CUNA CUNA PASS HIKE

The second hike of 1991/92 was organised over the weekend of 2nd - 3rd May, to tackle Cuna Cuna Pass, a trip which would take us from St Thomas into Portland where we would be guests of the Millbank Progressive Group.

The party of 33 JGS members and friends departed from Kingston early on Saturday morning, bound for the isolated, hilltop community of Hayfield, perched at an elevation of over 1,000 feet in the St Thomas mountains, at the start of the trail. On leaving the Bath main road and crossing a drought-stricken Plantain Garden river, enjoyment of the spectacular, winding mountain road with its superb vistas was interrupted, country-style, by a minor vehicular scrape, involving a major vehicular investigation and protracted negotiations.

The group debussed in Hayfield, a community which was shattered by hurricane Gilbert by virtue of its exposed site, and is suffering horrendously from the poor condition of the road to Bath; residents have no public transport and taxi fares are prohibitive.

Refreshments were dispatched at speed, accompanied by careful double-checking of equipment and supplies; experience born and blooded in Cockpit Country and by stories of the awesome Corn Puss Gap hike of 1985, the route of the latter following a trail almost parallel to Cuna Cuna Pass, just a few miles to the east.

Cuna Cuna Pass Trail, according to yet another detailed field guide meticulously prepared for the Society by Alan Eyre, today involves a 7.7 miles transect across the recently established Blue and John Crow Mountains National Park. The trail was originally an 18th century bridle road, linking Bath with the maroon community of Moore Town.

The first part of the trail climbed through small farming areas and eventually into secondary forest, some of the landscape still bearing the scars of hurricane Gilbert in 1988. A brief lunch halt at 'Lookout' was followed by a descent into the Rio Grande valley and Millbank, the second leg of the journey offering some lovely panoramic views.

Remarkably, the hike proved to be a not-too-strenuous, three-hour walk, and prompted several good-humoured jibes about the Society goin' sa rf. The early afternoon arrival at Millbank allowed plenty of time to empty the shops' fridges of liquid refreshment and to encourage restocking for the evening.

The party were introduced to Mr Graffy, President of the Millbank Progressive Group, Grace Folkes of the Youth Group, Gloria Palmer and others, and taken to our base, the local community centre. Whilst several adventurous folk enjoyed a swim and a bathe in the river, the first of several memorable weekend happenings gradually unfolded; a superb meal of local dishes, prepared by members of the Progressive Group, organised and supervised by Gloria Palmer.

The first course was a choice of either bussu soup (a Portland speciality made from river snails), or jangga soup (crayfish). The latter was excellent, but even in a nation which specialises in all-kinds-of-soup for all-weather, bussu soup must surely be king. The main course involved two kinds of rundown, one prepared from salt mackerel and the other from jangga; both were mouthwateringly delicious.

In the evening the next event, and a surprise for most of the party, took shape; a delightful concert of song, dance and drama, put on by members of the community's active Youth Group. One feature of the concert was a children's song about the Jamaican environment, composed and performed by the local National Park warden, and another was the dub poetry of Basil Forsyth, who saved the blushes of the JGS party when invited to participate in the concert.

Meanwhile, ... back in the village..., a third surprise was being plotted. At the rear of the...
Lunch break at 'Lookout' (photo Perez Cross)

Wait-a-bit

rum shop, in a dark room, various cuts of wild hog were being displayed and purchased from a hunter who had just returned from the forest, and was recounting the days’ exploits with zeal, good humour, and the occasional theatrical flourish.

Once again, Mrs Palmer and friends were called upon to perform culinary heroics, and graciously and efficiently rustled up a veritable midnight feast of stewed wild hog. The aroma aroused several of the party who had already bedded down, and the taste and flavour surpassed the superlative. Sleep flowed effortlessly.

The party assembled very early next morning, and were introduced to Dr Eric Garraway and Audette Bailey (Department of Zoology, UWI), and briefed on the Giant Swallowtail Butterfly (Papilio Homerus), the largest butterfly in the Americas and an endangered species which still survives in this area. (see Jamaican Geographer No. 4, 1991).

