The State Agricultural Experiment Stations, State Extension Services and the Tennessee Valley Authority are cooperating in establishing water-shed test demonstration communities throughout the Tennessee Valley. These water-shed demonstration areas have been established as a means of measuring the effect of high analysis phosphate fertilizer on farm practices together with its resultant effect on the welfare of the people in the area. In order that future studies could be compared with conditions that existed before an intensive program for improved practices was launched, it was necessary that as much basic information as possible be secured in regard to the condition of the community before the project was inaugurated. The inventory of the conditions of the community consisted of a detailed soil survey map showing soil, slope, and erosion, an additional map showing the present use of land, and also a fairly detailed inventory of economic and social conditions of the people. Several of these communities have been established in representative agricultural regions of the states which lie within the Tennessee River basin. This paper deals with one of these projects which is known as the Belfast Mills Water-Shed Area and is located in Russell County, Virginia.

This area is located in the Appalachian Valley of Virginia, and is a portion of the bluegrass region of southwest Virginia. Because of soil and climatic conditions as well as the steepness of topography, livestock is the principal source of income of this portion of the state. The production of beef cattle is the principal agricultural industry. However, due to the fact that many of the best pasture soils are located on excessively steep topography, the production of sheep is also important. During the past fifteen years, the production of white burley tobacco as a cash crop has become of increasing importance in this area.

The geologic material from which the principal soils have developed consists of limestone, shale, mixtures of limestone and shale, sandstone and shale, and colluvial beds of sandstone, and shale material. The principal soil series in this region are Frederick, Hagerstown, Dunmore, Elliber, Clarksville, Jefferson, and related soils that have not been officially correlated by the Bureau of Chemistry and Soils. The topography of this region is relatively steep, since only a small part of the area is comprised of smooth and generally rolling slopes, but relatively large portion occupies slopes varying from 15 to 85 per cent.

The Belfast Mills Area was selected as representative of this part of Virginia and the Tennessee Valley drainage basin regard to soils, types of farming, the people, community organization, recreation, and educational facilities. This area comprises 8,075 acres of land which is divided into eighty-nine different ownerships. Approximately seventy-five of these owners could be considered farms and they range from ten to three hundred and fifty acres in size. The remaining ownerships consist of houses and lots with possibly garden or small grazing lots.

A detailed soil survey map of Russell County which was prepared during 1936 by the State Experiment Station cooperating with the Bureau of Chemistry and Soils was used as basis of securing the inventory of the community. This map was prepared on the scale of approximately 2.67 inches to the mile and the portion to be used in this study was reproduced on a scale of five inches to a mile. The cover map of the same area was drawn on cellulose acetate sheets which were placed over the soil map, so as to make use of the base data of the soil map. This also gives an opportunity to check the soil boundaries in relation to each farm, field, and common dary.

In the mapping of cover, symbols were used to indicate the type of cover or use of each parcel of land. Stocking symbols were used in addition to indicate condition of this cover. Only three stocking symbols indicating good, medium, or poor cover were used.