. Cadastral systems were adopted in places where settlement could be regulated by law, and land surveys were crucial to their implementation. The prevailing survey system throughout much of the United States, the one that appears as checkerboards across agricultural fields, is the **rectangular survey system**. The U.S. government adopted the rectangular survey system after the American Revolution as part of a cadastral system known as the **township-and-range system**. Designed to facilitate the movement of non-Indians evenly across farmlands of the United States interior, the system imposed a rigid grid like pattern on the land (Fig. 11.10). The basic unit was the 1 square mile *section*—and land was bought and sold in whole, half, or quarter sections. The section's lines were drawn without reference to the terrain, and they thus imposed a remarkable uniformity across the land. Under the Homestead Act, a homesteader received one section of land (160 acres) after living on the land for five years and making improvements to it. The pattern of farms on the landscape in the interior of the United States reflects the township-and-range system, with farms spaced by sections, half sections, or quarter sections.



Figure 11.10

Willamette  
Valley,  
Oregon.

The township-and-range system has left its imprint on the landscape near Eugene, Oregon, where the grid pattern of six mile by six mile townships and the sections of one square mile each are marked by property lines and roads. © Alexander B. Murphy.

The imprint of the rectangular survey system is evident in Canada as well, where the government adopted a similar cadastral system as it sought to allocate land in the Prairie Provinces. In portions of the United States and Canada different cadastral patterns predominate, however (Fig. 11.11). These patterns reflect particular notions of how land should be divided and used. Among the most significant are the **metes and bounds survey** approach adopted along the eastern seaboard, in which natural features were used to demarcate irregular parcels of land. One of the most distinct regional approaches to land division can be found in the Canadian Maritimes and in parts of Quebec, Louisiana, and Texas where a **long-lot survey system** was implemented. This system divided land into narrow parcels stretching back from rivers, roads, or canals. It reflects a particular approach to surveying that was common in French America.