The next couple of hours were spent trekking to the nearby White River waterfalls. No-one in the party saw a Giant Swallowtail (which are very rare, even here), but the walk culminated in an exciting, eventful, challenging and wet, half-mile scramble up the river bed. Most of the party bathed in the plunging, cooling waters of the falls, before returning to the community centre, and thence to Kingston; the remaining portions of the two wild hogs having been purchased, packaged and suitably sequestered for the journey home.

One of the lingering memories of the weekend was the camaraderie which developed amongst the JGS party, many of whom had been strangers two days earlier. The success of the hike, though, rested on careful planning, and particularly, on the friendly hospitality of the local community. Without exception, everyone we met in Millbank was friendly and courteous, a refreshing contrast to Kingston’s urban milieu. The Society would especially like to thank, Mr Graffy, Mrs Palmer and the ladies who cooked for us, Errol and Donovan our trail guides who had travelled to Kingston the day before the hike, Grace and members of the Youth Group, and Eric and Audette. The Society wishes the Millbank Progressive Group every success in its praiseworthy efforts at community development.

Finally, it is worth recording that Claudia James and David Barker undertook a reconnaissance of the area to make arrangements for the weekend, based on suggestions and contacts originally made by Eric Garraway and Audette Bailey.

HOGGING THE LIME LIGHT

Wild hogs are not indigenous to Jamaica, but are descendants of those originally released by the Spanish throughout the Americas. Alfred W. Crosby Jr. describes them thus...

'It is necessary to define this hog. He was not the peccary, the tusked, piglike animal native to America... Nor was the pig that followed the conquistadors the fat, slow-footed creature we are familiar with today. Once ashore in America he became a fast, tough, lean, self-sufficient greyhound of a hog much closer to appearance and personality to a wild boar than to one of our twentieth-century hogs. This Spanish swine thrived in wet, tropical lowlands and dry mountains alike, and reproduced with a rapidity that delighted the pork-hungry Iberians.

Swine took up so little space on board ship and were so prolific once ashore that many of the earlier explorers took them along as deck cargo and deposited them on islands to multiply and provide food for future visitors'.

(The Columbian Exchange, 1972, pp77-78)

Wild hogs are still hunted in Hellshire and Cockpit Country as well as on the northern slopes of the Blue Mountains and the John Crows, though it is doubtful whether any scientific survey has been mounted to estimate numbers or viability of their populations. In the Millbank area at least, the hunters use traps and dogs not guns, and so perhaps the populations there is not yet under threat. But what a tragedy it would be if the surviving populations of wild hog were carelessly exterminated since they have bestowed upon Jamaican ingenuity a precious cultural icon: jerk pork. The original jerk pork was, of course, prepared from our bountiful wild hogs.

Editor

Anyone wishing to visit Millbank might consider taking in the 'Ole time sining' held annually to commemorate Emancipation day in August.
ANNUAL GENERAL MEETING

This year's AGM was held on July 18th in the Inter-Faculty lecture theatre, UWI, and the theme was 'Kingston 300', in celebration of the 300th anniversary of the founding of Kingston, after the Port Royal earthquake.

The first part of the meeting was chaired by Eleanor Jones, who introduced Winston Wright of the Kingston Restoration Company. He presented an illustrated show of the KRC's work in revitalising downtown Kingston, including a number of slides showing various sites before and after improvement work. The guest speaker was Ms. Marguerite Curtin, Director of Culture at the Ministry of Education and Culture, who presented an interesting, informative and witty account of Kingston's cultural heritage.

During the refreshment break, members had an opportunity to view an exhibition organised and mounted by members of the outgoing Council (special thanks to Dawn Simon and Janet Hyde for their contributions).

David Barker chaired the business meeting. The outgoing President, Claudia James, was warmly and enthusiastically thanked for her outstanding contribution to the development of the Society over the three years in which she held office. The Treasurer reported a comfortable surplus in our accounts, whilst the Membership Secretary indicated record membership levels for the year 1991/92: 115 professional members, 41 student and 8 institutional. Membership fees were raised to $50 per annum for ordinary members, $25 for students and $75 for institutions.

