

ABSTRACT

Farm Reorganization with Emphasis on Land Use - A Case Study in Tobago

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The primary objective of the study was to determine the optimum land use plan of government-owned Richmond Estate. Eighty percent of its 515 hectares of land situated in North-East Tobago, is under-utilized.

The Land Use Approach, an inventory descriptive analysis, was used to derive five homogeneous soil groups based on: (1) land capability classification, (2) slope and other limitations to agricultural production and (3) soil type and texture. From these, the Linear Programming (LP) analytical model was developed. The model comprised of data on 145 agricultural production activities identified, their technical coefficients and major rows namely the net returns to production, production costs, aggregate supply, land and labour constraints and also commodity demand. Data was analysed by the computer using the ICL LP Mark 3 system.

An optimum plan was obtained from the analysis of the Model constrained by 15 percent of commodity demand targets for Tobago (1985). The results indicate that a high percentage of land use is obtainable on Richmond Estate. Land was allocated to the production of 400 acres of pulses, 250 acres of vegetables, 260 acres of root crops, 25 acres of

tree crops and 90 acres of fruit. Potential production can satisfy 45 percent of projected consumer demand for Tobago and the level of commodity demand in the Model. A high level of net returns may be obtained and substantial amounts of labour and fertilizer were required. Land use allocations and food production were sensitive to labour availability.

The land use allocation pattern indicate that vegetables, pulses and some fruit are best for the alluvial clay loam and steepland clay soils of higher land use-capacity in land capability classes II and III, slope 0° to 20°. Similar soils in land capability classes IV and V between slopes 20° - 30° of lower land use-capacity are more appropriate to root crops, tree crops and some fruit. Soils above 30° slope should remain uncultivated.

Land use plan II can be successfully implemented on Richmond Estate and it provides guidelines for land use on other estates.