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Country Development Strategy Statement

FY 1989

JAMAICA

MARCH 1988

Agency for International Development
Washington, D.C. 20523

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EMBASSY OF THE
UNITED STATES OF AMERICA
Kingston, Jamaica

March 18, 1988

This document accurately reflects the development environment in Jamaica. The economic and political analysis included in the Country Development Strategy Statement are totally consonant with that of Embassy staff.

I concur with the analysis and strategy as presented and fully recommend the proposed program of assistance in that it is consistent with the U.S. policy goals and objectives of the U.S. Mission in Jamaica.

Michael Sotirhos
Ambassador

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CDSS:JAMAICA

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EXECUTIVE SUMMARY

This strategy is based on the development needs of Jamaica. It does not anticipate which political party will be in power in Jamaica. Jamaica enters the CDSS period having taken many steps towards achieving a market oriented, export led economy. While prospects for continued economic growth are quite good, Jamaica will, for the foreseeable future, have a crippling debt burden which dictates tight budget realities. In addition to helping with imaginative solutions to the debt situation, there is much which the U.S. Government can and should do to help improve the quality of life for poor and middle class Jamaicans who have often felt their only hope of making it is to migrate to the U.S. or Canada.

USAID/Jamaica's strategy focuses on consolidating the gains achieved under the first phase of the structural adjustment program along with a renewed emphasis on strengthening essential social sectors. While continuing to assist Jamaica in efforts to improve the overall policy framework, three themes will be pursued as a basis for sustained growth: (1) more effective development of human capital, (2) expansion of domestic and international markets, and (3) increased opportunities and broader participation.

Specific sectoral focus will be on agriculture, housing and urban development, education and to a limited extent, health. Anticipated resources will enable USAID to assist Jamaica to sustain recent economic growth, expand private sector involvement in the development process and to create and expand opportunities for the next generation of Jamaicans.

I. OVERVIEW OF THE ENVIRONMENT FOR DEVELOPMENT

Jamaica has taken courageous steps to restructure its economy towards a market determined, free enterprise system. The government has made major policy changes and has experienced two years of real growth. To sustain continued economic growth, however, it must maintain sound macroeconomic policies, emphasize sectoral policies to open markets, and develop human capital so that a greater portion of the population actively participates in and enjoys benefits of development. Recently, recognition has been given to the fact that the productive base must be solidified, and relatively neglected social services should receive greater attention.

Politically, Jamaica has a strong democratic tradition. It relies upon elections, due process of law, plurality of institutions, and individual liberty. Unlike some nearby nations, it does not rely upon authoritarian government. Further, it is important as the Caribbean regional center which follows reasonable social policies, does not oppress its people, and has made significant cultural contributions.

Elections will occur within a year. Two recent public opinion polls indicate preference for the People's National Party (PNP), although they also suggest that the governing Jamaica Labor Party (JLP) has been gaining strength. If the JLP wins a third term, it is likely to continue recent policy directions. If the PNP is elected, PNP spokesmen have assured continued support for private sector development. However, other policy statements indicate there would also be a shift towards greater governmental control,

skepticism regarding divestitures, establishment of some new subsidies, greater support for social programs, and increased protection for local production. The PNP says it is opposed to increased government ownership of productive resources. Regardless of which party prevails, harsh budget realities severely limit spending options; thus, the extent of policy changes may be constrained.

The structural adjustment program is not complete. The GOJ should continue to reduce the fiscal deficit. Macroeconomic policy reforms to reduce high interest rates, to reduce exchange controls, and to increase export competitiveness, though extremely difficult, are needed.

A dominant problem is external debt and the resulting high debt service requirements. Most debt is owed to the IMF/World Bank and bilateral donors, and declining levels of new funds have already resulted in net outflows. Given the need to sustain production related import requirements, Jamaica will face economic slowdown unless imaginative solutions are found to debt management.

Continued economic expansion requires increased participation by the majority of the population. Traditional economic and social forces have historically concentrated benefits of growth on the limited minority ownership class. Our preliminary analysis of this issue of access to opportunity indicates that obstacles abound. Though social mobility is now occuring, popular frustration, particularly on the part of youth, is greatest as the system starts to open; the social and developmental need is to accelerate that process.

Two areas need particular attention: relaxing of market constraints and greater development of human capital. Sectoral constraints which limit participation need to be liberalized, whether they are land markets, excessive government regulations, or constrained educational opportunities. To expand the human capital base the social sectors must receive greater attention to produce more literate, healthy, active participants in the economy, thus affording opportunities for upward mobility.

II. PROBLEM ANALYSIS AND DESCRIPTION

A. Inadequate Income Growth

Jamaica is currently experiencing the best period of real economic growth in at least 15 years. Jamaica should be able to continue with real growth of at least 4 percent in JFY 1987/88 and positive growth thereafter with sound policies.

Economic Growth In Perspective - Historically, the Jamaican economy was based upon the export of sugar and, later, bananas. After World War II, bauxite and alumina exports earned wealth from aluminum industry expansion. The 1960's brought expansion in import substitution, but by mid-decade the easy gains were largely achieved. Nevertheless, the country opted to promote further domestic production through protection from external competition. Not only was this additional domestic oriented production uncompetitive internationally, but it saddled consumers with high prices and low quality. Also, it resulted in foreign exchange earnings from a few stagnant sources: sugar, bananas,

bauxite/alumina, and construction related capital inflows. Tourism was the only new sector with long term upward earning potential.

The seventies were a period of worldwide macroeconomic disequilibria, exacerbated by two oil shocks. The People's National Party (PNP) government from 1972-80 emphasized distribution of income and wealth, primarily through increased social programs. Significant social gains came at the price of major fiscal deficits, rapid monetary expansion, inflation, reduced investment, a contracting private sector, and reduced output. The policies adopted to accelerate economic growth in the end retarded it; national income declined by 25 percent in real terms between 1972 and 1980.

The 1980 election brought the Jamaica Labor Party (JLP) to power, with an economic recovery program that featured private sector and export promotion strategies. A new assistance program was negotiated with the IMF, and a Structural Adjustment Loan was negotiated with the World Bank. Aided by substantial donor inflows, the government moved cautiously to implement major structural reforms. In the first year of the program, impressive achievements were realized. But the early 1980's world market conditions for bauxite and alumina deteriorated further, inflation was high, and massive fiscal deficits continued. These factors led to further economic problems; by 1984 the need for more basic reforms was abundantly clear. It led to a period of impressive reforms.

Recent Economic Developments - By late 1985, Jamaica's economic fortunes finally began to turn with several favorable developments: petroleum prices and world interest rates began to decline, tourism picked up, and non-traditional exports increased. The size and influence of the public sector decreased. Structural adjustment accomplishments may be summarized as follows:

Tax Reform:

-- Enacted flat rate of 33 1/3 percent for personal income tax and exempted incomes of less than J$8,580
-- Reduced corporate tax rate to 33 1/3 percent

Privatization:

-- Sold 51 percent of National Commercial Bank by share offer
-- Sold 72 percent of Caribbean Cement Company by share offer
-- Sold US$40 million in shares in Jamaica Telephone Company
-- Active program to sell 13 government hotels (one already sold)
-- Leased 57,000 acres of agricultural land
-- Divested 10 smaller enterprises, with another 10 almost completed
-- Numerous privatizations involving management contracts, leases, user fees, and closures

Trade and Payments Regime:

-- Reduced quantitative restrictions from 380 items to 88
-- Removed most imports from licensing requirements
-- Implemented first phase of tariff reform
-- Foreign exchange rate depreciated in real terms by 36 percent over 1980-1987

-- Manufactured exports to U.S. during 1980-1987 rose dramatically

Monetary and Fiscal Policies:

-- Improved monetary policy and partially removed bias against credit to private sector by reducing government overdraft facility, phasing out liquid assets ratio, and paying interest on cash reserves.

-- Reduced public sector deficits from 23 percent of GDP in 1983/84 to less than 5 percent in 1987/88

Monitoring Public Sector Enterprises:

-- Introduced performance budgeting, improved financial management

-- Introduced cost-based user fees

Liberalization of Agricultural Commodity Boards:

-- Sugar sector reorganized with closures of some estates and management contracts for others

-- Banana marketing board privatized, exports have rebounded

-- Reduced monopsony powers of other boards

Debt Management

-- Debt-equity swap program in place; three completed and others approved

-- GOJ has proposed innovative ideas to deal with bilateral debt

Jamaica thus has taken many steps towards achieving a market oriented, export led economy. The adjustment from noncompetitive production has been painful; Jamaica is far below the production level of 1972. Unemployment is still high although it has declined to 21 percent from about 25 percent last year (the U.S.

comparable rate would be roughly half these rates), but underemployment in marginal occupations remains a widespread problem.

Prospects for Medium Term Growth - Although recent successes are encouraging, the economy has a long way to go to reach self-sustained growth. It is vulnerable to external influences, such as demand for tourism services, international interest rates, and world prices for its key exports, bauxite, alumina, and sugar, and its key import, petroleum. Internally, the advancing economy could encounter serious imbalances in its credit, money, foreign exchange, products and labor markets. These internal and external forces could threaten the strength of the recovery.

Estimates by the GOJ, World Bank and IMF, are consistent with USAID/Jamaica's macroeconomic model, which indicates that a real growth rate of 4 percent over the next two years, and 3.5 percent thereafter, is possible if the present commitment to structural adjustment remains.

Growth and Distribution of Income - The present distribution of wealth and income is highly unequal. Efforts at redistribution center on sheltering the poorest households, which spend up to two thirds of their income on food, from increased food prices, by subsidizing food imports and placing upper limits on food prices. Another technique is preventing the exchange rate from depreciating, thereby suppressing the price of imported food and other products. A recent study shows that import subsidies or price controls are inefficient. Because of the distribution of total food purchases, only about 12 percent of any generalized

food price subsidy reaches the poorest 40 percent of households, while the wealthiest 40 percent receive 72 percent of the benefit. If the tax system is proportional or regressive with respect to expenditure, then one can argue that any generalized subsidy redistributes income from the poor to the rich.

Jamaica's lowest income groups survive at a subsistence level, and a significant increase in their earning power cannot realistically occur until robust growth of the economy is under way. Public sector programs will be required to prevent their falling below subsistence levels. The challenge is to protect the poor in a manner that does not impede growth. Possibilities include expanding the existing food stamp program, direct cash transfers, and vouchers for specific goods and services.

The opportunity to improve one's socioeconomic status is critical to achieving both economic growth and popular aspirations. Ironically, import substitution solidifies the power of the "haves" at the expense of the "have-nots" who are required to pay high prices for products produced locally but inefficiently. Jamaica must expand exports if it is to grow. Further, the restrictions inherent in a regulated economy tend also to restrict opportunity for those outside the traditional establishment. Thus, present policies emphasizing exports and opening opportunities in the private sector are consistent with sustainable growth and a more equal distribution of income.

Labor Issues - Although recent growth has led to an increase in productive employment, overall un- and underemployment remain high, even after adjustments to make the figures roughly

comparable to U.S. data. In essence, unemployment in Jamaica represents both a dilemma and an opportunity for economic policy. The dilemma is how to bring these groups living at the margins into the mainstream before social tensions create political crises, while ensuring that jobs created are both productive and sustainable.

The opportunity is the fact that these underemployed resources can foster additional growth without inflation. Jamaica remains a classical labor surplus economy. To an important extent, Jamaica's recent policy realignment with its outward orientation is enabling it to utilize this valuable resource with the advent of low cost, labor-intensive export industries. Policies which keep the exchange rate competitive, lower tariffs, eliminate quantitative restrictions and import licensing, promote investment and keep taxes reasonable will be consistent with the further absorption of the unemployed into productive endeavors.

Jamaican labor has the potential to develop in the medium term in the more remunerative service sectors such as data and information processing. At present, however, training in these areas is sub-optimal because private firms are reluctant to undertake investment in training for fear of losing employees to competitors. A role is therefore indicated for public support for training in these sectors, specifically targeted and demand driven, which could provide greater employment, earnings and access to opportunity.

B. Agricultural Growth Deficiencies

Jamaica has a favorable climate and varied resources for agricultural production. During most of its history, agriculture has been the engine for economic growth, providing foreign exchange, raw materials, wealth, income, employment and nutritional sustenance. The relative importance of agriculture, however, declined with the growth of mining, tourism and manufacturing. Although agriculture's contribution to GDP is eight percent, agricultural products account for 20 percent of exports and more than 20 percent of the labor force. Almost 40 percent of the population lives in rural areas.

Jamaica has considerable potential to increase agricultural production. It has adequate resources, including suitable and varied terrain, micro-climates, soil types, and water resources for irrigation. This variability has permitted specialization, leading to inter-regional differentiation and trade. Other strengths include: increasing agricultural investment by middle-class urban Jamaicans; preferential access to lucrative markets for certain commodities; improving macroeconomic conditions; and a literate and healthy population. However, much suitable land is unused, primarily land abandoned or withdrawn from sugar cane and banana culture; hillside agricultural land is eroding; and much forest and grassland has been abandoned as productivity diminished. Serious floods have also caused damage.

Value of agricultural production has been stagnant. Principal constraints to more rapid growth are: obsolete technologies, insufficient and poorly trained labor, high cost of debt, insecure

land tenure, a banking system uninterested in small producers, poorly funded and staffed public sector support, private management inexperienced in exploiting markets, and crop and livestock thefts.

Low productivity is the root of agriculture's poor performance and loss of market share. For instance, sugar yields are 80 percent of the level in the Dominican Republic, coffee yields are 40 percent of Haiti's, and cocoa yields are 26 percent of Haiti's. Although improved technologies can be borrowed from other countries or imitated from outstanding producers, Jamaica must expand indigenous technology and transfer capacity: first, to collect, validate and disseminate existing technology and, second, to keep abreast of international scientific breakthroughs.

The greatest potential for future growth is exports. For instance, Jamaica has access to favorable markets for sugar and bananas in the United Kingdom at currently unmet levels. Japan buys Blue Mountain coffee at a premium of five times the ICO price and other coffee at two times ICO levels, an unsaturated market. Products are of high quality and command premium prices, yet market share is lost to lower priced producers who expand markets by seeking new buyers or products, e.g. pimento. Other products with a strong comparative advantage are: citrus, root crops, ornamentals, ethnic and exotic fruits and vegetables, and possibly pond fish and shrimp. Cacao and pimento may offer good possibilities with aggressive marketing. The winter vegetable market is large and growing; however, this market is volatile, and Jamaica must compete with aggressive producers.

Import substitution, on the other hand, offers few opportunities because Jamaica cannot produce major imported products or substitutes at costs below landed prices. For the Jamaican consumer, this means that the cost per calorie for imported staple food (cornmeal or wheat flour) is one-third to one-fourth the cost per calorie from comparable domestic staples (yams, breadfruit or plantain). By significantly increasing prices of imported commodities, the well being of consumers and, therefore, society would decline. Clearly, a trade-led commodity strategy increases Jamaica's national wealth by providing essential consumption items at lower cost than domestic alternatives. Therefore, importation of PL 480 foodstuffs, in the short to medium term, and commercial imports, eventually, make the best economic sense for staple foods. Jamaica's geographical proximity to the world's lowest cost producer of food and feed grains, the U.S., and excellent harbor facilities can be exploited through a trade based development strategy.

C. Degradation of Natural Resources

The natural resource base is at risk due to a number of factors. The most important factor is lack of adequate Government policy to conserve, manage and benefit from the natural resource base, manifested as follows:

- existing legislation to protect natural resources is not enforced, and updated legislation is not being enacted;
- the impact of development projects is not adequately considered during design and implementation;

- insufficient budget for conservation;
- little Government support for public or private environmental education; and
- opportunities to benefit from a well managed natural resource base are lost.

As a result, environmental mismanagement is observed in: deforestation; soil erosion; loss of irreplaceable watershed, wet lands and wildlife habitat; decreasing quality and quantity of water resources; and degradation of coastal zones.

D. Obstacles to Private Sector Development

Comparative Advantages - Jamaica has numerous features which make it attractive for investment. The labor base is large and improving. The workforce is trainable, and turnover is low. Wages are low, and Jamaicans speak English.

Jamaica is close to the U.S., with excellent air and sea links. The two international airports are good and being improved. Kingston Port is the most modern in the region. Telephone and telecommunications facilities are usually available but not so reliable as dynamic businesses require. Natural resources are rich, including beautiful beaches, warm weather, and a tropical atmosphere, resulting in a desirable tourist location. Weather and soil favor agricultural production. Mineral resources, while limited, include bauxite, limestone, and gypsum.

The financial sector has a wide variety of institutions, providing a strong basis for private sector development. A biweekly foreign exchange auction allows access to foreign exchange for

purchase of foreign equipment and raw materials, although with delays which on occasion have reached three months. Investment incentives exist for new businesses, especially for exports. Manufacturing, hotel, and agricultural companies can get relief from income and dividend taxes up to 10 years, import duty rebates for exporters, and permission to repatriate capital.