In the Election of Officers, the list of nominees proposed by the outgoing Council was accepted by the AGM. Learie Miller becomes our new President, and the new Vice President, Larry Neuvile, accepted on his behalf. The members of the newly elected Council are listed on page 8.

WOOD AND WATER DAY

Once again, the JGS and the Natural History Society of Jamaica combined to organise a tree planting event as part of National Wood and Water Day, this year held on October 24th.

The JGS nominated three schools in the Corporate area, Wolmers Boys School, Merle Grove High School and Calabar High School, whilst the NHSJ nominated Maxfield Home for Children, Glenhope Nursery and Glenhope Place of Safety. Young people from the Kingston Restoration Company's Teen Centre assisted the NHSJ.

The group of volunteers assembled at Maxfield Home for Children, and collected the seedlings supplied by the Forestry Department. These included blue mahoe, almond, sea grape, poinciana, lignum vitae, and assorted fruit trees.

The local contacts at the schools visited by the JGS team were Lorraine Longmore (Calabar), Yvonne Lee (Merle Grove) and Winston McCullum (Wolmers); all these teachers had organised pupils to assist in the tree planting.

Once again, the two Societies are indebted to Andreas Oberli, who suggested the change of emphasis in this year's programme, and who organised the collection and distribution of seedlings from the Forestry Department.

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SPONSORSHIP

This issue of Jamaican Geographer is partly sponsored by the academic journal Caribbean Geography, which is published by the University of the West Indies Publishers' Association (UWIPA).

Caribbean Geography began publication 10 years ago, in May 1983, and 11 issues have appeared to date. All back issues are available at reduced prices; JGS members can obtain special discounts on current subscription rates.

UWIPA also publishes Caribbean Review of Books. A quarterly publication, CRB reviews academic and scholarly material, fiction and non-fiction, and lists all new book published about the region. Current issues have listed all Jamaican books in print.

Jamaican Geographer (7), November 1992 – 3
STAFF NEWS

Wilma Bailey has been seconded to ISER for two-year stint, as co-ordinator of the research programme in health and education. Her main task is to map out a programme for the Institute and to write funding proposals. Two large projects are involved so far; AIDS and sexual decision-making (joint ISER and University of California), and a Caribbean-wide project on women’s reproductive health, funded by the Ford Foundation.

Jeremy Collymore continues a second year’s leave of absence as Regional Co-ordinator at CDERA, Barbados.

Balfour Spence stays on in the Department, having been appointed to cover most of Dr Bailey’s teaching for the period. Also helping out with part-time lecturing this academic year are Alan Eyre and Paulette Meikle.

POSTGRADUATE AWARD

Postgraduate, Vileitha Davis, has been awarded a 1992/93 scholarship to assist her research on agriculture and community development in the Millbank area of Portland. The scholarship is part of the joint UWI/Inter-American Development Foundation programme to facilitate postgraduate research in rural development at the UWI.

This is the second successive year in which a geography postgraduate has successfully applied for one of these scholarships; the previous recipient was Paulette Meikle, who is currently writing up her M.Phil on root crop production and marketing in Jamaica.

MACMILLAN PRIZE

This year’s Macmillan Book Prize for the best final year undergraduate dissertation in Geography went to Fatima Patel. Her thesis was entitled ‘The impact of potential development on the geomorphological processes of the east coast of Scotland District, Barbados’. Fatima also gave a paper at the British-Caribbean Geography Seminar in August (see below). Despite a power failure at the time, Fatima’s contribution was very well received, especially by the overseas participants.

BRITISH-CARIBBEAN GEOGRAPHY SEMINAR, 1992

The first British-Caribbean Geography Seminar was hosted by the Department of Geography, UWI Mona Campus between August 17th-21st, and held in the Inter-Faculty Lecture Theatre. It was jointly organised by David Barker, and Duncan McGregor (Royal Holloway, University of London). Dr McGregor is a frequent visitor to the Department, and taught at UWI for a term a few years ago.

