Articles

Soil Survey—An Aid in the Prevention of Schistosomiasis—An Example from the Philippines

F. Kuipers

Recently, the Soil and Land Resources Appraisal and Training Project (PHI/74/003), in support of Government’s Integrated Rural Development Program, conducted a detailed land resources inventory of priority areas in Samar Island, Philippines (about 50,000 km²). This island is relatively undeveloped, with infrastructure, agricultural, and industrial development, educational and health facilities, all below national levels, and a high emigration rate.

During the survey preparation and the actual fieldwork, it appeared that widespread schistosomiasis could form a major limitation to agricultural development. Schistosomiasis is a chronic, debilitating disease caused by parasitic worms known as schistosomes. It infects human beings through tiny water-born worm larvae, which attach themselves to the bare skin and enter the bloodstream after which they mature in the vascular system of the host as parasitic worms. The life cycle of schistosomiasis is a complex one passing through several stages which include both a mammalian host (this includes man, dogs, cats, pigs, cattle, and rats) and an amphibious snail.

The soil survey, a major component of the inventory, started with interpretation of aerial photos (1:15,000 scale) to delineate physiographic units (landscapes and land forms). During the reconnaissance survey these units were checked and a tentative soil legend established. Field mapping was done on the photos using the usual soil features, plus information on vegetation, land use, groundwater depth, flood hazard, hydraulic conductivity, infiltration, and deep percolation.

To assist the government in the formulation of agricultural development plans, data on schistosomiasis prevalence was collected at the Ministry of Health. These data include large scale maps (1:1,000) as well as smaller scale maps (1:50,000) showing a large number of known snail breeding sites. Comparing the Ministry of Health maps with the soil map,

2 FAO Agro-hydrologist.