Jamaica's Free zones are attractive to companies which export exclusively. They provide exemption from income tax, import duties on capital goods and raw materials, and import and export license requirements. There are no restrictions on the flow of foreign currency, and all transactions except payment of wages must be conducted in foreign currency. Free zone investors, however, are precluded from selling in the domestic market and from borrowing local currency.

Constraints - Many constraints must be resolved to attract investment and develop exports. Jamaican labor disputes may result in strikes and go slows. In the past, high level intervention was required to resolve them. Recently, however, with lessening of government's role in production, business and unions have resolved most problems quickly. Statistics of person-days lost from work stoppages show a dramatic decline: 1982 - 318,000; 1983 - 179,000; 1984 - 86,000; 1985 - 106,000; and 1986 - 14,000.

Although the semi-skilled labor pool is large, many managers migrated during the 1970's when private sector investors left. Trained people continue to leave because of large wage differentials and perceived limits on upward opportunity in Jamaica. Thus, a

management gap exists that adversely affects new investments, plant expansions, and efficient operations.

Tourism is the chief foreign exchange earner. However, there is no national tourism development strategy to address increased demands on infrastructure and support services. Other constraints include lack of city planning, water and sewerage availability, trained hotel staff, quality tourist crafts, security to reduce harassment, good roads and adequate transportation.

Financing is costly: interest rates range from 20 percent to 25 percent. Bankers rely on collateral requirement of 200 percent or other guarantees of repayment. These constraints reduce the number of companies which can borrow and result in a narrow base of ownership.

Jamaican investors in manufacturing, health, agribusiness, and agriculture are limited in their ability to compete in world markets. Technology in existing plants is outdated, companies lack export marketing knowledge, and firms operate below capacity. Businesses requiring foreign exchange to purchase inputs have to go through the auction and experience unpredictable delays in obtaining funds. Additional obstacles include excessive and arbitrary assessments of import duties, illicit imports which bypass customs duties, and government bureaucracy every step of the way. New investors face these and additional problems. Factory space is inadequate. Electricity is expensive and not always dependable, which causes costly downtime. Drug smuggling in export shipments makes exporters fearful, can be costly and involve delays.

E. Infrastructure Shortages

Infrastructure lags behind needs, and recent improvements are attributable to increased donor funding. Shortages are exacerbated by lack of maintenance which results in deterioration of existing infrastructure and, neglected long enough, results in the need for major rehabilitation.

AID has been the principal donor financing rehabilitation and upgrading of existing infrastructure, through projects in several sectors, including irrigation canals, rural roads, courthouse buildings, schools, health centers, Kingston urban redevelopment and primary water infrastructure in several regions to achieve energy efficiency. Given constrained resources, however, USAID does not anticipate financing additional infrastructure except through the program described in the housing strategy below.

Other donors provide limited financing for new infrastructure: World Bank, for electric power, Kingston Free Zone, and roads; Inter-American Development Bank, for new markets construction, schools, and roads; Japan, for co-generation and port facilities; and CIDA, for Montego Bay airport runway and bridges.

F. Population Growth and Access to Voluntary Family Planning Services

Population growth in Jamaica is not a critical problem. Fairly effective family planning programs exist for all but two at-risk groups - teenage girls and women over 35. Also, men are reluctant to participate in family planning. However, the concern in Jamaica

The Government's demographic targets, with a population of 2.4 million, include reaching replacement level fertility by 1990 and stabilizing the population at 3.0 million by 2000. The Total Fertility Rate had declined from 5.5 children per reproductive aged woman in 1970 to 3.5 in 1983, equivalent to a crude birth rate of 28-29 births/1000 population. Replacement level fertility would be reached at about 2.2 children per woman, or a crude birth rate of 16-18 births/1000. Although the fertility behavior has changed, birth rates continue to be high because of the increased number of women in childbearing age groups: they formed 25 percent of the total female population in 1985, up from 18 percent in 1970.

Constraints to attaining population goals are:

High Fertility Rates Among Adolescents - Adolescent mothers and women over age 35 have the highest percentage of low birthweight babies, the highest stillbirth ratio and the highest neonatal mortality rates. Teenage fertility is 2 to 3 times higher than in the U.S. with fertility peaking at age 20-24, compared to 25-29 in industrialized countries. According to the 1983 Contraceptive Prevalence Survey, 40 percent of women aged 15-19 years have had one to two children before they were 20, a level verified in the 1987 Young Adult Reproductive Health Survey. Estimates for 1983 showed teenagers accounted for over 27 percent of births. Clearly, intersectoral efforts are required to provide the educational, economic and social needs of this target group.

Lack of Male Responsibility - Fertility is still looked upon as the responsibility of women, especially among the rural population, where fertility rates are highest. Male sterilization is virtually

non-existent, although surveys indicate increasing male interest for vasectomies.

Limited Access to Family Planning - Despite the impressive fertility declines attributable to the national family planning program and a pioneering Commercial Distribution of Contraceptives social marketing program, a considerable unmet demand remains for family planning services.

The 1983 Contraceptive Prevalence Survey revealed that 51 percent of couples where the woman was of reproductive age were using some form of contraception. Both private and public sector institutions provide family planning services, with the clinic program accounting for 42 percent of couple years of protection in 1984; sterilization, 30 percent; and social marketing sales, 28 percent. The 1983 Contraceptive Prevalence Survey also indicated that more than one-third of non-pregnant women need contraception services. Although Jamaica has a high rate of contraceptive prevalence, it needs to increase from 51 percent to 74 percent to achieve replacement level fertility.

A 1986 report concluded that expansion of the voluntary surgical contraception program, continued promotion of social marketing of contraceptives, government clinics and involvement of the private sector are required.

Achievement of the stationary population size requires a shift towards greater accessibility by older couples to voluntary surgical contraception. However, data for 1985 and 1986 indicate a decrease in the number of procedures performed annually by 18 percent and seven percent respectively. These decreases are attributable to

problems in service provision, such as shortages of trained personnel and limited surgical facilities for both female and male services.

C. Health Deficiencies

The recent Health Sector Assessment concluded that there are serious health problems which are not being addressed. Furthermore, management and financial difficulties within the Ministry of Health continue to impede effective operation of health services and disease control programs.

The Ministry of Health continued to receive approximately six percent of the GOJ budget over the last five years. Shortages of key medical and technical personnel plague the public health care system, principally because of low salary levels. Staff vacancies in 1987 were 20 percent for public health nurses, 33 percent for physician positions and 60 percent for radiographers. Attractive rates of pay in the U.S. and elsewhere have led to emigration of medical personnel, especially nurses. While the deterioration of the health services is apparent, the impact on health status is not clear.

Health Care Financing - Government health service quality has deteriorated due to neglected capital expenditures and lack of medical supplies, pharmaceuticals and maintenance of health facilities. Private medical practitioners provide about one-third of all ambulatory care. A 1983 Physicians Survey found that patients of private physicians are not concentrated in the upper classes, perhaps reflecting a willingness of consumers to pay for

better care. In contrast, private hospital care accounted for only seven percent of hospital discharges in 1983, approximately the same as a decade previously.

Sexually Transmitted Diseases (STDs) and AIDS have emerged as diseases of significant concern. Women and children bear an inordinate amount of the STD and AIDS burden. STD's are major causes of sterility, a factor in ectopic pregnancies, and cancer of the cervix may be linked to herpes infection. STD incidence is estimated at 100,000 cases of gonorrhea, syphilis and similar diseases each year, 25 percent of which is among adolescents, and the number of congenital syphilis cases has risen steadily since 1980.

The pattern of AIDS transmission is predominantly heterosexual, with 10 percent of cases being pediatric AIDS. USAID's Health Sector Assessment estimated that an effective AIDS prevention program over the next five years could avert $15-30 million in treatment costs.

Safe motherhood and child survival - The crude birth and death rates for 1986 are estimated at 22.6 and 5.5 respectively. No reliable data are available for the infant mortality rate given the serious under-registration of vital events. A 1980 study in three parishes found the infant mortality rate to be 27 deaths/1000 live births, a figure supported by other studies. However, the infant mortality rate based on registered deaths for 1984 is 13.2 deaths/1000 live births, thereby indicating under reporting of infant deaths in the range of 50 percent. Half of infant deaths take place during the neonatal period. The child mortality rate for

1978 was 3 deaths/1000 population aged 1 to 4 years. Data from two studies on maternal mortality indicate rates between 99-109 deaths per 100,000 live births for the years 1980 to 1983.

Recent evidence suggests that the nutritional status of children in some parts of Jamaica may be deteriorating. Both the number and the rate of hospitalizations for malnutrition related illnesses increased between 1978 and 1986. The most recent study of nutrition status of children conducted in 1985 found that 14.6 percent of children under five years were moderately to severely malnourished, i.e., less than 80 percent of the WHO classification of weight for age. Further, the study found pockets of malnutrition, especially in Southern parishes.

H. Lack of Access to Basic and Professional Education

If Jamaica is to improve its economy and provide social mobility, more effective human capital formation is essential. It is an urgent and difficult task: urgent because higher levels of effective literacy for all school leavers and availability of people with technical and managerial skills are necessary, and difficult because capital and recurrent expenditures are unlikely to increase much beyond current levels. Thus improvements must be achieved largely within constrained budgets. More specifically:

Primary Education - Jamaica has nearly universal primary enrollment. Both boys and girls are equally represented but quality has suffered markedly. Approximately 30 percent drop out and 20 percent of those completing six grades remain functionally

illiterate. This means that minimum employment requirements are being denied to almost half of primary school leavers, skill training efforts are forced into expensive remedial efforts, and too many young people are without the requisite knowledge for upward mobility, i.e., a good basic education. Wage differentials drive experienced teachers out of the system leaving instruction to the less qualified who are largely unsupported by in-service training, a useful inspectorate, instructional aides and a useful examination system that allows problems to be identified early on. Too many buildings are sub-standard and the Ministry of Education (MOE) has limited capacity to deal with improvements. Vandalism is rampant, and the MOE has not mobilized local community resources to combat it or elicited community involvement. Standardized curricula exist, and each child receives a set of textbooks from non-GOJ resources, a funding situation which many not prevail for all time.

Secondary Education - The achievement of almost universal primary education has had an inflationary effect, i.e., the employment value of education certificates has declined. Consequently, more students seek secondary education. The GOJ has responded by creating seven secondary level educational programs of which only two provide quality instruction and have high demand: high schools and technical schools. The others get fewer resources per student and provide only marginally useful inputs into the society. Lack of standardized curricula, inadequate instructional materials, low quality of entrants from the primary grades and inefficient management make this level marginally useful for most students in terms of social and economic aspirations.

Higher Education - Enrollments in higher education have fallen in all institutions except College of Arts, Science and Technology (CAST) due to closing of teacher training facilities and inability of students to meet costs of attendance since the GOJ introduced a student cess in 1986. Tertiary enrollment is approximately 18,000 with approximately 3,000 enrolled in teachers' colleges, 7,000 in community colleges, 5,500 at the University of the West Indies, and 3,500 at CAST. All are underfunded and, with the exception of CAST, give too little emphasis to applied instruction and research. Consequently, they do not fully contribute to human capital formation, particularly in provision of skilled managerial staff to meet mid and upper-level requirements of the private and public sector. Higher education institutions acknowledge shortcomings and formed a University Council to investigate the problem, develop a plan for linking tertiary activities to manpower requirements and rationalize the delivery system. Pending the outcome of the Council's work, one can expect little change in operations or resource flows.

I. Housing Shortages

Jamaica faces severe deficits in infrastructure and housing, particularly in cities where more cost effective solutions can be found.

Over the 1982-2010 period urban areas are expected to absorb 88 percent of the population growth - an average of 27,000 new inhabitants per year. Yet, urban housing and infrastructure are

inadequate for present level let alone sizeable growth. In the early 1980s, 46 percent of urban dwellings were substandard, 41 percent lacked piped water, and 88 percent were not linked to sewers. World Bank studies indicate that 40-50 percent of the urban water supply is lost from leakage and illegal taps. Montego Bay's sewerage treatment plant is processing seven times rated capacity and effluent threatens aquatic life in the bay. Most of Negril has no sewerage and inadequate potable water. Ocho Rios has overtaxed water and sewerage systems.

Social and Economic Impacts - Urban deterioration discourages investment, and the fastest growing urban areas are expanding around tourism centers. In expanding tourism centers, workers who lack adequate water or sewerage and housing exhibit poor health, tardiness, absenteeism and social resistance. Kingston, with 35 percent of Jamaica's population, should be a key site for job growth in manufacturing and commerce, but physical decay and social violence deter investment. Although resources are constrained, sectoral policy changes can improve efficiency of infrastructure delivery and shelter production.

Constraints for Low Income Groups - Lower income, and many middle income, households do not benefit from urban services and adequate shelter due to outmoded laws and nonfunctioning procedures. For instance, less than 15 percent of Kingston households can afford new housing that meets official standards. Land markets function badly because of outmoded land titling laws

and inefficiencies in the title registration process. Only 30 percent of private lots are titled. National Water Commission policies bar services to residents without registered titles. This excludes nearly all low income settlements from legal access to potable water and sewerage, spurring illegal pirating, even for households which could pay full costs if tariffs were restructured and least-cost solutions used. Pirating and inadequate maintenance result in severe water loss and high cost replacements. High interest rates and construction costs make extension of housing credit to below median income households difficult for formal sector institutions. These conditions have popularized home improvement credits and reliance on informal sector construction as more cost effective alternatives for low income groups.

Constraints on the Real Estate Market - Similar problems impede land development. Slow processing of land sales, unreasonable building standards, and cumbersome processing of development applications add unnecessary costs. The lack of affordable lots is the single most important factor contributing to squatter development in Jamaica.

Inadequacies of Public Institutions - In Jamaica, the public sector has traditionally provided water, sewerage and electricity. However, public sector agencies are plagued by inefficiencies. Problems are caused by inadequate long term budgeting, inappropriate subsidies, lack of coordination, inadequate management, lack of training and incentives, and insufficient use of low-cost technologies. Funds are inadequate for targeting low income families. Stretching limited public resources could be achieved through sub-contracting to the private sector.

J. Democratic Traditions and Institutions

Jamaica has strong democratic traditions, a legal system which provides equal rights and remedies for social wrongs, and a judiciary which upholds the legal system. This system has resulted generally in the timely, fair and impartial resolution of disputes, protection of the innocent, and punishment of the guilty. However, the legal system is threatened on two fronts: (1) it is overtaxed and the root causes of crime - poverty and social dislocation - must be addressed and (2) the public image of the law is deteriorating, as expressed in public attitudes towards the police, and alleged intimidation of witnesses, and bribing of jurors.

Insufficient budgets for investment and maintenance have gradually impacted on the ability of the legal system to function as it should. Lack of funds resulted in deplorable courtroom conditions, antiquated management systems, a grave need for improved court reporting, absence of refresher training for judges and others, and lack of sufficient books and materials in the Supreme Court Library, the premier legal reference library in the Commonwealth Caribbean.

These constraints are addressed by the Jamaican component of the Caribbean Justice Improvement Project. However, continuing efforts will be needed to mitigate constraints caused by personnel shortages, lack of legal materials and trained magistrates. Current GOJ activities in legal reform and court management should be sufficient.

An additional factor in public loss of confidence is the illegal drug trade. Past failures to enforce laws relating to marijuana contribute to loss of confidence in the administration of justice. Charging and sentencing disparities abound, particularly in narcotics offenses. The narcotics trade is damaging the social system and, in turn, adds stress to administration of justice.

III. STRATEGY

A. Summary

1. Concentration and Establishing Priorities

The most important priority is to support structural adjustment along with a package which cushions its impact on the poor. Major policy reforms have resulted in two consecutive years of real growth. Further policy reforms are needed to consolidate gains and to implement present reforms.

The key to further economic growth is reduction of market constraints and development of human capital. Market constraints and barriers to entry limit innovation and exploitation of opportunities for greater production. For instance, markets with cumbersome government regulations, excessive collateral requirements of banks, and free medical services for all, discourage efficiency and productivity. All market systems, both productive and social, need to be liberalized at the sectoral level as human capital is upgraded to increase productivity. The social sectors - health, education, and housing - must be developed so that more people are literate, have marketable skills, are healthy, have

access to water, and participate in the economy. As productivity increases, new jobs will be created, thus reducing unemployment. Addressing these issues also requires modification of traditional economic and social patterns. To increase growth, Jamaica needs to draw upon a greater number of people who contribute to and enjoy the benefits of development.

On a sectoral basis, agriculture is the leading priority. This sector has been stagnant: productivity has declined over the past decade. The Agency makes agriculture a top priority as a matter of policy, and the U.S. is the world's leader in agricultural technologies. Substantial PL 480 resources can be brought to bear most effectively on agricultural problems. PL 480 and DA for agriculture form the majority of the Mission's present portfolio, which will likely continue in the future.