The theme of the conference was ‘Environment and Development in Small Island States: the Caribbean’. In addition to papers in applied geography, the multi-disciplinary theme attracted presentations from allied fields such as physical planning, regional planning, tourism, geology, zoology, botany, economics and sociology. Within the general theme of environment and development, five clusters of topics emerged:

(1) Coastal resource management as it relates to the socio-economic and physical impact of the tourist industry.

Leonard Nurse, (Coastal Conservation Unit, Barbados, and a graduate of the UWI Geography Dept.) presented a case study of the effects of thermal effluent discharge from Barbados’ electricity generating plant on nearby beaches. Peter Bacon (Zoology Dept, UWI) examined the problems of rehabilitating eastern Caribbean wetlands. Frank Mills (University of the Virgin Islands) analysed tourism’s impact on the housing market in the US Virgin Islands. Klaus de Albuquerque applied Butler’s destination life-cycle model of tourism development in a comparative analysis of trends in St Maarten and Bermuda.

Two papers by British academics (Leslie France and Brian Wheeler) were highly critical of the in-vogue concept of eco-tourism and provided the audience with much to think about as entrepreneurs in our tourist industry begin to market non-traditional aspects of the Jamaican environment.

Nell Sealey, well known for his school text books on the Caribbean region, presented an interesting report on the recent discovery by divers, archaeologists and speleologists of Lucayan Amerindian burial sites in underwater caves in the famous karst Blue Holes of The Bahamas, and evaluated potential problems and conflicts of interest in accommodating (and controlling) specialist recreational diving as a tourist attraction.

(2) Natural hazards in relation to resource management and physical planning.

Alison Reading (UK) analysed 400 years of data on the tracks and frequency of tropical cyclones in the Caribbean, and related the data to concepts of climatic change and global warming. Jeremy Collymore applied cost-benefit analysis to disaster mitigation policies in the Caribbean. Rafi Ahmad (Geology Dept, UWI) and Russell Maharaj (Institute of Marine Affairs, Trinidad), in separate papers, reviewed the progress on landslide hazard research in Jamaica.

(3) The wide-ranging implications of land degradation.

Duncan McGregor reviewed soil erosion research with respect to general atmospheric circulation models and climatic change. Morag McDonald (UK), currently attached to the Botany Dept, UWI, reported research in progress on forest clearance and soil conservation in the Cinchona area of the Blue Mountains.

An interesting exploratory paper by JGS Professor Learie Miller, focused on environmental accounting, by assessing the economic costs of dredging of the Hermitage reservoir and of reafforestation of its watershed, in order to improve Kingston’s water supply.

Patrick Williams (Geography Dept., University of Guyana) reviewed development projects in Guyana, and discussed lessons learnt in the fields of agriculture, mining and manufacturing, with respect to environmental degradation. Fatima Patel, graduate of UWI Geography Dept., examined land degradation in the Scotland District of Barbados, in relation to pressure from new building and tourist development.

(4) National Parks.

A broad review paper by David Smith, of the JCDT, outlined progress towards a National Park system for Jamaica, and reported on...
the PARC project. Alan Eyre’s paper argued a case for listing Cockpit Country as a World Heritage site, partly as a strategy to preserve remaining wilderness areas from further deforestation. Reporting on a new research project in the UWI Geography Dept, David Barker and David Miller examined historical and contemporary patterns of agricultural encroachment on the northern edge of Cockpit Country by small farmers, using evidence from aerial photographs, a survey of small farmers and ground-truth field evidence.

(5) The rural economy.

Elizabeth Thomas-Hope, a Jamaican geographer who lectures in the Geography Dept, University of Liverpool, looked at the relationship between population mobility and environmental sustainability, using Jamaican data to differentiate between short-term and long-term impacts. Her postgraduate student, Michelle Harrison, focussed on the rural community of Duanevale in Trelawny’s sugar belt. Paulette Meikle, UWI geography postgrad, discussed root crop production and marketing by small farmers in Trelawny and Hanover.

