



AgEcon SEARCH
RESEARCH IN AGRICULTURAL & APPLIED ECONOMICS

The World's Largest Open Access Agricultural & Applied Economics Digital Library

This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.

Help ensure our sustainability.

Give to AgEcon Search

AgEcon Search
<http://ageconsearch.umn.edu>
aesearch@umn.edu

*Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.*

**PROCEEDINGS
OF THE
CARIBBEAN FOOD CROPS SOCIETY**



SECOND ANNUAL MEETING

BRIDGETOWN, BARBADOS

OCTOBER 19-23, 1964

VOLUME II

TOUR OF THE SCOTLAND DISTRICT OF BARBADOS

by

J. Cumberbatch¹

A- Introduction and Background

- 1- The Soil Conservation Section of Ministry of Agriculture, Lands and Fisheries began work in 1957 at Morgan Lewis.
- 2- The Scotland District is 22 square miles, out of a total of 166 square miles for the entire island. This, bounded on one side by the sea and on the other sides by an escarpment (limestone cliff) approximately 15 miles long sharply defined in some places, e.g. Hacleton's cliff, which stretches from Pico Teneriffe in the North to Consett's Bay in the South.
- 3- The area is entirely unlike the rest of the island, which latter is coral limestone. In the Scotland District, the coral limestone cap has been removed by geological erosion and activity, exposing the softer strata of Barbados, which have been and are still eroding at an alarming rate if this erosion continues, not only will approximately 12,000 acres of arable land be lost but indeed the whole island comprising upwards of 93,000 arable acres will be seriously threatened. If this is viewed against a perspective of a rapidly increasing population (1962/63 increase 3092) with diminishing emigration outlets, then the vital importance of anti-erosion measures for this part of the island will be appreciated. The rapid development of this area could absorb many of the additional labour hands each year.
- 4- There are four (4) main problems, and these are in the process of being solved.
 - a) Geological Erosion and Landslips, due chiefly to the presence of spring water high up on the slopes.
 - b) The presence of Oil and Chemical Salts, especially Sodium Chloride, (table salt) which inhibit plant growth.
 - c) Overgrazing, which leads to bare slopes and serious loss of top-soil and vegetation.
 - d) The need for Village Resettlement occasioned by the serious land slips which are actively threatening some villages e.g. Chimborazo, St. Bernards, Coconut Grove, Mellowes.

¹ Senior Agricultural Officer, Soil Conservation, Ministry of Agriculture, Barbados.

- 5- Our operations demand the use of heavy equipment, and we have two D 9 caterpillars tractor one D7, two D 4's, one D 2 and various other equipment -- a capital outlay of over 1/4 million dollars.
- 6- The cost of the operations approach 1/2 million dollars per year.
- 7- There is a Soil Conservation Board, which advises on the operations of the Scheme, and whose membership by Law comprises Civil Servants as well as knowledgeable representatives from the public.
- 8- In order to fully demonstrate the methods being used, and to assure the public of its confidence in the future of this Scotland Area, Government purchased in 1961 and 1962 two of the worst erodes estates namely Sedgepond and The Hill. These are contiguous, and are being worked as a unit on a commercial basis. Most of Sedgepond and a part of The Hill have already been treated with our methods, and prospects for the future are bright. In fact, of the total acreage of 380 over 150 acres have been reshaped and drained with approximately 5 miles of underground pipes; and a diversified agricultural programme providing for fish farming, forestry crops, orchards, pangola grass pastures, and green vegetables in addition to sugar cane, has been initiated, and crop growth and production is being stimulated by irrigation.
- 9- The following figures indicate briefly progress so far:
 - 1) Total length of underground drainage pipes laid since 1960. 20.35 miles
 - 2) Total area affected by pipe drainage 590 acres
 - 3) Total area land reshaped..... 721 "
of this 721 acres 350 acres are now arable land that
used to be in swamps, boulders or was abandoned
through land slips.
 - 4) Total area planted to trees and reafforested from "Rab".
land. 50 "
 - 5) Total length of terraced drain/roads cut by tractor..... 20 miles
 - 6) Total area of fruit trees planted (coconut, citrus,
mixed fruit) 11 acres
 - 7) Total area reafforested at Joes River Woods since 1963.. 6 "
 - 8) Total area pangola grass planted..... 37 "
 - 9) Total length of Highway; and Transport Main Road
(Especially stabilized)..... 2,400 feet.
- 10- During the dry season (January-May), sixteen (16) dams can yield 12 million gallons of water for irrigation, and an additional 5,800 gallons per hour collected in underground pipes from the numerous springs, provides 21 million gallons over 150 dry season days.

- 11- During this present dry season, one of the most severe for over a decade, the Soil Conservation Scheme has demonstrated, by use of a mobile tractor pump and portable aluminium lines, the value of irrigation at such varying localities as Haggatt's Orchard, Morgan Lewis foreshore, and the Sedgepond Banana Nurseries and fruit trees. Quite apart from this, the production of green vegetables at Sedgepond from irrigation has continued without pause: While at Morgan Lewis Estate, an excellent demonstration by private enterprise has already fully vindicated the foresight in dam construction there.
- 12- The problem of oil and salts is being overcome by the use of "road waste" from gutters to reclaim "bad lands". In order to combat overgrazing, the worst areas are closed to grazing by being declared "Protected" under the Act. Excellent success at Morgan Lewis and Walkers has persuaded us that this is the correct line of approach. Over 600 acres are currently "Protected".
- 13- The urgent need for speeding up the programme cannot be overstressed. At the present rate, it will take 40-60 years to complete the scheme, and it is horrifying to think what some areas will look like a decade hence if not stabilized.
- 14- The scheme every year attracts more and more visitors, especially schools, and there is no doubt that with the construction of the East Coast Road, the area has suddenly assumed a new and vital importance to the entire community.

(SGD) E.R.ST.J CUMBERBATCH

Senior Agricultural Officer
Soil Conservation
Ministry of Agriculture, Lands, and Fisheries