
The Trinidad Valley — An Example of Mid-Latitude Horticulture in the Tropics¹

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The Trinidad Valley, occupying roughly one square mile of territory, lies four kilometers north of Baguio, Mountain Province, Philippines. This is undoubtedly the most intensively utilized agricultural piece of land in all the Philippines. Here, at an elevation near 5000 feet above sea level, conditions approximating those at low elevations in the mid-latitudes are reproduced. Temperate climates and fertile alluvial soils, which have developed from lacustrine and stream deposits, combine to yield an environment favorable for the production of temperate vegetables. The demands of Europeans within the Philippines and the development of American tastes among Filipinos combine to produce an insatiable market. The physical basis for the development of the industry, land use adaptations among Filipinos and marketing and distribution of the produce combine to produce a geographic story worth telling.

The physical setting of the Trinidad Valley is striking. It is a flat-floored lacustrine plain, at high elevation, surrounded by mountainous terrain. The rim of mountains around the valley are predominantly composed of Miocene limestones with occasional volcanic boulders scattered about the surface. The source of these boulders is an enigma, but they may perhaps have been rafted in during a vast prehistoric flood. The northwestern mountain rim is composed of crystallines, which are of undetermined age, and which are heavily contorted. The Trinidad River (actually a small stream) flows northward along the eastern edge of the valley and exits through a rocky cleft in the mountains.

Soils are composed of fine-grained alluvium high in available minerals and organic matter. Loam to clay-loam adequately describes the texture. Good soil management and abundant applications of mineral and organic fertilizers have kept productivity levels high.

Mild temperatures prevail within the region because of elevation, and the growing season is 365 days. A wet summer season from June-October is succeeded by a dry winter period for the remaining portion of the year. Abundant irrigation water is available from contact springs at the base of the limestone, particularly on the south edge of the valley. An abundance of water is assured at all seasons, either through natural rainfall or irrigation water.

The agricultural pattern, which has developed in response to this environmental framework, is intensive mid-latitude horticulture. Flowers, cabbage, beans, peas, potatoes, carrots, and tomatoes predominate on the

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cropped land, but many other vegetables are produced. Near the northern edge of the valley low-lying terrain, difficult to drain, is devoted to grazing. Hand cultivation dominates. The land is prepared, planted, and harvested principally through the use of hand labor and primitive tools. Immediately upon harvest the soil is prepared, and a new crop planted. Organic residue, such as plant leaves and stems are carefully collected and spaded into the soil as organic fertilizer. Mineral fertilizers are purchased and added in judicious amounts. Great care is taken in weeding and cultivating the plants, and insects are attacked with powerful chemical sprays. Harvesting is done by hand, and most of the produce is packed in split bamboo baskets manufactured in the valley. The produce is hauled to a central market in Baguio by truck or bus. Considerable quantities of the produce are consumed in Baguio, but the surplus finds its way to lowland cities, particularly Manila, by bus, train, or truck.

High per acre yields induced by an inherently fertile soil, salubrious climate, and a great deal of human care gives rise to income as high as \$1500 per acre per year. The valley is densely settled, particularly along the main north-south road, and to a lesser extent along the circumferential road. The hilly uplands at the periphery of the valley are more densely settled than one might expect. Homes are generally poor and, in spite of the fertility of the valley, the people also are generally poor. Stores, schools, churches, and other service facilities are present in abundance. Domestic water supplies come from a small hill-side reservoir.

While small in area the Trinidad Valley is noteworthy as a small high-land basin, essentially temperate in character, within a country largely tropical. Crop patterns reflect American influences, and the area as a whole epitomizes geographic anomaly.