(6) Other Papers

In the opening paper in the conference, Gene Wilken (Professor of Geography at Colorado University, and currently Regional Environmental Advisor for USAID in the Caribbean) sketched out the future of donor agency support for environmental research in the Caribbean.

Rob Potter, Reader in geography at Royal Holloway and a prolific writer on the eastern Caribbean, presented material on environmental perception. His postgrad student, Sally Lloyd-Evans’ paper was on the informal sector in Trinidad.

Janet Momsen (UK) examined gender differences in relation to environmental perception in Barbados. Stephen Royle (UK) compared the remaining small island colonies in the Caribbean with island dependencies in the Atlantic and other parts of the world.

The opening address was given by Franklin McDonald, Director NRCA. In total, 27 papers were presented, 11 by university-based geographers from the United Kingdom. The eastern Caribbean was represented with papers from Barbados, Trinidad, Guyana, The Bahamas, the US Virgin Islands, and there was a paper on St Maarten and Bermuda by a scholar based in the USA.

Each of the sessions attracted core audiences of around 25 to 40 people, but based on registrations, it is estimated around 120 people attended at least one session during the week. The audiences included professionals from a wide range of planning agencies in Jamaica, as well as school teachers and UWI students.

Two field trips were organised for the overseas participants during the week of the conference. The first was a half-day excursion around Kingston to view the development of the urban area and associated planning problems, and was led by David Barker. It culminated in a ferry trip across Kingston Harbour and a tour of Port Royal which focussed on its disaster-prone location. The second field excursion, led by David Miller, involved a full day in the Blue Mountains, examining the problems of hillside farming and land degradation; sites visited included Hollywell Park, Hardwar Gap/Silver Hill Gap, Cinchona Botanical Gardens and the Upper Yallahs valley, and Sangster’s World’s End factory.

On the weekend following the conference, a two-day field excursion was held, based in UWI’s Marine Laboratory, Discovery Bay. The theme on the Saturday was an examination of the water resources of the Ocho Rios area, in relation to the local tourist industry, and was led by Alan Eyre. On the Sunday, participants were introduced to the karst geomorphology of Cockpit Country and its potential for National Park development; sites visited included Domock Head, Dumn’s Hole and Windsor.

The conference was sponsored by the Commonwealth Foundation, the British Council and the Institute of British Geographers. The Commonwealth Foundation provided funding for several participants from the eastern Caribbean, and part-funded a UK participant. The British Council sponsored Dr Duncan McGregor, the co-organiser of the meeting. The Institute of British Geographers, the principal professional body for academic geography in the UK, has encouraged a series of similar joint Geography seminars in various parts of the world over the last decade or so. The IBG provided seed money to cover administrative costs.

Judging from the comments of participants, attendances (which far surpassed the organisers’ expectations), and the demand for copies of conference papers, the meeting was topical and successful. The conference provided, perhaps for the first time in the Caribbean, an international meeting based on a broad area of applied geographical research rather than focussing on a specialised sub-field, within the subject.

CONGRATULATIONS

Congratulations to final year student Judy Rocke, for being awarded the prize for the best paper written in the Development of Civilisation (UC200) course in 1991/92, and to Michael Crawford, voted Sportsman of the year on Mona Campus, also for 1991/92.

QUIZ: SECOND THOUGHTS

1. Mt Everest is the highest mountain in the world at 29,028 ft. What is the world’s second highest mountain?
2. The largest inland water body in the world is the Caspian Sea, covering 143,244 square miles. Which is the world’s second largest?
3. At a length of 4,160 miles, the river Nile is the longest river in the world. Which is the world’s second longest river?
4. Excluding the continent of Australia, the largest island in the world, Greenland, covers 840,000 square miles. Which is the world’s second largest island?
5. The greatest desert in the world is the massive Sahara, covering some 3,500,000 square miles. Which is the world’s second most extensive desert?