2. Public/Private Sector Split of U. S. Assistance

Proposed economic assistance includes ESF cash transfers, DA project assistance, PL 480 food assistance, and Housing Guaranties to assist the private sector and to aid the public sector in undertaking activities which encourage private sector growth and diversification.

ESF cash transfers permit Jamaica to meet external commitments and satisfy demand for foreign exchange to buy imports. The 1987 ESF evaluation confirmed the utility of this assistance in meeting development needs of structural adjustment and for encouraging sound economic policies. The existence of ESF is the only real basis for substantive non-project related policy initiatives.

PL 480 food assistance also provides effective assistance. Importation of PL 480 Title I food does not act as a disincentive to local agricultural production and, given Jamaica's potential for agricultural exports, makes sense. Concessional food assistance also provides balance of payments support as the level of ESF declines. The PL 480 Section 108 program is expected to continue at a level of 25 percent, currently $10 million. Proceeds flow directly to private sector credit institutions for private sector borrowing.Beneficiaries will be reached through private development institutions, commercial/merchant banks, cooperatives/credit unions, and OPIC.

The DA portfolio targets project assistance to private sector entities, although some projects may use government channels. For example, the private Kingston Restoration Company is spearheading urban redevelopment for private industry and commerce. Also, DA funds assist in privatization and divestment, and assistance to the health sector will improve delivery systems, privatize services, and facilitate growth in private medical services.

HG funds will rehabilitate and expand water and sewerage infrastructure in rapidly growing urban areas. Investment in infrastructure improves services and access to serviced land in low income neighborhoods and meets growing requirements of the tourist industry.

3. Biological Diversity/Tropical Forests

The Mission will urge protection of biological

diversity/tropical forests in their natural habitats.* At the policy level, we will continue to stress natural resource issues. The present Hillside Assessment project documents the need for sound natural resources policies and plans. At the same time it helps to build a constituency for implementation of a resource based national development plan. At the program level, the Mission will focus on areas identified as being among the lost "at risk" due to inappropriate Government policies and programs: watershed management and conservation, tropical forests, and coastal zones. Program efforts include the present Hillside Agriculture project which addresses productive management and utilization of watershed resources and, to a lesser degree, deforestation and forestry management. The new agricultural research project also supports this initiative. Finally, the planned protected areas resource conservation project will begin the process of conserving and managing key coastal, tropical forest and wildlife habitat zones.

4. Disaster Preparedness

Jamaica is vulnerable to seasonal tropical depressions, storms and hurricanes. Serious floodings are the most frequent natural disaster. The Jamaican Office of Disaster Preparedness (ODP), well aware of the island's vulnerability, recently completed a flood plain mapping project to facilitate disaster planning. USAID and

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* The strategy is based upon the Jamaica Country Environmental Profile of September 1987.

OFDA have assisted ODP in establishing a modern islandwide radio communication system connecting disaster response among police, health officials and fire brigades. The Mission continues to support OFDA technical assistance and training.

B. Goals and Objectives

Goal No. 1: Short Term Economic Stabilization.

Objective No. 3: Stabilize Financial Structures

a. Medium Term Targets	by 1993
Overall public sector deficit	-2.0%
Current account balance of payments deficit as percent of GDP	-0.5%
Inflation	6.0%

b. Strategy for Overcoming Constraints

Fiscal and Monetary Policies - The government's strategy is to reduce the fiscal deficit and separate monetary and fiscal policy. This should eliminate distortions in credit allocation and interest rate structure. A major aim is to improve public sector financial performance and increase public savings, which implies reduction in the deficit. Targeted deficits are 3.5 percent of GDP in JFY 1988/89, 3 percent in 1989/90, and 2.5 percent in 1990/91. These figures compare with deficits of 23.2 percent of GDP in JFY 1983/84, 17.4 percent in 1984/85, and 16.6 percent and in 1985/86.

On the revenue side, the reformed tax system is showing results. Tax yields have increased due to a simplified system which makes it easier to pay taxes and monitor returns. On the expenditure side, the Government has embarked on an Administrative

Reform Program, including performance budgeting and improved financial management systems. Funds are also released from privatization, improved performance of public enterprises, and reductions in government workers. Short run stabilization measures are part of the IMF program, which runs from March 1987 to March 1988, and Jamaica has met targets through December 1987.

Balance of Payments - Improving the balance of payments will depend upon increasing exports faster than imports and reducing external debt. To boost exports, Jamaica can increase tourism receipts. Among traditional commodity exports: bauxite and alumina expenditures should hold their own, the banana outlook is improved because of major capital investments and deregulatory measures, and sugar production is more efficient from privatization but depressed world markets and developed country policies will hold down export earnings. Non-traditional manufactured exports to the U.S. for the period 1983-1987 are the most impressive of any AID supported LAC country. CARICOM exports should provide solid growth as Jamaican manufacturers increase competitiveness, although total market size is limited.

On the import side, demand will increase with economic growth. Perhaps the easiest and most efficient means to expand exports and reduce imports is through a market determined exchange rate. Since earlier experiments with an auction system, the authorities intervene to maintain the rate at about J$5.5 to U.S.$1.0. Favorable international movements have eased pressure on the essentially fixed rate. To avoid the IMF trigger mechanism for further devaluation, the brunt of adjustment has fallen on monetary

policy to restrain demand. The approach has worked, but the result of high real interest rates may lead to a reexamination of exchange rate policy.

External debt is a major problem. Debt servicing is particularly high during the CDSS period due to the short term nature of IMF borrowings. IMF and World Bank are withdrawing net resources, AID levels are declining, and import requirements to sustain growth remain high. Total external debt stands at approximately $3.7 billion.

Debt service constrains growth. After rescheduling, the debt service burden (including the IMF) will reach about 62 percent of exports of goods and non-factor services this year. A disaggregation of debt reveals that bilateral and multilateral lenders account for about 42 and 39 percent, respectively, and only $400 million, or 12 percent, is held by foreign commercial banks. The remaining 7 percent is held by "others," including suppliers' credits. The basic strategy has been debt rescheduling. The GOJ and bilateral Paris Club creditors completed reschedulings in 1985 and 1987 for bilateral debt contracted before October 1983. Multiyear reschedulings were completed in May 1987 with commercial banks. The GOJ has also established a debt-equity swap program, which will have limited impact given the small amount of commercial debt. Nevertheless, it reduces outflow of foreign exchange and attracts foreign investors.

Multilateral debt may prove the most contentious. To maintain good reputations in financial markets, the multilaterals have never rescheduled. Also, the fact is that both the IMF and World Bank are

reducing their exposure. The question is the pace of repayment. Bilateral debt may present the greatest degree of latitude because bilateral donors are under less pressure than other lenders to maintain capital value of loans. So far, the bilaterals have not responded creatively to the debt problems. In the case of the U.S., this passivity may cause problems when past financial assistance becomes a visible burden, and thus inimical to foreign policy objectives. Bilateral creditors might explore alternatives to convert debt into local currency development equity. Present growth rates will be threatened unless:

- Net resource outflows to the IMF and World Bank can be reduced
- Bilaterals restructure debt into equity or long term bonds
- New bilateral resources, especially ESF, are forthcoming.

2. Goal No. 2: Basic Structural Reforms Leading to Rapid and Sustained Growth

a. Overview

Objectives selected to support this goal are: increased agricultural production and strengthening the private sector. Common themes are: greater efficiency in production, increased foreign exchange earnings, diversification according to comparative advantage, development of human capital, and expanded access to opportunities.

Achieving rapid and sustained growth requires not only macroeconomic structural reforms but also liberalization of markets and, equally important, investment in human capital. To sustain economic expansion, it is important to expand access to participation for the majority of the population. Continued economic growth and increased employment can be best assured by

broadening of opportunities through improved opening of sectoral markets and reducing constraints to entry, such as relaxing government regulations, and through more effective development of human capital, such as housing services and job-related education.

b. Strategy

(1) Objective No. 1: Increase Agricultural Production

(a) Medium Term Targets	by 1993
Real growth of value added (% change)	80%
Volume of domestic crops:	
feed grains	321 metric tons
rice	538 short tons
roots/tubers	4,118 metric tons
legumes	145 metric tons
Average income of small farmer	$5,116 (in 1985 US$)
Number of small farmers benefiting on an annually from AID projects	70,000

(b) Strategy for Overcoming Constraints

The strategy focuses on two areas: (i) increasing exports and employment and (ii) raising incomes of poor, principally hillside, farmers, while conserving fragile lands.* Linkages of the policy agenda and programs are:

(i) Increasing Exports and Employment - USAID will encourage the current macro-economic policy environment, supported by conditionality requirements of ESF and PL 480 programs, in coordination with IMF and IBRD initiatives. Sectoral policy agreements have been part of Title I programs in the past, such as the dairy price agreements in FY 1987 and FY 1988.

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* The strategy draws on the "Agricultural Sector Strategy Report" dated October 31, 1987, by Albert Brown of Chemonics and Steve Wingert of LAC/DR/RD.

In the future, other agricultural sub-sectors will be addressed, perhaps vegetable oil price policy or freeing land markets.

Programs will improve productivity of traditional exports in coordination with other donors. Other donors are active in this area, particularly with sugar, coffee, and citrus sub-sectors. The IBRD and USAID structural adjustment program has led to restructuring of the commodity marketing boards. USAID initiatives focus on coffee and cocoa producers as part of the Hillside Agriculture Project. In examining the institutional support network for traditional crops it becomes clear that restructuring of the marketing boards separated their technology generation and transfer functions from marketing, but those critical services may not be supported adequately. The Mission plans to support technology development and transfer systems in the public sector with a policy oriented project. We are also identifying constraints to both traditional and non-traditional agricultural exports.

Diversification of exports through improved production and marketing efficiency is important. The Mission is presently supporting crop diversification and irrigation through Agro 21, agricultural research activities, and several farmer organizations. Results have been mixed, although non-traditional agricultural exports have grown rapidly.

Enhanced productivity and marketing efficiency also have implications for rural labor markets. While Jamaica does not suffer high rates of rural unemployment that plague other LDCs, agricultural labor productivity has remained constant for the past

10 years. Agriculture has absorbed redundant labor but has sustained only modest growth at low levels of productivity. This trend may underestimate the adverse effects of low productivity on the rural population, since the food crop subsector has absorbed much labor displaced by declining sugar and banana industries. Any increase in productivity will have to come from a shift to export agriculture.

Given the high risk of non-traditional exports, one must accept occasional business failures. With rising consumption in the U.S. and Western Europe for fresh fruit and vegetables, the Caribbean region will gradually increase exports, along with Mexico and Central America. Realistic expectations dictate that growth will be gradual and uneven. The Mission will support non-traditional crop exports by helping increase market share through support services to improve productivity and marketing efficiency.

(ii) Raising Incomes of Poor Farmers - USAID will encourage the GOJ to maintain policies for efficient resource utilization. One of the primary reasons for hillside erosion is annual cropping. The current project promotes conversion to tree cropping to increase incomes of poor hillside farmers and sustain the ecology. Thus, income from tree cropping must become predictably greater than annuals. Profitability of tree crop exports depends on a competitive exchange rate and cost of financing, given the long gestation period. Therefore, monetary and credit policies influence its success, and macro-economic policy conditionality is important.

Land tenure also determines willingness to invest in tree cropping. IDB and CIDA are undertaking projects to modernize land titling and registration. The Mission will monitor and, if appropriate, support policy dialogue or influence the allocation of local currency resources to support these efforts.

Development of appropriate technologies is important. The Hillside Agriculture Project addresses this need through extension, with adaptive research performed by a variety of indigenous public and private organizations. Similar interventions may be justified for lowland producers. The Mission is looking at ways to improve public and private institutional capability to carry out this role, and agricultural education initiatives will also support it.

Reduction of bottlenecks to debt and equity financing is necessary. In addition to the monetary policy environment, credit policies and operating efficiency of credit institutions strongly influence this objective. IDB, IFAD and CIDA have undertaken or propose activities to improve operating weaknesses of the Agricultural Credit Bank, People's Cooperative Banks, and the credit union league, and to train commercial bankers. The Mission will monitor these activities and provide support as needed.

(2) Objective No. 2: Strengthen the Private Sector

(a) Medium Term Targets	by 1993
Private investment as percent of GDP	13%
Percent of total credit to private sector	60%
Value of total commodity exports	$1,100 million
Value of non-traditional exports	$400 million
Foreign exchange earnings from tourism	$1,200 million

(b) Strategy for Overcoming Constraints

The Mission's private sector objective is to increase the private sector contribution to economic development, which will: broaden access to business opportunities for a wider range of the population, increase GDP, increase foreign exchange earnings and savings, and expand employment opportunities.* Policy dialogue will support the positive policy environment and will encourage opening of markets and development of human capital to sustain economic growth with participation by a larger share of the population. Programs will focus on three areas:

(i) Increasing Exports of agricultural and manufactured goods and tourism services will expand foreign exchange reserves and create new job opportunities. Many smaller industries in non-traditional exports present excellent opportunities for increasing export earnings. The Mission will continue to furnish technical assistance and training to expand export opportunities and finance tourism action plans and town planning for tourist areas. Technical assistance may also be provided for feasibility and design studies to improve airport facilities, package investments, rehabilitate urban water and sewerage facilities at tourist locations, and develop free zones.

Financial constraints will be addressed chiefly with P.L. 480 Section 108 local currency loans to development institutions, commercial/merchant banks, coops/credit unions, and OPIC.

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* This strategy relies upon USAID's Private Sector Strategy of March 1988 and project evaluations.

Investigation will assess needs, if any, for consideration of a foreign exchange term loan facility in U.S. dollars for all three strategic areas.

(ii) Diversifying Business will broaden access to business opportunities, increase GDP and create employment. Growth is expected chiefly in creation of new medium and small-scale enterprises. Support will be continued to selected institutions, principally the National Development Foundation and the Jamaica Agricultural Development Foundation. Also, efforts to vitalize urban areas, such as Inner Kingston receive special attention because of the visible impact on small business. The Mission will investigate methods to expand technical assistance in marketing and production for medium and small business through a variety of institutions, including those with a broad impact.

(iii) Expanding Privatization will reduce the government deficit and broaden access to opportunities. Jamaica is a pace-setter: it has divested important state-owned enterprises and has also turned to private enterprise to perform many government functions. These activities should be undertaken when privatization will foster efficiency, greater productivity, a more diversified ownership base, greater individual opportunities, capital market development, and other pragmatic benefits to the Jamaican people and economy. Technical assistance will be continued for GOJ divestitures. A new health project will support an expanded private sector role in health. Additional opportunities will be sought in other sectors, such as

agriculture, where land leasing is underway, and water/sewerage maintenance and delivery.

Other donors support a variety of programs. A World Bank Structural Adjustment Loan supports changes in the trade and payments regime and the financial sector. Other donors support export and investment promotion with technical assistance and credit facilities, including Inter-American Development Bank, UNDP, and bilateral agencies including Canada and Germany.

Goal No. 3: Wider Sharing of the Benefits of Growth

a. Overview

During 1981 - 1987 the GOJ gave priority to stabilization and structural adjustment policies. Budget allocations emphasized reducing the deficit, adjusting the economy, and servicing the national debt, which resulted in declining expenditures on social services. With the initial phase of structural adjustment in place, the GOJ is focussing on adjustment measures in the social sectors.

Poverty in Jamaica does not manifest itself the way it does in some African and Asian countries. While children are not dying of starvation, measles or dehydration, pockets of malnutrition exist. Poor people, particularly in urban areas, cannot afford basic food and shelter. Cost-effective and efficient food and income transfer programs exist to address basic human needs of the poorest elements of society. The problem is different from other AID countries in that the majority of Jamaicans have watched

living standards, particularly in education and health services, deteriorate.

Jamaican youth are disproportionately affected by frustration, lack of hope, and a perception of limitations on becoming active participants in the economy. They leave primary schools lacking basic tools to make it in the world, and access to secondary education is limited; there is a shortage of relevant skills training programs, and a shortage of jobs. They also have a high incidence of early pregnancy and are plagued by debilitating effects from STDs. These factors frustrate the hopes and aspirations of a generation which will be ill-prepared to assume its role in the economy.

Limited access to opportunities exists in every sector of the economy. The USAID strategy will address this theme by engaging in an active policy dialogue to accelerate the pace of opening access as a critical necessity for increasing participation in the economy, which in turn will increase productivity. While more thorough analysis is necessary, our strategy will seek mechanisms to broaden the ownership base and channel resources to the informal sector and community groups.