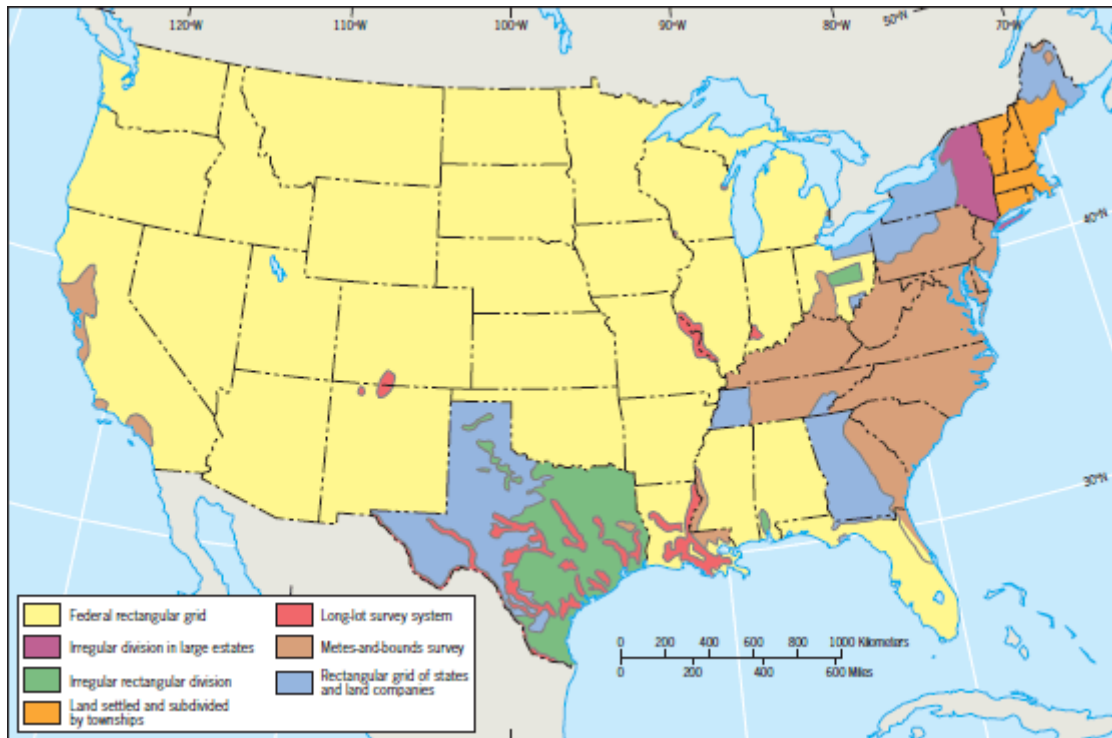


Figure 11.11

### Dominant Land Survey Patterns in the United States.

Data from: Price, Edward. *Dividing the Land: Early American Beginnings of Our Private Property Mosaic*. Chicago: University of Chicago Press, 1995, p. 8 and several other sources.

Many parts of the world do not have cadastral systems, so field patterns are irregular. But whether regular or irregular, societies with property ownership have parcels of land divided into neat, clearly demarcated segments. The size and order of those parcels are heavily influenced not just by land partition schemes, but also by rules about property inheritance. In systems where one child inherits all of the land—such as the traditional Germanic practice of **primogeniture** in which all land passes to the eldest son—parcels tend to be larger and farmers work a single plot of land. This is the norm in Northern Europe and in the principal areas of Northern European colonization—the Americas, South Africa, Australia, and New Zealand.

In areas where land is divided among heirs, however, considerable fragmentation can occur over time. The latter is the norm throughout much of Asia, Africa, and Southern Europe, as well as most of the allotted Indian reservations in the United States, meaning that farmers living in villages in these areas tend a variety of scattered small plots of land. In some places, land reform initiatives have consolidated landholdings to some degree, but fragmentation is still common in many parts of the world.

## Villages

Throughout this book we take note of various core-periphery contrasts our world presents. Such contrasts are prominent in rural as well as urban areas. Traditional farm-village life is still common in India, Subsaharan Africa, China, and Southeast Asia. In India, farming, much of it subsistence farming, still occupies over 60 percent of the population. As we have seen, however, in the world's core areas agriculture has taken on a very different form, and true farm villages, in which farming or providing services for farmers are the dominant activities, are disappearing. In the United States, where farming once was the leading economic activity, only some 2 percent of the labor force remains engaged in agriculture, and the population of most rural villages and towns is a mix of farmers and people who commute to work in urban areas.

Traditionally, the people who lived in villages either farmed the surrounding land or provided services to those who did the farming. Thus, they were closely connected to the land, and most of their livelihoods depended, directly or indirectly, on the cultivation of nearby farmland. As such, they tended to reflect historical and environmental conditions. Houses in Japanese farming villages, for example, are so tightly packed together that only the narrowest passageways remain between them. This village form reflects the need to allocate every possible square foot of land to farming; villages must not use land where crops could grow.

Unlike Japan, in the United States Midwest individual farmhouses lie quite far apart in what we call a

*dispersed settlement* pattern; the land is intensively cultivated but by machine rather than by hand. In the populous Indonesian island of Java, villages are located every half mile or so along a rural road, and settlement there is defined as nucleated. Land use is just as intense, but the work is done by people and animals. Hence, when we consider the density of human settlement as it relates to the intensity of land use, we should keep in mind the way the land is cultivated. *Nucleated settlement* is by far the most prevalent rural residential pattern in agricultural areas (Fig. 11.12). When houses are grouped together in tiny clusters or hamlets, or in slightly larger clusters we call villages, their spatial arrangement also has significance.