Jamaican Geographer (7), November 1992 – 5
BOOK REVIEW

Over the last decade, a host of new school books on Caribbean geography have been published. Quality and standards of presentation are higher than ever before. The latest is Neil Sealey’s book ‘Caribbean World: a complete system, and their linkages and connections’ and is the best of the lot, carefully packaged a prodigious amount of material into its 256 pages.

Sealey has used a thoroughly modern approach, in organizing the book around physical and human systems, so that ‘geographical features of the region can be studied as parts of a system, and their linkages and connections within and outside each system can be identified’ (p4).

The book is divided into four parts. Part One, the Physical Basis, includes an extended treatment of Caribbean geology including an excellent, simplified exposition of Carribean plate tectonics; probably the first time this has been done so successfully at this level. This section also has separate chapters on fluvial and coastal landscapes.

Part Two, Natural Systems, covers water resources, weather, climate, soils, vegetation, resources and energy. Part Three includes chapters on agriculture and farming, fishing, manufacturing, tourism, population, towns and cities, and trade, whilst Part Four is a shorter section on Practical Skills, covering mapwork, and a very useful chapter discussing ideas for conducting fieldwork projects.

The book’s strength undoubtedly lies in the combination of authors’ skills (in meticulous compilation and presentation of material, clarity of prose, and selection of examples and case studies) together with Cambridge University Press’ beautifully professional production. Maps, diagrams and photos are a judicious mix of colour and black and white, and the large page format is appealing and easy on the eye.

The treatment of fluvial and coastal landscapes, and the soils coverage are praiseworthy, in being carefully tailored to the Caribbean situation. Indeed, all the material relating to physical geography in Parts One and Two ought to be a great assistance to the many schoolchildren for whom physical geography is their weaker half of the subject.

The book has an applied orientation too, covering themes like pollution, river control, conservation and reforestation in their appropriate Caribbean contexts. The book also contains comparative studies from other parts of the world, in keeping with the requirements of the CXC syllabus, but they are well integrated with the Caribbean material and nowhere too intrusive.

The book is strongly recommended, to teachers and pupils alike. Indeed, though designed specifically for CXC level, I suspect there are many who will find the book of great value as an introductory A-level text.

David Baker

HOLY CHILDHOOD HIGH SCHOOL GEOGRAPHY CLUB

The school’s Geography Club was founded in 1988. Over the past 4 years the Club has had guest speakers from Ethiopia, Russia, Cuba, the Meteorological Office, and the Office of Disaster Preparedness. On the School’s Open Day, the Club had a display focussing on disaster preparedness.

The Club’s aim is to stimulate an appreciation for our environment and its motto is ‘For the love of nature, together we unite’. The Club has a button and a flag, and membership is presently 40 students. The flag is composed of three quadrants of blue, white, and green respectively. The blue quadrant represents the water bodies; the green is the earth’s vegetation and natural habitats; the white quadrant serves to highlight the central motif. This motif is a tree, representative of our planet held in balance by two hands, one black and the other white, showing it is mankind who holds the fragile earth’s future in check. Around the tree, there is a semi-circular halo of stars which represent the universe we live in.

Plans for 1992-93 include indoor activities (geographical games), guest speakers, outdoor activities like tree planting and traffic counts, field trips, discussions and various publications.

Natlee McMorris, President

ST ANDREW HIGH SCHOOL GEOGRAPHY CLUB

The Club has been in existence for a number of years. It functions under students’ leadership on the advice of a faculty advisor.

At present, the club in association with the Jamaica Conservation and Development Trust is conducting a tag drive. The funds from this will be put towards the upkeep of the Blue and John Crow Mountains National Park. Along with this organisation, we will be executing activities to emphasize our theme for this year, which is ‘Protect and Preserve the Environment’.

We have planned to produce a video production on ‘Trees and their importance’. In keeping with our motto to ‘Educate, Explore and Enjoy’, we intend to conduct many of our projects out of our school environment.