The role of women in development is a key part of the Mission's strategy to improve access to opportunity. Female participation in the labor force is high at 68 percent, and females represent 46 percent of the employed labor force. Women are a driving force in society and a significant force in the economy, given the extent of single parent families headed by women. Unfortunately, women are also more likely to be untrained,

poorly educated, inexperienced, immobile, and therefore, unemployed. The Mission will increase access to opportunity for women primarily through programs for education (education and skills training); health (improving primary health care); voluntary family planning (decreasing teenage fertility); and private sector (availability of business opportunities).

If the benefits of growth are to be more widely shared among Jamaicans, several changes will have to occur. These changes form strategic objectives of USAID across different social sectors.

--Sectoral policy needs to ensure efficient delivery and financing of public services. The consequence of subsidizing public services usually is to restrict access to a narrow range of the population. It is more equitable, and efficient to recover a greater share of public service costs, while broadening public access to services. Inefficient service delivery systems can be tackled directly. In many instances, expansion of the private sector role in service delivery will improve efficiency.

--Regulations which impede the functioning of markets should be dismantled or revamped, unless it can be demonstrated that they are cost-effective and alter market outcomes to serve directly the public interest. Jamaica is an over-regulated economy where public sector intervention, though well intentioned, often raises costs and restricts growth. Potential impacts of proposed policies on target groups need to be more carefully assessed.

--Sectoral budgets need to respond to the health, education, housing and basic service needs of Jamaica's lower income population, including targeting of benefits.

--Spatial priorities for investments should be established where appropriate. A few urban areas are critical to Jamaica's economic development over the next few years - especially Kingston and urban centers of tourist regions. Sectoral programs need to be coordinated so that they are mutually reinforcing. Greater access to social benefits is an end in itself, but social expenditures like other investments should also reinforce the country's development strategy and increase the number of active participants in the economy.

There is a continuing need to broaden the availability of better quality education, health services and housing. Doing so will achieve the long term development objective of accelerated social mobility, sustained increase in productive efforts which increase employment, and political stability.

The means to achieve these strategic objectives are to:

-- build on accomplishments and improve government tax, fiscal, and other policies to distribute better the benefits of growth and to widen economic opportunity;

--continue institution building for primary health care services where infrastructure is less developed;

--support institutional development to improve quality of primary education and emphasize skills training, management training and cost-effective outreach mechanisms;

--provide better shelter to lower income groups through Housing Guaranty programs; and

--support private sector approaches to carrying out all of the above.

An area of particular concern is the generation of productive employment. Other aspects of our strategy described earlier, particularly agricultural production, private sector development, infrastructure improvement and export promotion will directly impact employment generation. Over the long term, assistance in the field of family planning, education and health should improve prospects for productive employment of the labor force.

While increased employment is not a separate strategy goal, it is a means to increased production and incomes. Our strategy for promoting growth with equity in the health, population, housing and education sectors will promote activities which have desirable employment and productivity impacts and which increase efficiency in service delivery.

Agricultural and industrial development will create new jobs and generate ripple effects of further rounds of new jobs because of increased demand for products and services. In the housing sector, we will increase access to ownership of land and to increase the wealth of low income groups. We will also support skills training and restructuring of the educational system to increase its relevance to the productive sectors, thereby increasing labor force productivity and creating new opportunities for private sector development.

(1) Objective No. 8: Improve Access to Voluntary Family Planning Services

(a) Medium Term Targets	by 1993
Total Fertility Rate	2.2%
Proportion of births to Adolescent Mothers under 20 yrs.	22.0%

(b) Strategy for Overcoming Constraints

The USAID population strategy supports GOJ population policy and concentrates on three areas: (1) family planning education and service delivery for young adults of child bearing age; (2) expanded commercial distribution of contraceptives; and (3) upgraded voluntary surgical contraception.

As described earlier, adolescents are disproportionately affected by both a high incidence of early pregnancy and an alarming incidence of STDs. Both of these factors foreclose opportunities for a significant number of youth to fully participate in the economy. The USAID strategy targets these high risk groups for both preventative and curative programs to enable them to start their adult lives with the greatest number of options open to them.

A second high risk group consists of women over 35, for whom there are relatively few readily available, safe family planning options. The USAID strategy for assisting this target group will assist in improving the quality of voluntary surgical sterilizations for women over 35 and the availability of vasectomies for men.

Other donor input includes the IBRD Population and Health Project, with UNFPA co-financing, to renovate administrative and clinical facilities, support expanded efforts in policy development and in the CDC program. The International Planned Parenthood Federation provides administrative and program support to its local affiliate, the JFPA.

(2) Objective No. 9: Improve Health and Health Services

(a) Medium Term Targets	by 1993
Infant mortality rate	24%
Child mortality rate	no change
Life expectancy	no change
Nutritional status	10%
Maternal mortality	8/10,000 births

(b) Strategy for Overcoming Constraints

USAID's strategy will concentrate in three primary health care areas: health care financing and delivery, including privatization and private sector approaches; prevention and control of sexually transmitted diseases (STDs) and Acquired Immune Deficiency Syndrome (AIDS); and child survival and safe motherhood, including nutrition. The Mission's principal concern with the health sector is deterioration of health services.*

(i) Health Care Financing is a government concern to improve productivity and get more services with limited budget. A modest success was achieved in 1987 with the privatization of non-medical support services (housekeeping, portering, garbage collection and sanitation) in three Kingston public hospitals. This innovative step resulted from policy dialogue and demonstrates the

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* Strategy is based upon Review of the Jamaican Health Sector and An Assessment of Opportunities For External Donor Support, by Swezy, et al, dated October 16, 1987, and AIDS in Jamaica: Present Realities and Future Possibilities, by Policy Research, Inc., dated October 12, 1987.

government's intent to improve services at reduced costs through privatization. Modest user fees were introduced in 1984 in public hospitals (which provide over 90 percent of hospital care), but the bulk of secondary care is provided free or at no cost through Government facilities. Thus the Government is bearing the financial burden of costly inpatient care at a time when the public sector budget is unable to support it.

The Mission plans to encourage innovation in this area. The new health sector project will help finance experimental activities which go beyond privatization of specific support services to management of hospitals and possibly to primary care. It will also accelerate growth of self financing private sector medical services.

(ii) Sexually Transmitted Diseases - The Mission will assist in financing the Government's National AIDS Plan in conjunction with WHO and PAHO. Assistance will be provided to the public health system and to local PVO's, including the Association for the Control of Sexually Transmitted Diseases (Acostrad), to emphasize information, education and operational research to reach at risk groups. In addition, the Mission will draw upon the AID/W centrally funded AIDS/Tech and AIDS/Com projects to provide assistance to the Ministry of Health and Acostrad.

(iii) Child survival and safe motherhood is an area of concern for both USAID and the GOJ and is targeted for additional research. USAID plans to continue its on-going program to monitor key indicators. One new activity is aimed at improving registration of vital statistics, especially infant mortality, and

another is research on child malnutrition to better assess problem areas. Preliminary evidence indicates that with more complete problem definition, the Mission may contribute to major improvements.

Other donors include the World Bank with a family planning and health project due to start in early 1988; a proposed Inter-American Development Bank loan for the upgrading and restoration of selected hospitals; grants from the EEC for a new central laboratory building, equipment and vehicles, and for the AIDS National Plan; and PAHO's ongoing program of technical assistance, training, research and environmental health.

(3) Objective No. 11: Improve Housing

(a) Medium Term Targets	by 1993
Percentage of urban households with substandard housing	40%
Percentage of urban housing units with direct access to piped water	75%
Percentage of urban housing units with direct access to sewerage	20%

(b) Strategy for Overcoming Constraints

AID will use HG and DA technical assistance funds for a sectoral lending program of policy, institutional and procedural changes to create self-sustaining delivery for shelter and urban infrastructure. The program will address the following areas:

1. Water and Sewerage Infrastructure

The infrastructure services most critical to health and economic development are water and sewerage. USAID will re-design and augment housing and infrastructure programs to collaborate with the National Water Commission (NWC) on sectoral policy reforms including:

--Broadening access of low-income housing to piped water and sewer supply. This requires reallocating NWC's investment budget to urban upgrading (connection of existing housing to piped water) and providing piped water to newly developed lots. Also, NWC will need to revise its tariff system to recover costs over a longer time period for low-income families. NWC will have to reconsider technologies to provide lower cost water, such as community standpipes. Also, NWC will need to relax prohibitions on serving households lacking full legal title.

--Adopting maintenance programs and budget. Programs should be established to detect water and sewer leaks, make repairs, and provide routine maintenance.

--Establishing priorities for water and sewer investment. One location is where water and sewerage can simultaneously broaden access to services and support business development. For example, sewer conditions in Inner Kingston deter business and in Negril, Ocho Rios, and Montego Bay discourage tourism expansion.

2. Housing for Low Income Groups

The 1987 National Shelter Strategy redefined the GOJ role in housing to "facilitator," (e.g. assisting private housing efforts for the poor) instead of "provider." This will entail support for

private intiative in shelter provision through individuals, informal and formal construction and financing sectors, community based organizations (CBOs) and non-governmental organizations (NGOs). The Mission will encourage:

--Improving Access to Land - The GOJ will use public resources and work with CBO's, NGO's and the informal construction sector to set up a delivery system for minimally serviced land to get ahead of squatter development and guide urban growth to maximize value of real estate. Servicing of land will be limited to clearing of roads, pegging of plots, and providing temporary standpipes and be progressively upgraded as resources become available. Households will occupy parcels making a small down payment and will receive property titles when lots are paid off. To satisfy land demands by moderate income groups and commercial interests, the GOJ will reform land market and procedures.

--Upgrading Low Income Settlements involves continuation of the past HG program for providing basic infrastructure with cost recovery and secure tenure in established, informal settlements.

--Improving Access to Credit is an on-going process to revise banking regulations and create incentives for banks and building societies to lend for low income shelter. Improved coordination between credit unions, NGOs and CBOs will also be promoted to increase mortgage and home improvement financing to lower income families.

--Facilitating Construction and Materials - Objectives include more effective construction practices, strengthening small private construction firms, and improving building materials

markets to reduce costs and improve access for the poor. NGOs will provide technical assistance, training, and access to credit.

--Strengthening the Rental Housing Market - The rental market will continue to be a major source of housing for low income families, yet little is known about its workings. Efforts will focus on actions to correct market inadequacies and expand its contribution.

3. Improving Land Markets and Development Standards

Inefficient land market operations deter investment. The present system imposes excessive standards that exclude low income groups. This is compounded by the complexity of land titling, transfer and registration. In 1987, USAID undertook a management audit of the Town Planning Department and, as a result, the urban development code was revised to provide for more realistic standards and expedite approvals. There is a need to implement management recommendations and examine disincentives to land and services delivery of other laws and practices.

4. Urban Economic Development: Urban Centers

Economic growth and job generation in urban centers is retarded by physical, social, and institutional constraints. To address these constraints, USAID is assisting in improving water and sewerage infrastructure, rehabilitating factory space, making street improvements (landscaping, lighting), and providing job training. Similar efforts are warranted in other urban areas, tailored to local circumstances but directed to unleashing private investment and employment generation.

Other donor activities include: World Bank efforts to increase efficiencies of ministries through administrative reform and to enhance the financial position of the National Water Commission (NWC) and IDB's assistance to the Urban Development Corporation (UDC) in urban planning and the Ministry of Agriculture in improving land titling and registration processes.

(4) Objective No. 12: Improve Educational Opportunities

(a) Medium Term Targets	by 1993
Increase in primary school completion rate	78%
Percentage of primary graduates with functional literacy/numeracy	80%
Increased employability of skilled training	75%

(b) Strategy for Overcoming Constraints

The education objective is to assure equal access and relevant content to equip individuals to play desirable social, political and economic roles while providing the basis for increasing upward mobility opportunities of an increasing number of the nation's disadvantaged. Budgetary constraints mandate increasing emphasis on improving efficiency, increasing relevancy to assure more appropriate fit between education and the labor force, and broadening the resource base by increasing local community involvement. Specific objectives are:

(i) Improve educational opportunities - USAID will concentrate on improving relevancy and efficiency of primary education as the base for human capital formation. USAID will

address the relevancy task through provision of texts, assessing re-introduction of standardized tests at early grade levels, and provision of instructional supplements utilizing the existing communication grid and materials. It will be necessary to work with the Ministry of Education to improve efficiency of the primary system by providing policy studies for the Ministry. These will provide options for maximizing the use of plant, staff and plans for greater involvement of communities, to increase the resource base for improving primary education. We will investigate use of community based organizations as channels for assistance. As a result, employability of primary school leavers will increase; productivity of physical plant and staff will increase; repetition and wastage will diminish; and costs per functionally literate graduate will decrease.

(ii) Provide Skills Training - At the post primary level, USAID will continue formal and non-formal skill training to impact economic growth and employment. Other parts of the secondary system will receive inputs from IBRD, UNESCO and the United Kingdom. USAID will enhance efficiency and relevancy of skill training by linking to labor force requirements, by shifting current remedial work back into the primary level, by enhancing performance of plant and staff, and by providing improved training to teachers and teacher trainers, particularly for formal skill training. These efforts will increase employability of school leavers and reduce costs per graduate and length of courses which will permit facilities to accommodate a larger number of students.

(iii) Improve management education - The University of the West Indies project will increase the number and quality of management graduates and enhance applied research capacity to support private and public sector requirements. This program will also assist other management training organizations. As a result, executive management programs for people employed in the private sector will be in place; quality of management training will be improved and the number of graduates increased; more applied research will be conducted, paid for by the private sector; and training constraints in lower level institutions will be ameliorated. In addition, assessment will be done of the educational system for non-executive managers, e.g. in plant production engineers.

(iv) Participant Training - USAID will focus training upon private and public sector leaders to enhance multiplier effects through in-country activities such as professional organizations. The Mission will develop a human resource strategy to coordinate training efforts and follow-up activities. As a result, training activities will have greater impact.

4. Goal No. 4 - Strengthening Democratic Institutions

a. Medium Term Targets	by 1993
Court of Appeal criminal cases determined	27% increase
Court of Appeal civil cases determined	57% increase
Average time between conviction and hearing of an appeal	66% decrease
Court reporting cases backlog	100% decrease

b. Strategy for Overcoming Constraints

The Mission has a two-pronged strategy to strengthen democratic institutions:

(i) To Reduce Stress on the Legal System, the Mission will work with government and private organizations to address root causes of crime through the above three LAC goals. These programs will reduce unemployment and under-employment, which combined with targeted programs in family planning, health, education, and the environment, should reduce social unrest and criminality and therefore reduce the demands on the legal system.

(ii) To Improve the Public Image of the Legal System, the Mission will continue rehabilitation of the physical and human resources of the court system. Policy dialogue reforms ensure adequate funds and proper maintenance. Training of personnel will continue in legal precedent, court management, and records management. The Administration of Justice Project will be evaluated to determine whether project outputs adequately address existing constraints and whether additional activities are warranted.

USAID will continue to coordinate administration of justice activities with activities of other U.S. government agencies, particularly police training and drug eradication and interdiction. The Embassy will continue to assist in crime prevention through the International Criminal Investigative Training Assistance Program. Police training will improve investigative skills and foster community relationship.

Administration of justice will be enhanced by Embassy support for human rights and training on the use of lethal force.

A related area is increased narcotic drug use and trafficking, where marijuana production has been compounded by transshipping of cocaine. The impact on the population in terms of physical and mental health cannot be ignored. The Mission is completing two epidemiological surveys on drug abuse: one on the school population and the other, a household survey. Survey results will be useful in designing programs to deal with illegal drug use. The Mission will also support the Ministry of Education's Family Life Education program which works with students to develop understanding of drug abuse, promote career development, and develop self esteem.

IV. RESOURCES AND OTHER DONORS

A. Other Donors

External assistance will play a large role in helping Jamaica meet its medium term economic goals. However, the country's economic performance hinges upon continued flows of concessional assistance and public sector divestments.

Jamaica's Public Sector Investment Program (PSIP), represents $1 billion in investments in 1988-91 and aims to: (1) support the export sectors through investment in transportation, water and sewerage, power and communications, and (2) rehabilitate social infrastructure, particularly in health and education. The GOJ is proposing to finance an increasing portion of its PSIP from external donor sources, which may not be realistic. The following table provides planned public sector investments:

PUBLIC SECTOR INVESTMENTS
(JFY 87/88 - 90/91)

	87/88	88/89	89/90	90/91
Productive Sectors				
Agriculture	9.6%	9.4%	8.4%	6.1%
Mining	0.3	0.2	0.2	0.1
Manufacturing	2.9	2.9	1.2	1.7
Tourism	10.1	7.3	9.8	11.7
Economic Infrastructure				
Power&Energy	10.9	8.5	8.0	11.7
Transport&Commun	31.7	32.9	32.0	31.6
Water	4.9	6.3	6.0	8.8
Other	0.9	0.9	0.7	0.8
Social Infrastructure				
Education	7.2	8.8	10.5	7.8
Health	2.8	9.2	11.2	8.1
Housing	0.9	0.7	0.5	0.5
Other	10.3	7.3	6.9	6.5
Administration	7.5	5.7	4.6	4.7
Total	100.0%	100.0%	100.0%	100.0%

Project assistance becomes more important as balance of payments support declines. Principal bilateral donors, aside from the U.S., are Canada, West Germany, Italy and The Netherlands. These four accounted for about one-third of new assistance in 1986. After the World Bank and IMF, the most important multilateral donors are the EEC and Inter-American Development Bank. Multilateral project assistance was $96 million in 1986. Donor assistance is concentrated in agriculture, education and human resource development, infrastructure, and export promotion. The GOJ needs assistance for social infrastructure in health and education because of recent cutbacks in public expenditures. While the IBRD and GOJ recently secured pledges of additional donor resources, the actual outcome is doubtful. Even with these, Jamaica faces a severe financing gap.