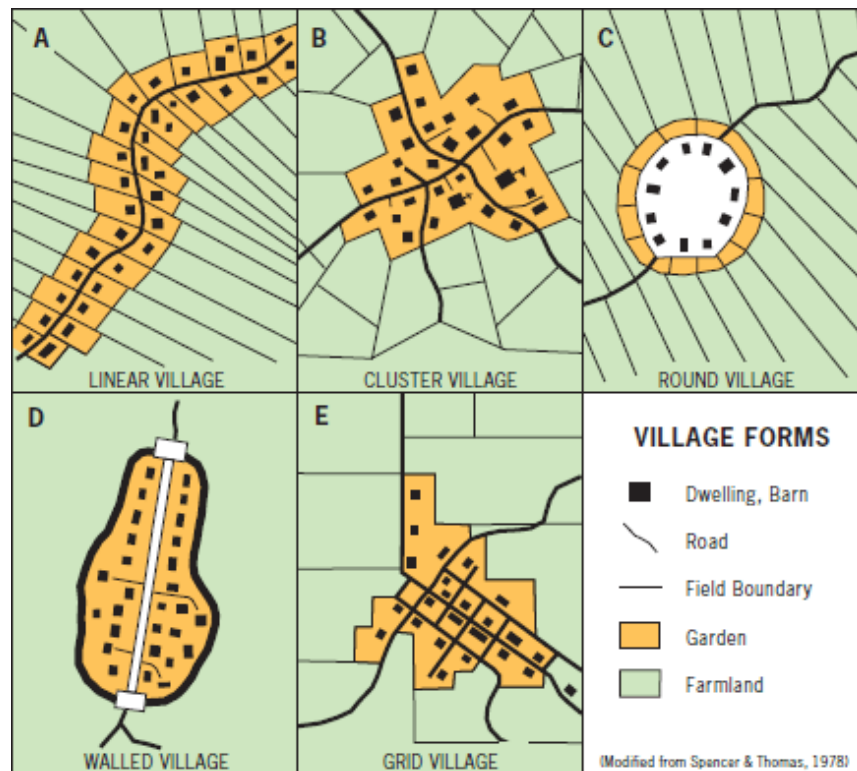


**Figure 11.12**

**Aquitaine,  
France.**

The agricultural landscape of Aquitaine demonstrates three features of rural France: people living in nucleated villages, a highly fragmented land ownership pattern, and land divided according to the French long-lot system. © Alexander B. Murphy.

In the hilly regions of Europe, villages frequently are clustered on hills, leaving the level land for farming. Often an old castle sits atop the hill, so in earlier times the site offered protection as well as land conservation. In many low-lying areas of western Europe, villages are located on dikes and levees, so that they often take on linear characteristics (Fig. 11.13A). Villages oriented along roads also have this characteristic. Where there is space, a house and outbuildings may be surrounded by a small garden; the farms and pasturelands lie just beyond. In other cases, a village may take on the characteristics of a cluster (Fig. 11.13B). It may have begun as a small hamlet at the intersection of two roads and then developed by accretion. The European version of the East African circular village, with its central cattle corral, is the round village or *rundling* (Fig. 11.13C). This layout was first used by Slavic farmer-herdsmen in eastern Europe and was later modified by Germanic settlers.



**Figure 11.13**

**Village Forms.**

Five different representative village layouts are shown here. Adapted with permission from: J. E. Spencer and W. H. Thomas, *Introducing Cultural Geography*. New York: John Wiley & Sons, Inc., 1978, p. 154.

In many parts of the world, farm villages were fortified to protect their inhabitants against marauders. Ten thousand years ago, the first farmers in the Fertile Crescent faced attacks from the horsemen of Asia's steppes and clustered together to ward off this danger. In Nigeria's Yorubaland, the farmers would go out into the surrounding fields by day but retreat to the protection of walled villages at night. Villages, as well as larger towns and cities in Europe, were frequently walled and surrounded by moats. When the population became so large that people had to build houses outside the original wall, a new wall would be built to protect them as well. *Walled villages* (Fig. 11.13D) still exist in rural areas of many countries—reminders of a turbulent past.

More modern villages, notably planned rural settlements, may be arranged on a grid pattern (Fig. 11.13E). Grid patterns are not, however, a twentieth-century invention. Centuries ago the Spanish invaders of Middle America laid out *grid villages* and towns, as did other colonial powers elsewhere in the world. In urban Africa, such imprints of colonization are pervasive.