You are invited to our meetings, Tuesdays at 2.15pm on the school campus.

Moyon Ashton, President

ST CATHERINE HIGH SCHOOL GEOGRAPHY SCHOLARSHIP

St Catherine High School has showed commendable initiative by launching a scholarship in honour of two geography teachers, Mr Kenneth Neal and Mrs Gloria Johnson, who have recently retired. The scholarship, which is to be named the Neal/Johnson scholarship, will be awarded to a student who is successful in A-Level geography, and who has been accepted to UWI to read for a degree in Geography. Upon graduation, the student should teach geography at the ‘Alma Mater’.

MRS LORNA FRASER

Congratulations to Mrs Lorna Fraser, who has been appointed Education Officer for Geography at the Ministry of Education. Mrs Fraser is one of our most experienced geography teachers, having taught at Holy Childhood for many years. She is a long-time member of the Society, and has served on the Council on a number of occasions.
mass movement is a common geomorphic process in Jamaica, especially on the mountainous slopes within the interior of the island. During and following torrential rainfall and storm events, failures are common and have severe environmental, engineering, social and economic repercussions. The effects of landslides and mass movement include sedimentation in reservoirs, roadway failures and soil erosion. The severity of the landslide problem can be measured by the number of failures recorded in any given area. A study in Upper St Andrew between January 1989 and December 1990 revealed 886 slope failures, varying from a few to hundreds of metres in length. This figure has increased to 991 since the last field survey, in January 1991.

Hubbard and Fermor (1972) estimated $700,000 to be the cost for landslide repair after a single storm event in 1966. Since then this figure has risen considerably, accounting for more than half the budget allocated for road maintenance (usually, clearing roads after rainfall events and the construction of engineering structures at failure sites).

Landslide impacts can be reduced if adequate remedial and/or preventative measures are implemented. In Jamaica, vegetation or re-vegetation of hillslopes (like planting of bamboo and grassing slopes) is common. Engineering structures (like retaining walls and gabion baskets) are also used for landslide control. However, the use of any one type of remedial measure may not always be adequate for controlling mass movement.

Re-vegetation

It is widely believed that vegetation has a stabilising effect on hillslopes. However, due to their binding effect in surface soil layers, plant-root systems can create a zone of weakness between surface-bound soil layers and underlying unbound soil layers, thus juxtaposing soils of two different shear strength. Soils in the surface-bound layers are usually of higher shear strength. This creates a condition called mechanical anisotropy between these two soil layers, and the development of a shear plane at this interface. In this way, surface soil layers bound by plant roots can fail and slide downslope after being saturated during torrential rainfall events.

When there are dense root networks near the surface, soils can absorb and retain much higher volumes of water than similar soils not bound by plant roots. This causes a condition referred to as undrained loading (increase in relative normal stress and unit weight due to low permeability and transmissivity), which is a fundamental mechanism of slope failure. With an increase in soil water retention, positive pore water pressures can be generated within these soils, and a condition of limiting equilibrium created. This causes the development of high normal and shear stresses within surface soils, ultimately leading to failure of the mass. These type of failures provide some of the best examples of sliding failures on hillslopes.

Re-vegetation of hillslopes can effectively reduce rates of soil erosion (by stabilising surface soils), and so reduce splash, rill, gully and sheet erosion. Plants also increase rates of evapotranspiration and so can effectively reduce soil moisture, a crucial determinant of slope failures. Prevention of splash, rill, gully and sheet erosion and reduction of soil moisture can effectively reduce the incidence of landslides (as these processes are usually precursors of mass movement).

Engineering Structures

The use of engineering structures for reducing the incidence of landslides is usually limited to gabion baskets and concrete retaining walls. These structures, when properly designed and constructed, are effective control measures as they are capable of withstanding earth pressure due to mass movement. They have the advantage of preventing such deeper failures as can occur after re-vegetation. They also allow free drainage of excessive soil moisture, preventing the development of positive pore water pressure. However, these structures are usually expensive to construct and therefore cannot be used extensively. Soil conservationists at the Hope River Watershed Project estimated $70,000 to construct a concrete retaining wall three metres long and 2.5 metres high. Gabion baskets are also expensive, the wire is approximately US$5 per small unit (foreign exchange), and then construction materials and labour costs must be added.