B. U.S. Resources

1. Financial Resources

The Mission proposes an annual level of $90 million to carry out the proposed strategy. Jamaica will need balance of payments assistance provided through ESF and PL 480; it will also need DA assistance and HG loans to target sectoral impacts.

USAID will accelerate disbursements wherever possible and will use deobligations, reobligations and reprogramming to adjust the portfolio. During the planning period, the number of active projects will decrease from 37 in FY 1988 to approximately half that number in FY 1993. Expenditures will concentrate on a relatively small number of projects which are fast-disbursing, flexible, and responsive to political and administrative uncertainties.

2. Staffing Levels

The projected USDH staffing level for the bilateral program is 21 positions. As the Mission moves towards a smaller number of broad sectoral projects, we do not anticipate major reductions in staff. The Mission also provides administrative support to RHUDO/CAR which has three USDH positions. The Mission and RHUDO use services of the Regional Legal Advisor and Contracts Officer, counted against ceilings of other Missions. While eliminating one USPSC in FY 1989, it will be necessary to increase by one position in FY 1990 to provide PL 480 coordination, previously funded from PD&S. The Mission does not plan to cut FSN positions although availability of ESF Trust Funds may force a reduction.

Staffing Levels

FY	89	90	91	92	93
USDH	21	21	21	21	21
FSNDH	17	17	17	17	17
FSNPSC	42	42	42	42	42
USPSC	2	3	3	3	3
RHUDO					
USDH	3	3	3	3	3
FSN	4	4	4	4	4
USPSC	2	2	2	2	2

ANNEX A

PRIVATE SECTOR STRATEGY

FOR JAMAICA

USAID/JAMAICA

March 18, 1988

PRIVATE SECTOR STRATEGY FOR JAMAICA

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EXECUTIVE SUMMARY

The Mission's private sector goal is to increase the private sector contribution to Jamaica's economic development, as a theme cutting across the country development strategy. Goal accomplishment will result in: increased GDP; increased foreign exchange earnings/savings; expanded employment opportunities; and broadened access to business opportunities for a wider range of the population.

To achieve this goal, the Mission will concentrate on three strategic objectives: (1) increasing exports; (2) diversifying business; and (3) expanding privatization. To carry out these objectives, the Mission will rely on policy dialogue and programs which build upon past experience. Some programs will be continued with a refined focus, and some new initiatives will be started. All, however, will seek to maximize the extent to which opportunities open up for new entrants to the private sector --entrepreneurs, especially from outside the traditional ownership classes.

The proposed strategy resulted from a series of Mission analyses summarized in Volume 1 and described in Volume 2 annexes. First, macroeconomic policy is favorable to private sector development, but further refinements are needed. Second, the business structure is supportive, but certain institutions need strengthening. Third, Jamaica has many comparative advantages but also needs to reduce many constraints. Lastly, donors have supported structural adjustment and need to continue these efforts.

I. JAMAICA'S PRIVATE SECTOR

A. Macroeconomic Conditions

1. Policy Framework

Jamaica has made significant progress in pursuing structural adjustment towards a private sector led, export economy from its previous public sector dominated, import substitution economy. Starting in 1980, the government initiated a series of major reforms, including: revision of tax structure, a foreign exchange auction, reduction of trade controls, liberalization of finance, reduction of the budget, reduction of subsidies, and liberalizing of commodity boards. Not all reforms have been completed, but a considerable start has been made. Results are significant: public sector deficit declined from 15 percent of GDP in 1981-82 to 5 percent in 1986/87 and is estimated at less than 5 percent in 1987/88; central government expenditures dropped from 44 percent of GDP in 1981-82 to 33 percent in 1986-87; public sector companies were divested; 829 new investment projects started since 1981; and a debt-equity swap program was launched. Equally important, real GDP increased by four percent in both 1986 and 1987.

In pursuing economic policies, however, Jamaica faces unavoidable constraints. For instance, as an island of 2.4 million people, it has a relatively small domestic market and cannot satisfactorily exploit economies of scale. Although climate and soil are favorable for agricultural production, it must compete with other Caribbean islands for the same markets.

It is dependent upon importation of many goods for both investment and consumption. To earn foreign exchange, it has traditionally relied upon a narrow range of activities: bauxite/alumina, sugar, bananas, and tourism services, and is consequently subject to market pressures where it can exert little direct control. Economic power is concentrated in a relatively small group, not representative of the island's majority. A large external debt is a major drain on limited foreign exchange resources. These factors limit economic policy choices.

The nation faces an election within a year. If the incumbent Jamaican Labor Party is reelected, it is likely to continue recent policies but with greater emphasis on neglected social programs. If the opposition People's National Party is elected (it has a decided lead in two recent public opinion polls), PNP spokesmen have assured continued support for the private sector. However, other policy statements indicate a shift towards greater governmental control, larger budgets for social programs, and skepticism regarding divestitures. Both parties tend to be reluctant to end special benefits and controls intended to guide development but which often impede innovation and entrepreneurship.

Macroeconomic conditions are generally favorable for private sector development. Recent economic reforms have substantially improved the business climate, but policies must take into account geographic and other factors. Structural adjustment is not yet completed. In the future, the government needs to broaden application of present policies, address sector specific policies, complete the tax reform process, phase out distortions in basic

food pricing practices, reexamine interest rate and foreign exchange rate policies, and streamline procedures to implement policies.

2. Recent Performance

Recent statistical inferences confirm private sector growth. For instance: GDP is up; employment in manufacturing, commerce, and other service sectors (traditionally private sector areas) is up; and government jobs are down. New investment in the private sector has outpaced recent public sector investment, except in 1986, and is expected to grow faster in the future. Balance of payments figures in 1986 and preliminary figures for 1987 show improvement over 1985.

Statistics on exports and trading partners show improvement and also indicate potential areas for further exploitation. Bauxite/alumina, sugar, bananas, and cocoa account for 66 percent of exports. The share of other agricultural and manufactured exports, however, is growing, which indicates diversification of the productive base. Tourism is the largest foreign exchange earning industry and has grown rapidly: the millionth annual tourist visited in 1987. Statistics on trading partners reveals potential market opportunities. The U.S. is the largest trading partner; however, if bauxite/alumina, sugar, and garment exports are excluded, then the U.S. and CARICOM are nearly equal buyers of other Jamaican products. Growing CBI 807 industries contribute value added services, and other industries besides garments should be expanded.

B. Business Structure

The business environment includes the formal steps and procedures required by government. This section outlines the formal legal and institutional structures. Also, it is noted that business operates with informal steps and procedures which may determine success or failure.

1. Legal Structure

Jamaica's legal system originated with the British system; consequently, laws are similar. Forms of business organization are similar to U.S. forms. Taxes are assessed on corporate profits, imports, some domestic products, and the usual collection of miscellaneous items, such as land, etc. Jamaica has a double taxation treaty with seven countries, including the U.S.

Investment incentives include relief from corporate profits taxes up to 10 years and for importation of certain machinery for companies producing for both local and export markets, hotels, and agricultural businesses. Foreign investors may repatriate capital and dividends. In addition, free zones are available for companies which manufacture exclusively for export. Free zone businesses do not pay taxes on profits or imported equipment and materials; however, all transactions are conducted in foreign exchange and local credit is unavailable.

Some trade controls still exist. For instance, licenses may be required for import or export of "restricted" goods. The list of commodities, however, has been substantially reduced during the past several years. Also, price controls are still maintained on some items, although the list of commodities has been reduced.

2. Institutional Structure

Many private and public sector institutions help business. In the public sector, three institutions stand out: Jamaica National Investment Promotion, Jamaica National Export Corporation, and Jamaica Industrial Development Corporation. As names suggest, they respectively: promote investment and assist investors get started; encourage exporters; and provide training and plant sites. Also, Agro-21 promotes agricultural development, principally by privatizing government land through long-term leases. In tourism, the Jamaica Tourist Board is a strong organization.

Private sector institutions, established with narrower purposes, smaller staffs, and varying degrees of competence often cooperate with and complement public sector institutions. One of the chief institutions is the Private Sector Organisation of Jamaica, which addresses economic policy and is an umbrella for some other associations. Other associations include: Jamaica Exporters' Association, Jamaica Manufacturers Association, and the Small Businesses Association of Jamaica. In tourism, Tourism Action Plan Ltd., a non-profit foundation partly financed with an AID grant, and the Jamaica Hotel and Tourist Association are important.

The Mission supports a variety of private and public sector institutions because of Jamaica's pluralistic institutional structure. Existing special interest organizations often seek to perpetuate benefits for their members based on past protectionist policies more than to push for rational economic policies which

foster comeptition and ease of entry for entrepreneurs. Indeed, at present, some governmental organizations are more aggressive in encouraging change than most of the private sector ones. Over time the reverse also tends to be true. Therefore, the Mission has a multi-faceted approach which seeks to encourage the innovative aspect of each, promote economic debate to open up the thinking of both government and the traditional private sector establishment, and push for diversification of economic opportunity to the large majority that is unrepresented in the present private sector establishment.

C. Comparative Advantages and Constraints

Jamaica has many comparative advantages but also a range of constraints which prevent greater market exploitation. This overview summarizes chief advantages and constraints but does not prioritize them. Prioritization is meaningful only in terms of specific objectives (e.g., increasing exports) and also specific industries (e.g., ceramics) depending upon the need to resolve constraints which hinder development of specific industries and companies.

1. Government Policy and Procedures

Advantages include relatively favorable structural adjustment policies, to be consolidated and reinforced.

Constraints include many government procedures to implement new policies, as well as a tendency to think in terms of regulation rather than freedom. For instance, customs clearances for exporters are slow; tax appeal and audit processes take a long

time; and bureaucracy needs to streamline approvals of new business incorporations and tariff rebates.

2. Human Resources

Advantages are inexpensive, English-speaking labor which is willing to work, with high literacy rates.

Constraints include: lack of technical skills, whether on production lines or in hotel kitchens; insufficient number of managers and production supervisors; lack of marketing know-how, whether for exotic fruits and vegetables or tourist crafts; and low productivity at the firm level.

3. Infrastructure

Advantages include geographic location, good natural harbors, and excellent air and sea links.

Constraints are: inadequate water and sewerage facilities at tourist locations; shortage of factory space; inefficiency of telecommunications systems; unreliability of utility services; tourist roads needing maintenance; and airport terminals needing to speed tourist and air cargo movement.

4. Finance

Advantages are a relatively sophisticated and broad institutional structure.

Constraints are: high interest rates; high collateral requirements; poor availability of long term debt and equity finance; and slow delivery of foreign exchange.

D. Donor Support

1. AID Support

USAID supports structural adjustment through policy dialogue and programs of technical assistance to help implement taxation and privatization. The Mission has also undertaken projects to expand private sector participation. Some activities are:

- Technical Consultations and Training Grant project provides technical experts and training to promote policy dialogue, investment promotion, export promotion, industrial development, divestiture and tourism;
- Agro 21 transforms excess sugarcane land into commercial export farms on long-term lease to the private sector;
- Kingston Restoration Corporation rehabilitates derelict downtown buildings into commercial and manufacturing facilities;
- The Basic Skills Training Project provides improved vocational education and new training systems in construction, business, garment manufacturing, and data entry;
- The University of the West Indies management department is being strengthened to improve quality of education;
- The non-profit National Development Foundation provides loans and technical assistance to small and micro business;
- Trafalgar Development Bank and Jamaica Agricultural Development Bank provide medium term loans and equity;
- The Jamaica Family Planning Association, a PVO, provides family planning services through the private sector.

2. Other Donors

Multilateral and bilateral donors also support private sector development. Among multilateral donors, IMF and the World Bank provide support for structural adjustment. The World Bank also extended credit to the National Development Bank for sub-loans (along with the Inter-American and Caribbean Development Banks) and is considering a second loan for Kingston Free Zone expansion. The Inter-American Development Bank established a small farmer loan program and a pre-feasibility study program for manufacturers. UNDP and EEC provide technical assistance for manufacturing and export promotion.

Bilateral donors include chiefly Canada, which provides the private sector with fertilizer, small enterprise training, and a marketing training project. Germany provides scholarships and technical training and may provide funds to the National Development Foundation and Trafalgar Development Bank.

II. PROPOSED STRATEGY

A. Goal

The Mission's private sector goal is to increase the private sector contribution to economic development, as a cross cutting theme of the country development strategy. Success in achieving this goal will result in:

- Broadened access to business opportunities for a wider range of the population;

- o Increased GDP;
- o Increased foreign exchange earnings/savings; and
- o Expanded employment opportunities.

B. Strategic Objectives

Given budget constraints, the Mission will have neither funds nor staff to address all private sector constraints. Recent budget cuts underscore the need for a tight program. Consequently, the Mission will concentrate on three objectives: (1) increasing exports; (2) diversifying both the ownership base and product mix of business; and (3) expanding privatization. This strategy builds upon past Mission experience but narrows the focus to those objectives where AID assistance can most effectively help the Jamaican private sector help resolve key economic development problems.

1. Increasing Exports

Increasing exports is necessary to improve balance of payments position, increase GDP, expand employment, and broaden access to business opportunities. This objective will concentrate on expanding exports of agricultural and industrial goods and tourism services.

The largest export industries (bauxite/alumina and sugar) provide little opportunity for AID assistance. However, many of the smaller agricultural and manufacturing industries have recently increased exports and provide excellent opportunities for expansion. Many exporters are nascent producers learning to compete in international and CARICOM markets. They have

comparative advantages, but constraints must be reduced. New opportunities must be explored and encouraged to grow. Certain limitations on AID assistance (Lautenberg Amendment, Bumpers Amendment, and citrus/palm oil/sugar restrictions) must be borne in mind but do not materially constrain the Mission's program. Also, tourism is now the largest foreign exchange earner. However, many constraints - and opportunities - exist to substantially improve this industry's performance and contribution to foreign exchange earnings.

2. Diversifying Business

Jamaica needs to diversify both the ownership base and product mix of its business base to increase GDP, create employment, and broaden access to business opportunities. It depends upon a narrow base, which makes it inflexible and subject to external forces. In addition to diversification of product lines, business ownership needs to be broadened beyond the relatively small business elite. Expansion of the business base will occur chiefly in medium and small sized companies. More medium and small-scale enterprises will increase export earnings, supply larger companies with locally-made materials, and satisfy consumer needs with locally-made instead of imported products.

3. Increasing Privatization

Jamaica is a pace-setter in privatization. It has not only divested important parastatals, such as the National Commercial Bank and Caribbean Cement Company, but it has also turned to private enterprise to perform many former government functions, such as bus transportation, Kingston street cleaning, hospital

support services, and housing construction and financing. Privatization efforts need to be broadened to reduce the government deficit, create employment, and expand business opportunities for a wider range of the population.

C. USAID Program

The Mission has actively supported private sector development and will past upon this experience to carry out strategic objectives. Past policy dialogue has been fruitful, and future efforts should refine policy gains already made. Past programs have supported a wide variety of private sector initiatives, and the Mission is now proposing to concentrate on three strategic objectives.

1. Increasing Exports

a. Policy Dialogue

The Mission will continue to support improvements in the existing framework of trade, finance, and tax reforms through policy dialogue. Also, sector specific, non-macro policies need to be addressed, such as monopsonic markets, barriers to entry, and streamlining of export and investment approval procedures. In the longer run, foreign exchange rate must be reexamined as a macroeconomic issue, to encourage exports.

b. Programs

Programs will continue or be developed to support increased export earnings:

- To increase manufacturing, agricultural, and agribusiness exports and tourism, a new project will finance:
  - Research and publications on economic policy issues by the Private Sector Organization of Jamaica, which has established a reputation as non-partisan and representing private sector views.
  - Export promotion, investment promotion, and industrial improvement activities of JNIP, JNEC, and JIDC, three public sector agencies which have demonstrated competence. We will reexamine strategies, effectiveness, and efficiency of existing programs, to coincide with their own reevaluation of activities.
  - Similar and additional activities undertaken by private sector organizations which sometimes have specialized agenda, such as the Small Businesses Association, Jamaican Exporters Association and Jamaican Manufacturers Association;
  - Training and technical assistance in marketing and production for agriculture, manufacturing, agribusiness, and tourism, but integrated more closely with the Basic Skills Training project and other activities;
  - Technical assistance will continue to be provided to the non-profit, private sector Tourism Action Plan Ltd. to help it contract for: feasibility studies for infrastructure improvements, tourism development plans, town planning, and plans to improve airport handling of tourist arrivals.