Although the twentieth century has witnessed unprecedented urban growth throughout the world, half of the world's people still reside in villages and rural areas. As total world population increases, total population in rural areas is increasing in many parts of the world (even though the proportion of the total population in rural areas may be stagnant or declining). In China alone, approximately 50 percent of the more than 1.3 billion people live in rural areas. In India, with a population over 1 billion, between 60 and 70 percent of the people live in places the government defines as nonurban. Small rural settlements are home to most of the inhabitants of Indonesia, Bangladesh, Pakistan, and other countries of the global economic periphery, including those in Africa. The agrarian village remains one of the most common forms of settlement on Earth.

In some places, rural villages have changed as the global economy has changed. For example, Mexico has experienced rapid economic change since passage of the North American Free Trade Act (NAFTA) in 1992. Along with major shifts in industrial production (see Chapter 12), major changes in agricultural production and village life have occurred in Mexico. Before the passage of NAFTA, the Mexican government protected corn production because white corn is a staple crop used to make tortillas, the main bread source, in Mexico. Through protection, Mexico's corn prices were higher than in the United States. With the passage of NAFTA, Mexico entered a 15-year transition away from protecting its corn production. Economists believed the price of corn in Mexico would fall and in turn Mexicans would produce less corn.

What happened instead is that corn prices in Mexico fluctuated over time, tortilla prices rose, and then production of corn in Mexico increased. Tortilla prices rose in response to higher prices for corn in the United



States as a result of corn being used for fuel. Mexican farmers increased corn production both because of a higher demand for corn in the United States and Mexico and also because indigenous farmers in the south switched to subsistence farming of corn to provide for their families and to remove themselves from the fluctuating global agriculture market and the uncertainties of NAFTA.

## Functional Differentiation within Villages

Villages everywhere display certain common qualities, including evidence of social stratification and differentiation of buildings. The range in size and quality of houses, representing their owners' wealth and standing in the community, reflects social stratification. Material well-being is the chief determinant of stratification in Western commercial agricultural regions, where it translates into more elaborate homes. In Africa, as in most other places, a higher social position in the community is associated with a more impressive house. The house of the chief or headman may not only be more elaborate than others but may also be in a more prominent location. In India, caste still strongly influences daily life, including village housing; the manors of landlords, often comprising large walled compounds, stand in striking contrast to the modest houses of domestic servants, farm workers, carpenters, and craftspeople. The poorest people of the lowest castes live in small one-room, wattle-and-thatch dwellings. In Cambodia, the buildings in stilt villages built throughout the Mekong Basin look similar (Fig. 11.14). The building along the pond in the left foreground of Figure 11.14 has a different function—it is an outhouse. Its location on the pond accounts for a major part of the pollution problem in this village: waste from the outhouses drains directly into the pond, which has become mosquito-infested and severely polluted.



**Figure 11.14**

**Siem Reap, Cambodia.**

A stilt village in the Mekong Basin of Cambodia. © Barbara A. Weightman.

The functional differentiation (like the functional zonation of cities whereby different areas of the village play different roles and function differently) of buildings within farm villages is more elaborate in some societies than in others. Protection of livestock and storage of harvested crops are primary functions of farm villages, and in many villages where subsistence farming is the prevailing way of life, the storage place for grains and other food is constructed with as much care as the best-built house. Moisture and vermin must be kept away from stored food; containers of grain often stand on stilts under a carefully thatched roof or behind walls made of carefully maintained sun-dried mud. In India's villages, the paddy-bin made of mud (in which rice is stored) often stands inside the house. Similarly, livestock pens are often attached to houses, or, as in Africa, dwellings are built in a circle surrounding the corral.

The functional differentiation of buildings is greatest in Western cultures, where a single farmstead may contain as many buildings as an entire hamlet elsewhere in the world. A prosperous North American farm is likely to include a two-story farmhouse, a stable, a barn, and various outbuildings, including a garage for motorized equipment, a workshop, a shed for tools, and a silo for grain storage (Fig. 11.15). The space these

structures occupy can exceed that used by entire villages in Japan, China, and other agrarian regions where space is at a greater premium.



**Figure 11.15**

**Winthrop,  
Minnesota.**

The modern American farm typically has a two-story farm house surrounded by several outbuildings. © Erin H. Fouberg.

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