Current Practice

Current geotechnical practice is such that usually only one type of remedial measure is used: engineering structures (done by engineers and/or technical personnel) or re-vegetation (by farmers or non-technical people). However, both methods have disadvantages, and when used independently, do not always solve the problem. Vegetation can cause mechanical anisotropy to develop within soils and thus create instability - the presence of landslides on forested and other vegetated slopes confirm this hypothesis. Although vegetation reduces surface soil erosion, mass movement may not always be prevented. Engineering structures, although they may effectively control mass movement, do not prevent soil erosion, precursors to mass movement. Thus it is not uncommon to see such structures failing on hillslopes.

It is suggested here that for the effective control of landslides and other mass movement phenomena, a combination of biological and engineering structures should be used (bio-engineering control). In this way, both the effects of surface soil erosion and mass movement can be reduced and/or prevented. In islands like Jamaica, with financial and budgetary constraints, the construction of concrete and gabion retaining walls may not always be possible. However, retaining structures can be constructed using plant materials, such as bamboo, saplings and small trees (again, bio-engineering control). In this way, the effective cost of construction can be reduced considerably.

Reference

JGS COUNCIL 1992/93
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Vice President Lawrence Neuville
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MEMBERSHIP CARDS AND DISCOUNTS
This year Council has revived the idea of issuing membership cards. All fully paid-up members should ensure they receive their membership cards for the current year. The Council has also renegotiated discounts with a number of shops and business establishments, which are only available on production of a valid JGS membership card. The following establishments have kindly offered discounts to JGS members: Lee’s Fifth Avenue and other Lee’s stores, Courts (Jamaica) Ltd., Pablo’s Fabric Ltd., Apex Battery Co., Ryan’s Muffler Co., Writer’s Cramp bookshop.

JAMAICAN NATURALIST
Volume 2 Number 1 July 1992
Now available: contains following articles
Shaughan Terry Wondrous World of Orchids - Jamaica
Peter Vogel & Rhema Kerr Conservation status of the Jamaican Iguana
David Lee The PARC project: a new beginning
David Lee & Leslie Walling Montego Bay Marine Park: protecting a vital resource
Plus, Natural History Briefs, Research Notes and Book Reviews
Jamaica Naturalist is published by the Natural History Society of Jamaica.

CARIBBEAN GEOGRAPHY
1992 Volume 3 Number 4
Out soon: Special Issue with papers from the British-Caribbean Geography Seminar, August 1992.
Gene C. Wilken Future Caribbean Donor Landscapes: a geographic interpretation of contemporary trends
Paulette Meikle Spatio-temporal trends in root crop production and marketing in Jamaica
Learie Miller An investigation of the economic cost of land degradation: the Hermitage watershed, Jamaica
Robert B. Potter Caribbean views on environment and development: a cognitive perspective
Stephen A. Royle The small island as a colony
Special discounts to JGS members.

VISIT TO CUBA
The Council is exploring the possibility of a trip to Cuba later in the year. The cost for a week, inclusive of air fare, accommodation, meals and transport would be around J$9,000-J$10,000.
Anyone interested contact David Barker (UWI Geog Dept. 927-2129) or any Council member. Numbers will determine the cost.

SECOND HELPINGS
1. A mountain called Godwin Austen some 28,250 ft high on the Pakistan/Indian border.
2. Lake Superior in north America, an expanse of water covering 31,700 square miles.
3. The river Amazon, of course, in south America, 4,000 miles in length.
4. No, not Madagascar, which is the world’s fourth largest island, but pat yourself on the back if you guessed New Guinea, some 317,000 square miles in extent.
5. The easiest of the lot, cobber, the Australian desert some 600,000 square miles of cricketing outback.

Now, what’s all this about third rate quizzes? Try them nuh!

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