- The new HG Water and Sewerage Infrastructure Development project for rehabilitation of water and sewerage at secondary urban centers will benefit tourism by improving access to these services in tourism areas.
- Finance constraints will be addressed chiefly with P.L. 480 Section 108 local currency loans to commercial/merchant banks, cooperatives/credit unions, development institutions, and OPIC. Also, the Jamaican Agricultural Development Foundation (JADF), which is funded from P.L. 480 sales proceeds, finances agricultural exports.
- To investigate whether a need exists for a dollar loan fund to provide quick access to medium and long term finance, to support all three strategic objectives (increasing exports, diversifying business, and broadening privatization), as a catalyst to be complemented by other donor funds and private sources.

2. Diversifying Business

a. Policy Dialogue

The Mission will continue to support improvements in the existing policy framework but will emphasize sector-specific policies, such as restricted markets, price controls, and economic and social barriers to entry. In the longer run, interest rate policies must be addressed along with foreign exchange rate policies, to reduce costs of borrowing and improve return on equity.

management gap exists that adversely affects new investments, plant expansions, and efficient operations.

Tourism is the chief foreign exchange earner. However, there is no national tourism development strategy to address increased demands on infrastructure and support services. Other constraints include lack of city planning, water and sewerage availability, trained hotel staff, quality tourist crafts, security to reduce harassment, good roads and adequate transportation.

Financing is costly: interest rates range from 20 percent to 25 percent. Bankers rely on collateral requirement of 200 percent or other guarantees of repayment. These constraints reduce the number of companies which can borrow and result in a narrow base of ownership.

Jamaican investors in manufacturing, health, agribusiness, and agriculture are limited in their ability to compete in world markets. Technology in existing plants is outdated, companies lack export marketing knowledge, and firms operate below capacity. Businesses requiring foreign exchange to purchase inputs have to go through the auction and experience unpredictable delays in obtaining funds. Additional obstacles include excessive and arbitrary assessments of import duties, illicit imports which bypass customs duties, and government bureaucracy every step of the way. New investors face these and additional problems. Factory space is inadequate. Electricity is expensive and not always dependable, which causes costly downtime. Drug smuggling in export shipments makes exporters fearful, can be costly and involve delays.

- o Revitalization of urban areas, such as Inner Kingston, receive special attention because of the visible expansion of small business.
- o Institutions need to be strengthened to improve marketing and production services for medium and small business. The Mission will investigate candidate institutions such as the Small Businesses Association of Jamaica, JNIP, and others.
- o Alternatives to broaden ownership, including pension plans and employee ownership, will be reviewed.
- o Technical assistance may be provided to appraise a new venture capital company;
- o The stock market may need technical assistance to improve operations.

3. Expanding Privatization

a. Policy Dialogue

The policy atmosphere is supportive. Special care, however, is needed to ensure that we encourage privatization for pragmatic reasons rather than ideological ones. It should be encouraged when it is likely to foster actual efficiency, greater productivity, a more diversified ownership base, greater individual opportunity, capital market development, and other pragmatic benefits of importance to the Jamaican people and economy.

b. Programs

Privatization can be accomplished in many ways. The most common are: selling government assets (through divestiture);

leasing of government-owned assets to private operators; contracting for private management of government-owned facilities (such as utilities); private sector provision of previously government-supplied services (such as bus services); and, although not strictly privatization, imposing user fees to fully or partially recover costs of government services (such as irrigation services and education).

The Mission will continue some present activities and undertake new activities:

- Technical assistance for divestiture of parastatals and hotels now leased to private companies will continue;
- Leasing of government land through Agro 21 will continue;
- Private sector sponsorship of family planning services will continue;
- A new health sector project, where one component will deal with privatization, possibly on a pilot basis, for provision of health services;
- A proposed HG water and sewerage project which will have a privatization component for system maintenance and rehabilitation; and
- New opportunities will be sought outside of present health, housing, and agriculture activities.

III. ANALYSIS

The Mission undertook a series of analyses to develop this private sector strategy. The analyses are available separately as annexes.

Annex A describes macroeconomic conditions. The first section provides an historic overview. The second section outlines policy reforms leading towards a private sector, export oriented economy. The last section describes recent statistical trends in areas related to the private sector, based upon statistics of the Planning and Statistical Institutes of Jamaica.

Annex B outlines the legal and institutional structure for business. The legal structure includes company establishment, taxes, etc. This annex also describes some public and private entities which assist private sector development. Information was obtained from public documents and updated.

Annex C describes comparative advantages and constraints. It is an overview rather than a prioritization and was drawn from consultants' reports and recent discussions with businessmen. Prioritization is meaningful only in terms of specific objectives and industries, depending upon the need to resolve constraints hindering development of specific industries and companies.

Annex D describes donor support for the private sector.

Annex E lists key sources which influenced the analysis.

ANNEX B

BACKGROUND ASSESSMENT:

ANALYSIS OF NEEDS FOR CONSERVATION OF JAMAICAN BIOLOGICAL DIVERSITY AND TROPICAL FORESTS

Prepared for USAID/Kingston

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BACKGROUND ASSESSMENT:

ANALYSIS OF NEEDS FOR CONSERVATION OF JAMAICAN

BIOLOGICAL DIVERSITY AND TROPICAL FORESTS

Executive Summary

A sizeable body of legislation exists in Jamaica that supports conservation of biological diversity and tropical forests. However, penalties for lack of compliance are light, enforcement is given little priority by police and magistrates, and potential violators have little incentive to behave otherwise. Inadequate budgets largely in the Ministry of Agriculture, restrain government agencies with the mandate to protect the environment, as a result of GOJ financial problems. Nevertheless, GOJ awareness of the interrelationship of such important sectors as tourism, agriculture and public health with natural ecosystem conservation and watershed protection is growing. Requirements for assessment of environmental impacts of development projects are needed, either through new legislation, or through amendments of the approval procedures specified by existing laws.

Coastal resources are especially important to the economic well-being of Jamaica, due to the importance of the tourist industry, yet these resources are among the first to suffer from lack of conservation. The attractiveness of coastal ecosystems fades quickly under the siltation from dredging, landfills and poor agricultural practices in the hills. Freshwater wetlands and mangroves are important as habitat and as settling basins for turbid rivers, yet wetlands are under constant pressure for conversion to agriculture and peat mining, and mangroves are cut for charcoal or filled for industrial and tourist development. Marine parks present a promising opportunity to conserve representative coastal habitat, while at the same time attracting tourists, but must be coupled with ecologically sound development on the shore.

Traditional hillside cropping techniques impact biological diversity and tropical forests, when eroding soils force farmers to clear new land to maintain farm productivity. Incorporation of trees and permanent crops into farming systems, as an extension of the Jamaican concept of the "yard", offers promise to stabilize hillside agriculture at the same time that farmer incomes are increased. Incentives such as technical assistance, agricultural credit, marketing assistance and land titling programs can help to promote permanent crops.

Protection of habitat is the most critical need for conserving Jamaica's animal and plant diversity. Legislation authorizing and regulating a system of National Parks and Protected Areas is needed. Essential for establishment of representative protected areas is a categorization of the major animal and plant associations of Jamaica. A non-governmental National Parks Trust might facilitate cooperation with international NGOs for training and funding of recurrent management costs of a parks system. The Wild Life Protection Act should be amended to allow Jamaica to join CITES.

More emphasis should be given to management of natural forests by the Forest and Soil Conservation Department. Currently, hardwood species are not managed for sustained production; those species utilized are "mined" from the forest. Rural populations use many non-timber products from the forest, for medecine, food, shelter and fuelwood, but no scientific management of these resources is practiced to assure sustainability. Damaging floods in recent years have renewed GOJ awareness of the importance of forests for infiltration and storage of rainwater. Lack of recognition of the contribution of natural forests to the economy has led to GOJ policy to replace them with coffee and pine plantations. Increasing the industrial efficiency of hardwood lumber and charcoal production would augment the economic production from forest lands, while conserving the benefits provided by natural forests. Technical assistance should be provided to private landowners to manage on-farm trees, either in association with crops or in woodlots. Conservation of Jamaica's tropical forests will only be supported by the public and private sectors if the economic contribution of these forests is appreciated.

This report recommends that USAID/Jamaica engage in policy dialogue with the GOJ to promote recognition of the importance of biological diversity and tropical forests, as well as taking definitive steps to rationalize the complex institutional framework for environmental management. Further, design work should begin as soon as possible on a project aimed at the preservation of representative areas of Jamaica's natural ecosystems as protected areas or national parks.

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BACKGROUND ASSESSMENT:

ANALYSIS OF NEEDS FOR CONSERVATION OF JAMAICAN

BIOLOGICAL DIVERSITY AND TROPICAL FORESTS

I. Introduction

This report was prepared based on published information, unpublished reports and interviews with Jamaican government employees and other citizens. The recently published Jamaica Country Environmental Profile (MOA 1987), produced by the Natural Resources Conservation Division (NRCD) of the Ministry of Agriculture (MOA), was a valuable resource, with information compiled in a concise format by subject area.

The author of the report reviewed publications and reports, and interviewed people, during three trips to Jamaica, in October, 1986, and July and November, 1987. In addition, this report was edited and expanded upon by USAID/Jamaica staff in Feb. 1988.

II. Legislation and Institutions

A. GOJ Legislation and Institutions

The conservation of the natural resources of Jamaica is regulated by a broad range of legislation, which generally specifies a GOJ institution responsible for its implementation. These resources, and the legislation and GOJ agencies regulating their use, can be grouped by 1) Coastal Zones, 2) Water Resources, 3) Wildlife Resources and 4) Forestry. The following discussion is extracted from the Jamaica Country Environmental Profile (CEP).

1. Coastal Zones

The Beach Control Act of 1956 invests in the Crown the foreshore and ocean floor. Commercial enterprise is permitted only with license from the MOA's Recreation and Conservation Division (RCD). The RCD can declare areas to be protected from fishing, dredging and waste disposal.

The removal, sale or possession of turtle eggs and immature fish, fishing with explosives or poison, and discharge of industrial waste into harbors, lagoons, estuaries and streams is prohibited by the Wild Life Protection Act of 1973. Enforcement is the responsibility of the NRCD.

The Petroleum Act of 1979 allows the Minister of Mining, Energy and Tourism to make regulations for prevention of pollution in areas of petroleum operations, including in coastal areas. The Act gives the Petroleum Company of Jamaica exclusive right to explore and develop petroleum, as well as coastal peat, resources.

Broad-based land use plans and regulations to control development in rural and urban areas, subject to approval by the Town and Country Planning Authority/Town Planning Department of the Ministry of Finance and Planning, are required by the Town and Country Planning Act of 1957. These plans are prepared by parish councils, for submission to the Town Planning Department. The affiliated Local Improvements Act requires developers to submit plans for approval for any subdivision or major land use change to parish councils and the Town Planning Department prior to this change.

The Urban Development Act of 1968 gives the Urban Development Corporation (UDC) authority to acquire, manage and dispose of land in designated UDC areas, most of which are coastal. The UDC is a statutory corporation of the Ministry of Finance and Planning.

2. Fisheries

Through its Fisheries Division, the MOA regulates fisheries, licensing of fishermen and vessels in Jamaican waters, establishment of closed seasons, creation of fish sanctuaries, and penalties for possession and sale of illegally caught fish, under authority of the Fisheries Industry Act of 1975. The Inland Fisheries Unit is responsible for promoting freshwater fish farming.

The Morant and Pedro Cays Act of 1907 requires a license for fishing, slaying, startling or capturing of birds, and capture of turtles.

The catching of fish with explosives or poison, and capture of immature fish and turtles are prohibited by the Wild Life Protection Act of 1964.

The Beach Control Act of 1955 prohibits the use of public beaches for fishing.

3. Water

Although the Water Act of 1922 designated no agency to oversee water resources, control of development and use of surface water resources was legislated. The National Water Commission of the Ministry of Public Utilities has designated responsibility under the Water Act of 1980 for domestic water supply and most of the sewerage installations in the Kingston/St. Andrew corporate area. The Water Resources Division of the Ministry of Local Government gives technical assistance and information on water resources, such as streamflow, critical water levels, etc., to other GOJ agencies.

The Watershed Protection Act of 1963 controls development in watersheds, under the authority of the NRCD. A Watershed Protection Commission oversees watershed activities of the division, with the assistance of the Watershed Engineering Division.

The Underground Water Authority administers the Underground Water Control Act of 1959, controlling exploitation of subterranean water resources by licensing wells.

The Irrigation Act of 1956 establishes local Irrigation Authorities under the Ministry of Agriculture to control irrigation.

Standards for domestic water consumption and waste disposal are provided by the Environmental Control Division, Ministry of Health, under the Public Health Act of 1974.

Control of water developments in areas under mining lease is vested in the Mines and Quarries Division, Ministry of Mining, Energy and Tourism, by the Mining Act of 1947.

4. Wildlife

The Wild Life Protection Act of 1973 authorizes NRCD to designate protected species, and prohibits possession of any part of 10 protected species. This includes protection of rare, endemic and endangered species and their habitats. The Act authorizes hunting seasons, regulates freshwater fish traps and prohibits river pollution. Enforcement of the law is the responsibility of the Ecology Division of the NRCD, which delegates nominal powers of arrest, entry into lands, and search and seizure of property to a corps of Game Wardens. In practice, public policy does not support Game Wardens in strict enforcement of the law. This lack of support is due in part to the weak penalties for violation of the law, and the tendancy of police and magistrates to concentrate on laws carrying stiffer penalties.

All Forest Reserves (except one) are designated as Game Sanctuaries, so the MOA Forest and Soil Conservation Department is responsible for managing land that serves as wildlife habitat. No department personnel has received training in wildlife management, however. The MOA Veterinary Division and Public Gardens Division (which includes the Hope Zoo) are also involved in Wildlife Resources Management. Additionally, the Natural History Division of the Institute of Jamaica and the Trade Board have wildlife involvement.

The Beach Control Act of 1956 authorizes creation of Marine Protected Areas and protects marine benthic organisms.

As mentioned above under Fisheries, the Morant and Pedro Cays Act of 1907 requires a license for fishing, slaying, startling or capturing of birds, and capture of turtles.

5. Forestry

The Forest Act of 1937 provides for establishment and regulation of Forest Reserves, under the administration of the Forest Department (now the Forest and Soil Conservation Department, FSCD). The FSCD is responsible for development of forest plantations (especially hardwood), management of plantations and state-owned natural forest, forestry research, training of forestry staff, soil conservation and watershed management in collaboration with the NRCD, forest extension and development of private forestry, and forest recreation development and management.

In 1978, the Forest Industries Development Company Ltd (FIDCO) was set up as an autonomous corporation under the National Investment Bank of Jamaica, an institution of the Ministry of Finance and Planning. FIDCO is responsible for logging, transport and processing of pine timber, as well as establishment and maintenance of new plantations on land leased from other government agencies. FIDCO is now wholly-owned by the Ministry of Finance and Planning, but still maintains its autonomous corporate organization.

The Watershed Protection Act of 1963 provides for protection of watersheds, which are nominally administered by the NRCD. No laws currently exist to require sustainable land use on private land in watersheds. In fact, watersheds dedicated to provision of public water supplies are managed (maintained under forest) by the NWC. In some cases, where previously deforested watersheds had been planted with pine, FIDCO has purchased stumpage and harvested pine from these watersheds.

No comprehensive National Parks legislation exists, although the above-mentioned Morant and Pedro Cays Act, Wild Life Protection Act, Beach Control Act, Forest Act and Watershed Protection Act all embrace the principle of protection of natural areas. The 1978-98 National Physical Plan included a definition of National Parks. The National Parks Branch of the NRCD was established in 1975, and has carried on the work of identifying potential National Parks that was started by the Forest Department in 1970. Since 1984, the National Parks Branch has received international funding to work with the NRCD Ecology Branch to develop what is to be Jamaica's first national Park at Canoe Valley on the south coast. Until National Parks legislation and regulations are passed, the future of National Parks in Jamaica will remain uncertain.

As can be seen above there are many overlapping jurisdictions in management of Jamaica's biological and forest resources, which complicates management of these resources. Several bills are currently being considered to rectify this situation.

The majority of GOJ institutions involved with conservation of biological diversity and tropical forests are in the Ministry of Agriculture, and as such, ultimately answer to the Minister and his Permanent Secretary. The two principle agencies responsible for these areas are the NRCD and the FSCD. The current interest of the government in promoting environmental conservation was expressed at the National Consultations on the Environment on November 23, 1987 by the Minister of Agriculture, who called for the establishment of a Ministry of the Environment, to draw together all GOJ agencies responsible for this sector. Whether or not an environmental ministry is formed, true commitment will be shown when adequate budgets are provided to concerned agencies, and when support is given to police and wardens for enforcement of existing laws.

Jamaica participated in the 1972 UNESCO Conference on the Human Environment in Stockholm, which galvanized a worldwide commitment to conservation, and founded the United Nations Environment Program. The same year saw the adoption in Paris of the Convention Concerning the Protection of the World Cultural and Natural Heritage, joined by Jamaica in 1983 (Goodland and Webb 1987). While the GOJ has recently joined the Convention on Wetlands of International Importance Especially as Wildfowl Habitat (Ramsar, 1971) (personal communication, Dr. Karl Aiken, University of the West Indies), to date the nation has not signed the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES, concluded in Washington, 1973). According to Aiken, the GOJ supports CITES in principle, but must amend the Wild Life Protection Act before it can legally enforce the convention. Jamaica also has yet to sign the Convention on Nature Protection and Wildlife Preservation in the Western Hemisphere (Washington, 1940) or the Convention on Conservation of Migratory Species of Animals (Bonn, 1979) (MOA 1987).

B. Non-governmental Organizations

Non-governmental organizations (NGOs) play an ever-increasing role in conservation of biological diversity and tropical forests in Jamaica. Some of the Jamaican NGOs concerned with environmental conservation in Jamaica include the Zoology, Botany and Geography Departments of the University of the West Indies (UWI), the Natural History Society of Jamaica, the Jamaica Junior Naturalists, the Jamaica Society of Scientists and Technologists, the Geological Society of Jamaica, the Jamaica Geographical Society, the Jamaica Camping and Hiking Association, the Negril Association for the Conservation of Nature, the Association of Science Teachers of Jamaica and the Gosse Bird Club. Also, at the College of Agriculture, there is interest in incorporating forestry and agroforestry studies into the curriculum.

Initial involvement of NGOs in environmental issues dealt mostly with resource conservation, especially wildlife, and outdoor recreation. Activities now include environmental education of the public, and public discussions on water quality, forest harvesting and peat mining. Participation of NGOs in the development of nature-related tourism is likely to grow in the future. Currently, negotiations are being made for the development of a marine park on the north coast, to be managed by an NGO, with authority over the marine area delegated by the GOJ as a result of a debt-equity swap. Individuals in many of the organizations mentioned in the previous paragraph support the development of an NGO to raise domestic and international funds for management of a Jamaican National Park System.

C. International Organizations

1. Multi-lateral Organizations

The United Nations Food and Agriculture Organization (FAO) office in Jamaica is responsible for developing and implementing FAO training and technical assistance projects. FAO assistance was provided to the FSCD, in drafting a bill with new regulations for the department. This bill has yet to be acted on by the Jamaican parliment. Included in the FAO portfolio is a project to promote agroforestry in the Rio Cobre watershed, as a means of counteracting the negative impacts of agricultural expansion on steep slopes. Through the FSCD, the GOJ participates in the Eastern Caribbean Upper Watershed Technical Cooperation Network, organized by the FAO Regional Office in Santiago, Chile. Jamaica is also a member of the FAO Latin American Forestry Commission.

The Organization of American States maintains an office in Jamaica, which engages in development and implementation of rural development activities, including training and technical cooperation in forestry. An OAS trial of Leucaena provenances is being carried out in cooperation with the FSCD. OAS has also worked with the NRCD in development of the Alligator Hole River Project.

The Regional Coordinating Unit of the United Nations Environment Programme (UNEP) Seven Seas Programme was established in Kingston in 1986. This presence should support GOJ efforts to conserve coastal resources.

Jamaica is a member of the Caribbean Conservation Association (CCA), but has maintained a low level of activity with the organization. Increased activity should improve the ability of GOJ natural resource managers to conserve their resources, by benefitting from experiences from other CCA member nations.

As a member of CARICOM, Jamaica maintains a Caribbean Agricultural Research and Development Institute (CARDI) office. Although to date there has been no formal CARDI activity in agroforestry, this is a promising area that could contribute to development and promotion of sustainable farming systems for hillside lands.

FIDCO has received funding from the World Bank for establishment of its sawmilling and logging operations.

2. Bi-lateral Organizations

a. USAID--Support for past, present and future development projects have, and will continue to, strengthen the ability of the GOJ and Jamaican private sector to effectively conserve biological diversity and tropical forests. Two decades ago, USAID provided funds for planting of pines in areas in the Blue Mountains that had been degraded due to inappropriate agricultural practices. While these trees were planted to protect watersheds and provide income to rural inhabitants as an alternative to farming, this pine resource now provides the raw material for FIDCO's operations.

The Integrated Rural Development II Project (532-0046) promoted sustainable hillside farming technologies, including tree planting. Two thousand acres of trees were planted in the project, and productive cropping technologies were promoted, to increase production on existing agricultural land so that forests would not have to be converted to agriculture.

The Energy Sector Assistance Project (532-0065) included a component for fuelwood species trials.

The Hillside Agriculture Project (532-0101) promotes perennial crops in two target watersheds. The project is focused on extending technologies to make tree crops more productive and profitable for small hillside farmers in two of the most critical watersheds. Participation of the FSCD is being encouraged by the mission.

USAID also provided financial support for the production of the Jamaica Country Environmental Profile (JCEP). The JCEP which took two and a half years to produce, is a comprehensive document that catalogues the environmental resources, problems, issues, programs and plans of Jamaica. It pulls together in one document facts, figures, policies and programs from the wide diversity of sectors that impact upon the Jamaican environment.

b. Other Bi-lateral--The Canadian International Development Agency (CIDA) is in the process of developing a forestry project in cooperation with the FSCD. This project will provide training and technical assistance support to promote improved management of forest lands (public and private), establish a Natural Forest Utilization Unit, increase private sector forest development, and implement a rural forestry demonstration activity.

The British Commonwealth Development Corporation (CDC) helped fund the establishment of FIDCO, and is negotiating funding for development of a new sawmill that would be located nearer to the pine plantations in the Blue Mountains. Other British assistance has been provided by the Overseas Development Administration (ODA), which has provided technical cooperation officers. One utilization specialist currently is assigned to FIDCO.

Fourteen small hydroelectric projects are being funded by Canadian, German and Italian government agencies. These will be managed by the Ministry of Mining, Energy and Tourism (MOA 1987).

III Status and Management of Protected Areas

A. Forest Reserves

The FSCD manages 92 Forest Reserves, totalling 288,450 acres. Of these, 67 percent are in three large blocks in the Blue Mountains, while the remainder consists of small blocks scattered throughout the island (Jones, 1985). These reserves are managed for conservation of soil and water resources, production of timber and wood products to meet local demands, and outdoor recreation. On these government lands, about 24,700 acres of plantations have been established, mostly in Honduran pine (Pinus caribaea var. hondurensis). As stated above, Forest Reserves, with the exception of the Peak Bay Reserve, are Game Sanctuaries, in which hunting is not allowed.

In some areas of the Blue Mountains, land from gazetted Forest Reserves is leased from the FSCD by the Coffee Industries Development Company (CIDCO). Forest, either natural or plantation, is cleared, and coffee is planted. These areas suffer considerable erosion in the first year, after the vegetative cover is removed. Current GOJ policy places more importance on generation of foreign exchange through the sale of Blue Mountain coffee (with the world's highest F.O.B. price) by the para-statal CIDCO than it does on conservation of biological diversity and tropical forests by the FSCD.

A 49-year lease has been given to FIDCO for 41,657 acres of the Forest Estate, concentrated in the eastern portion of the Blue Mountains. About seven million board feet of pine are harvested annually, mostly from plantations established within the lease area. These plantations are managed on a 20-year rotation, producing about 10.6 thousand board feet per acre (personal communication, Eric Budhlall, Director, FIDCO Logging Department). By October of 1985, FIDCO had planted about 14,500 acres to pine (Jones 1985), in areas where pine had been harvested or in areas with low-grade hardwoods. About 50-60 percent of the land in the FIDCO leasehold area is commercially manageable (personal communication, Guy Symes, FIDCO managing director). Land that is not currently feasible to manage includes the higher reaches of the Blue Mountains, being too steep and wet, and other areas that are remote or too rocky. Considering that FIDCO's land leases are for 49 years, the company can be considered to be dedicated to long-term land management. The economic future of the institution depends on re-establishment of plantations after harvest, although there are cases where no such planting has occurred. FIDCO's mandate is to manage just one resource, pine. The company has been criticized for erosion caused by roadbuilding, and for removing hardwood forest to establish new pine plantations. However, FIDCO's managing director has shown concern for environmental matters, and has been active in promoting environmental education in the country.

For the most part, the Forest Reserves have been gazetted from land that was left in forest cover because it was too remote, steep or poorly drained to practice agriculture. Thus, although it is estimated that as much as 24.3 percent of Jamaica is forested (MOA 1987), this forest probably does not adequately represent all forest types native to the island. Of the seven Life Zones (Holdridge) in Jamaica, only the Premontane Rain Forest, Premontane Wet Forest and Tropical Very Dry Forest Life Zones have appreciable areas remaining, due largely to their remoteness and/or unsuitability for cropping. Almost all of the Tropical Dry Forest, Tropical Moist Forest, Tropical Wet Forest and Premontane Moist Forest has been converted to agriculture. The exceptions, such as forest on limestone outcroppings, coastal mangroves and freshwater wetlands, are threatened by charcoal cutting, and development of industry and tourism. Mining of peat and projects to drain wetlands for conversion to agriculture are potential threats to the Negril and Black River Morass wetlands.

B. National Parks

Figure 1, drawn directly from the CEP, shows existing and proposed parks and protected areas. Plans are well underway for the development of what is to be Jamaica's first land-based National Park at Canoe Valley. This park has been developed around the Alligator Hole River Project, carried out jointly by the OAS and the NRCD (MOA 1987). Twelve other areas are proposed for National Park status in the Jamaica CEP (Table 1). A scientific evaluation of the natural habitat types of Jamaica should be made, to determine what areas are most in need of protection. Comprehensive National Parks legislation is also needed, and assured funding sources for additional parks need to be identified. The Urban Development Corporation has proposed a National Park in the Hellshire Hills. This area, which is under intense pressure for development and charcoal cutting due to its proximity to Kingston, needs urgent protection, since it may be the last remaining habitat of the endangered Jamaican iguana (Cyclura collei, that may already be extinct). The two Marine National Parks, at Montego Bay and Ocho Rios, have been gazetted, but as yet there are no management plans or enforcement regulations.

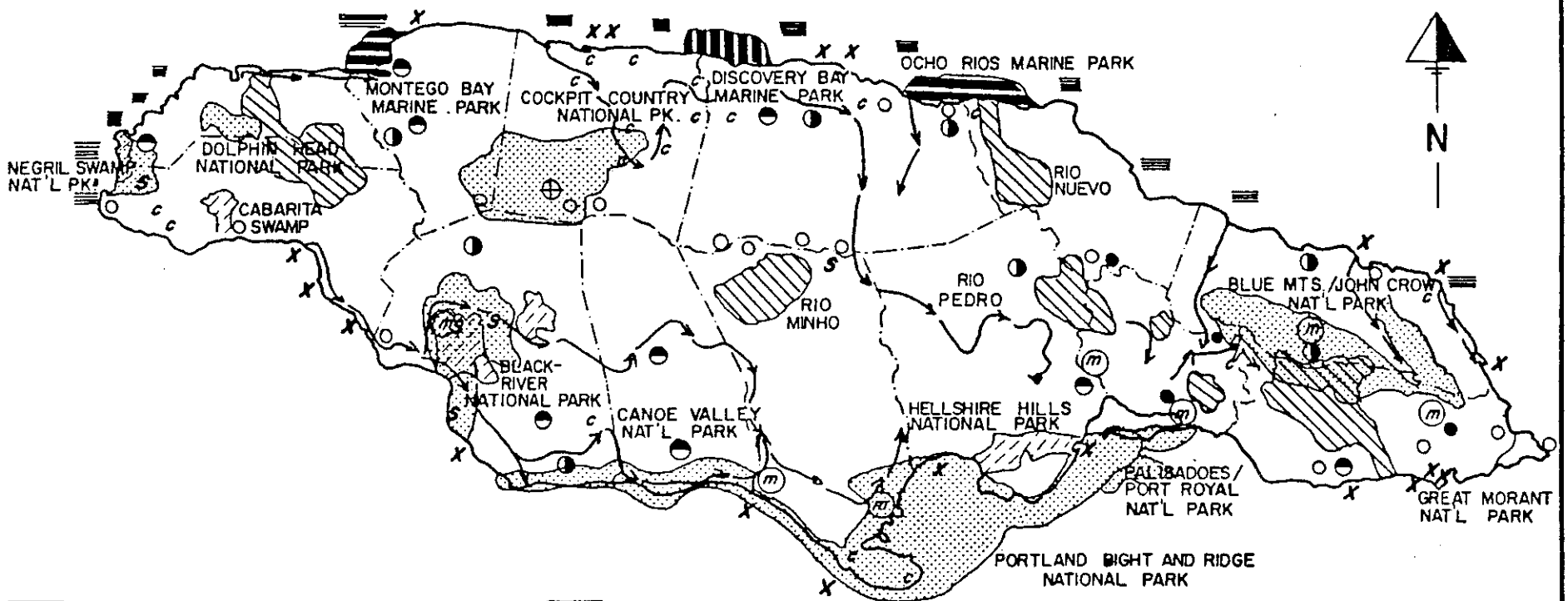
C. Other Reserves

The Petroleum Corporation of Jamaica will develop the Luana Point Wildlife Reserve, which was initially proposed by the NRCD. This reserve would protect habitat for the American crocodile (Crocodylus acutus). PCJ currently manages the Negril Royal Palm Reserve, for recreation and preservation of a stand of the endemic Royal Palm (Roystonea princeps). Sooty terns (Sterna fuscata) are protected on Middle Cay of the Morant Group, in an agreement between the NRCD, Jamaican Defense Forces and the Fisheries Division. Other reserves are recommended in the Jamaica CEP (Table 1).

IV Status and Protection of Endangered Species

As an island in the Caribbean Sea, Jamaica has developed unique associations of plants and animals. All of the native species have either migrated there from the mainland or other islands, or have evolved in Jamaica from species that migrated there long ago. A large proportion of Jamaica's animal and plant species are endemic, that is, they are found nowhere else in the world.

EXISTING AND PROPOSED PARKS AND PROTECTED AREAS



- EXISTING MARINE PARKS
- PROPOSED MARINE PARK
- PROPOSED NATIONAL PARK
- SCIENTIFIC RESERVE PROPOSALS
- PROPOSED NATURE CONSERVATION RESERVE
- PROPOSED NATURAL MONUMENT
- BOTANICAL GARDENS
- PUBLIC BEACHES
- SCENIC ROUTES
- PROPOSED SCENIC ROUTES
- CAVES
- MINERAL SPRINGS
- LARGE INLAND CONSERVATION AREA
- SMALL INLAND CONSERVATION AREA
- WATERSHED
- MARINE REEF

Source : National Physical Plan, Jamaica. (1978 - '98)

Figure 1

For Table 1. List of Some Proposed Protected Areas for Jamaica.

Scientific Reserves/Nature Reserves

Mason River Field Station
Holland Swamp Forest

National Parks

Great Morass
Canoe Valley
Palisadoes, Port Royal Cay
Cockpit Country
Dolphin Head
Ocho Rios Marine Park
Discovery Bay Marine Park
Blue Mountains
John Crow Mountains
Hellshire
Black River Lower Morass
Negril (Marine and Terrestrial)
Montego Bay Marine Park
Marine Parks in St. Mary

Natural Monuments/National Landmarks

Fern Gulley
Rio D'Oro Natural Arch
Windsor Cave
Ys River Falls
Blue Mountain Peak
Thatchfield Cave
Lovers Leap

Nature Conservation Reserves/Wildlife Sancturaries

Middle Cay (Morant Group)
Belvedere
Bogue Fish Sanctuary
Rocklands Bird Sanctuary
West Harbour Fish Sanctuary
Galleon Harbour Fish Sanctuary
Cuguar Bay Fish Sanctuary
Falmouth Bay Fish Sanctuary
Bloody Bay Fish Sanctuary
Port Royal Fish Sanctuary (Mangrove and Cays)
Southwest Cay (Pedro Group)
Portland Bight Fish Sanctuary
San San Tree Preservation Area
Luana/Font Hill
Old Harbour Bay Fish Sanctuary
Long Bay Fish Sanctuary
Manatee Bay Fish Sanctuary
Folly Bay Fish Sanctuary
Discovery Bay Fish Sanctuary

Protected Landscape or Seascape

East Coast Scenic Route
Cockpit Country Scenic Route
Buff Bay Scenic Route

Multiple Use Management Areas

Jacks Hill
All Watershed Areas
Kingston and St. Andrew Game Reserve
All Forest Reserves

World Heritage Site

Cockpit Country

Source: Jamaica Country Environmental Profile (MOA 1987)

For instance, of 19 Jamaican frog and toad species, 15 are endemic. Twenty of the 24 species of lizards are endemic, as are 784 of the 3000 flowering plant species, 27 of the 256 nesting bird species, four of the 23 bat species, 46 of the 200 orchid species, and 82 of the 579 fern species. Few areas in the world have such a high rate of endemism. If Jamaica's natural heritage is to be preserved, a turnaround is necessary in the trend that has left eight vertebrate species extinct in the last 150 years, and many more endangered, threatened or rare.

The biggest problem in biodiversity conservation in Jamaica is the loss of habitat for endangered plant and animal species. The Jamaica CEP (MOA 1987) lists eight critically endangered or extinct species of animals, and five endangered species. Sixteen threatened animal species are listed, as are ten rare species or groups. In the Plant Kingdom, 81 species are listed as endangered, threatened or rare (MOA 1987).

Individual species are protected in the Wild Life Protection Act, including all birds except for those listed as specific game or pest species. No animals may be hunted in Game Sanctuaries, which include all but one Forest Reserve. However, as discussed above, enforcement of these laws is far less than adequate. Even if the wildlife protection laws are enforced, many animal and plant species will become extinct if measures are not taken to assure conservation of habitats representative of all of Jamaica's major animal and plant associations. Development of a National Park and Protected Areas system, with concise regulations and adequate funding mechanisms, is necessary if the island's biological diversity is to be conserved.

V Conservation Outside of Protected Areas

A. Managed Natural Ecosystems

1. Forests--When Columbus discovered Jamaica on his second voyage in 1494, the island was almost completely covered by forests. Indeed, the name for the island came from the Arawak work "Xamayca", meaning the "land of wood and water". As mentioned above, the natural terrestrial ecosystems of Jamaica are distributed in seven Life Zones (Holdridge 1967). Within these Life Zones, the degree of natural and man-caused disturbance, and edaphic conditions, result in an undetermined number of plant associations. In most of the Tropical Dry, Tropical Moist, Tropical Wet and Premontane Moist Life Zones, natural vegetation has been substituted by agriculture, except in areas unsuitable for agriculture, such as the wetlands of the Negril and Lower Black River Morasses. Remaining forest has experienced intervention in the form of selection cutting of timber trees. Traditionally, these are felled and sawn on the

spot by pit sawyers. In order to design a comprehensive protected area system, a detailed study describing the composition and remaining inventory of Jamaica's natural plant associations is urgently needed. Throughout her history, one of the main economic contributions of Jamaica's forests has been as a source of new land for agricultural expansion, necessary to feed the expanding population. As such, the forest has been a non-renewable resource, except in areas where swidden agriculture is practiced, where the secondary, or "ruinate" forest replenishes soil organic matter and chokes out weeds during the fallow period.

Another important economic contribution of forests, more important every day, is the infiltration and storage of rainwater, vital for domestic, agricultural and industrial uses in the countryside and towns. Damaging floods in the last two years have increased the level of concern in the GOJ and the public about the effect on river flow of deforestation in the hills. Freshwater wetlands and mangroves are also important as areas where silt can settle out of stormwater. The tourist industry depends to a large degree on clean water and beaches to attract tourists. Additionally, the fishery industry benefits from wetland, as mangroves serve as fish nurseries, and reefs that are protected from silty storm runoff are more productive.

Natural forests receive little scientific management for production of wood products, but are still important as sources of fuelwood, poles and timber. Current exploitation is nearly akin to mining, with no measures taken to assure regeneration of desireable species. Efforts are needed to introduce management and increase the industrial efficiency of charcoal and hardwood lumber production. Economic participation of rural populations in the benefits of this management and production is essential if these same populations are to maintain these forests. The FSCD carries out a program with private landowners to promote the plantation of timber trees. This program does not currently cooperate actively with the existing network of agricultural extension agents, to promote management of natural forests and agroforestry.

An extensive knowledge of the medecinal uses of wild plants has developed throughout history; additional support should be provided for efforts to record this folklore, and studies should be made for pharmaceutical applications.

While not natural ecosystems, the pine plantations of Jamaica now meet about 20 percent of the annual demand for softwood lumber products. Most of this effective import subsitution is produced by FIDCO, which harvests, transports and saws pine, mostly from Blue Mountain plantations established prior to the existence of FIDCO. While FIDCO currently operates at a profit, it is unclear

if the company's profit margin would cover the cost of establishment and maintenance of plantations over the 20-year commercial rotation, because of the high cost of its operations. This high cost is due in part to the steep slopes where pines are growing, which result in high road-building and yarding costs. The relatively small size of trees means high yarding, transport and sawmilling cost, as well. As an import-substitution endeavor, FIDCO could improve its performance with respect to energy consumption. A dehumidifier dry kiln that uses electricity is employed, while sawmill residues (58% of the log volume) are totally unused (personal communication, Don Bennett, FIDCO Sawmill Mgr.). Currently, most of Jamaica's electrical power comes from imported fossil fuel.

While Jamaica has no large native terrestrial mammals, other vertebrates such as iguanas and pigeons have provided a source of protein for rural people, and populations of many species have consequently reached dangerously low levels.

2. Coastal zones--The coastal resources of Jamaica, as the meeting place of sun, sea and sand, are of utmost importance for the success of the tourism industry, the nation's greatest source of foreign exchange. The coast itself is about 500 miles in length, punctuated by numerous inlets and bays. Part of the attraction to tourists is the broad range of ecosystems presented by the variation in the coastline--rocky headlands, bays, beaches, estuaries, mangrove swamps and cays. However, many areas have suffered some degree of degradation because the island's principal commercial and population centers are situated on the coast, and because these coastal resources are especially sensitive to over-use and mismanagement.

Jamaica's beaches are of international fame. Along the north and west coasts are vast stretches of white sand beaches, which provide the basis for the principal resort areas, such as Montego Bay, Negril and Ocho Rios. This white sand is eroded from offshore corals and calcareous algae and is deposited in the lagoons behind the reefs. The beaches of the south coast are more typically composed of black sand, that has been carried to the sea by rivers. In spite of the importance of beaches to tourism, they are frequently used as a source of sand for construction. Illegal sand mining and consequent beach erosion have caused serious problems in Johnson Town (Hanover), Hope Wharf (Westmoreland), Crane River (St. Elizabeth), Mahoe Bay/Rose Hall (St. James) and along the Portland coast (MOA 1987).

Seagrass beds and coral reefs suffer from the effects of increased sedimentation and pollution. Sediment erosion, transport and deposition are natural processes, which over geologic time have reached a dynamic equilibrium to which all physical and biological processes have adjusted. Coral reefs and seagrass beds reflect a long-established pattern of sediment discharge (Dubois, Berry & Ford 1985). As a result of inappropriate land use in the hills and near the shore, this equilibrium has changed, resulting in the burying of seagrass beds and suffocation of coral because of increased sediment loads. Pollution from domestic and industrial sewerage also has a negative impact on these resources. Oil-using industries, and the oil industry itself, result in coastal pollution, in the form of leaks from pipelines, storage tanks and tankers. A major source of Jamaica's foreign exchange, the bauxite industry, has polluted coastal environments, especially at Port Kaiser, Port Esquivel, Port Rhodes, Rocky Point and Reynolds Pier. This has included smothering of corals at Reynold's Pier in Ocho Rios, and impacted seagrass beds at Port Esquivel and Port Kaiser (MOA 1987). These two ecosystems are important for populations of fin and shellfish, so their deterioration has a negative impact on local fisheries. Also affected is the tourist industry, which utilizes these resources as a source of fresh seafood and as a site for snorkeling and glass bottom boat viewing.

Tourism itself has an impact on coastal resources. The filling of coastal mangroves, leveling of dunes and other disturbance of coastal ecosystems for the construction of hotels and other tourist facilities has an impact on the biological diversity of these areas. Pollution from these installations, and sedimentation resulting from construction, can affect nearby coral reefs and seagrass beds. Lights along beaches confuse sea turtles that lay their eggs there. The use of coastal organisms as souvenirs has contributed to the degradation of coastal resources. Black coral is protected by the Beach Control Act, but is still illegally harvested and used to make jewelry. Conch, starfish, elkhorn coral and other reef organisms are also collected for souvenirs.

B. Impacts of Development Projects

No Jamaican legislation requires an assessment of the environmental impact of public or private development projects. The review of industrial development plans by the Town Planning Department, required under the Town and Country Planning Act and the Local Improvements Act, takes into consideration impacts on traffic, conformation with current zoning ordinances, sources of employment, etc., but not environmental impacts. Although not currently legislatively mandated, environmental impacts could be studied, and serve as criteria for approval of development

projects, in the Town Planning Department review. The Environmental Control Division of the Ministry of Health looks primarily at occupational hazards (MOA 1987). No legislative authority is vested in the NRCD to perform, or require, an environmental impact assessment of development projects, nor to require mitigative measures for adverse impacts.

Jamaica's natural forests, which mostly remain only in areas unfit for agriculture due to soil conditions or remoteness, such as upper watersheds, wetlands or excessively rocky areas, are theoretically protected from a change in use by the Watershed Protection Act and Forest Act. However, conversion of forests to coffee plantations by CIDCO in the Blue Mountains is taking place, without an evaluation of the impact of this activity on the amount of remaining premontane forest. FIDCO is also converting hardwood forest to pine plantations in the Blue and John Crow Mountains, with no impact assessment. No doubt, the perceived lack of contribution of natural forests to the economy results in public policy that favors economic development projects such as coffee or pine planting over conservation of biological diversity and natural forests. The pressure for housing sites in the Kingston Metropolitan Area is forcing development of the Hellshire Hills, without an assessment of the impact on the sole remaining habitat of the Jamaican iguana, which may already be extinct. Additionally, wetlands have undergone draining for agricultural development, without comprehensive environmental impact assessment.

The economic pressure for tourism development makes assessment and mitigation of environmental impacts unlikely to restrict this activity, as Jamaica's number one source of foreign exchange. Education of the public and private sector about the degree of interdependence between the health of natural ecosystems and the attractiveness of Jamaica to tourists would do a lot to promote effective environmental impact assessments for tourism development projects. The Town Planning Department could require environmental assessments prior to approval of tourism developments, as described above. In certain areas, the Urban Development Authority could also implement assessments. Public policy will continue to favor development of foreign exchange sources, however, so environmentally sound development needs to be promoted.

Agricultural development projects have potential impacts on the conservation of biological diversity and tropical forests, which need to be analyzed. The planting of new coffee in the Blue Mountains is an example discussed above. Current projects by USAID and other agencies promote on-farm income generation through increasing the productivity of known and/or potential crops. As such, these projects tend to have a positive environmental impact, because they reduce the pressure on natural forests by increasing

the production of existing plots and promoting agricultural sustainability through vegetative soil conservation measures such as permanent crops. Nevertheless, the impact of agricultural chemicals needs to be assessed, and measures taken to minimize this impact, for these agricultural projects. No current Jamaican legislation exists requiring such assessment.

USAID has been required to evaluate potential environmental impacts of its projects for several years. Canada has recently passed legislation that requires CIDA to evaluate the environmental impacts of its projects. The mechanism for this CIDA evaluation is now being worked out. In the World Bank, a new organizational structure is being implemented, which will integrate environmental criteria into the development project design and approval process. Environmental concern by international development agencies can only help the adoption of environmental impact assessment by Jamaican public and private institutions.

C. Ex-situ Conservation

The Ministry of Agriculture maintains the Royal Botanical Gardens at Hope, Cinchona, Castleton and Bath. While many of the collections in these gardens are of introduced plants, native plants are represented, as well, and research is carried out on their care (MOA 1987). Additionally, these sites are utilized for public education.

Also under MOA direction is the Hope Zoo, which displays and breeds selected indigenous and endemic species. The Zoo manages a small watershed and reservoir, and would like to develop this resource to further its public education activities (personal communication, Rema Kerr, Hope Zoo). The Hope Zoo Trust, an NGO, promotes the upgrading and development of the Hope Zoo.

The Jamaica Orchid Society manages the Spur Tree Orchid Reserve, in which native and introduced species and hybrids of orchids are tended and propagated.

The University of the West Indies at Mona maintains an Herbarium in the Botany Department, and a collection of preserved native animals in the Zoology Department. Plant and animal specimens from Jamaica are contained in the Smithsonian Institution, the British Museum and other natural history collections.

The NRCD maintains a collection of environmental information, but needs technical and financial assistance to develop this into a full-fledged conservation data base.

VI Conservation of Economically Important Germplasm

It would be difficult to state categorically that any of Jamaica's native plant or animal species has no economic value. While few native Jamaican species have obtained worldwide economic importance, the value of a particular species to the healthy maintenance of a specific habitat, and its interaction with other species in that habitat, give economic importance to all native species. The economic contribution of native ecosystems to the human ecosystem, through protection of watersheds and amelioration of climate, cannot be overstressed. Rural populations utilize a large number of native plants as sources of medicines, food, beverages and shelter. This economic use of these species may appear to have little impact on Jamaica's national economy, but loss of this source of goods would require a substitution through import, if the quality of rural life were to be sustained. Work has been done to catalogue folk medicines and remedies by botanists from the University of the West Indies, but no studies have been made of the effect of rural communities on the populations of these plants. The use of wild animals for food, such as iguanas and doves, has no doubt impacted their populations, but likewise, no statistical studies have been made of this impact. The need for conservation of these resources through habitat protection provided by a comprehensive system of national parks and protected areas is widely recognized by Jamaican scientists and bureaucrats.

The number of flowering plants in Jamaica is estimated to be about 2,800 species. This is about twice the number of species found in the British Isles (which is 25 times bigger), and about the same as in Sri Lanka (which is 6 times bigger). More than 20% of the species of plants are endemic, a figure much higher than other islands in the Caribbean (Trinidad 7%, Lesser Antilles 12%, and Puerto Rico 13%). For the most part, the specific economic value of Jamaica's genetic resources has still not been assessed. Orchids, ferns, bromeliads, gesneriads, and tree ferns are among the groups which have so far attracted attention. Many plants may be expected to have horticultural, genetic, and pharmaceutical values which are yet to be discovered. The Jamaica Country Environmental Profile provides detailed information on the flora and fauna resources of Jamaica.

The native Jamaican species with probably the greatest worldwide economic importance is pimento, Pimenta dioica, from which allspice and allspice oil are derived. While this species is not endemic, originating also in Cuba, Central America and Mexico, Jamaica is the world's largest supplier of the spice. Cultivation of the tree is somewhat haphazard, usually intercropped with other fruit trees, permanent crops, annual crops and pasture.

Harvesting techniques are unsophisticated, involving breaking of branches, which results in large scars, and possibly a poor crop the following year (Adams 1971). The MOA has developed asexual propagation techniques, and has established collections of native and introduced clones (MOA 1973).

Blue mahoe, Hibiscus elatus, is another species, native only to Jamaica and Cuba, with international economic value. This valuable timber tree has been planted throughout the Lesser Antilles and in Puerto Rico, where it has shown good adaptability and growth. Apparently the species hybridizes with the closely related, pantropical species H. tiliaceus, from which it has probably evolved (Adams 1973). The growth and wood characteristics of both H. tiliaceus and the hybrid are vastly inferior to blue mahoe. Conservation of pure gene pools of blue mahoe should be undertaken by establishing stands of superior phenotypes at the upper extension of its range, well away from populations of H. tiliaceus, which frequents lower elevations. Seeds for establishment of blue mahoe plantations should also be collected from higher-elevation stands of the species.

While ackee, Blighia sapida, is native to Africa, having been brought to Jamaica by slaves, it is an important Jamaican plant, has been chosen as the national fruit, and constitutes an ingredient of the national dish, ackee and saltfish. The export of canned ackee, largely to Jamaican expatriate populations in the United States, Canada and Great Britain, offers tremendous potential. However, soft flesh types of ackee break up in processing. Ackee established from seedlings results in groves of mixed fruit types. The MOA has identified individual trees with good fruit quality, has vegetatively propagated these, and in 1969 established a gene bank at Lawrencefield (MOA 1973).

The FSCD annually collects forest seed, for its own planting purposes and for sale to other countries. A refrigerated seed locker is maintained at Constant Spring road. No seed orchards have been established with improved, grafted stock. Seeds are collected from superior phenotype trees in plantations or natural stands.

VII Major Biological Diversity and Tropical Forestry Issues

A. Government Policy

The GOJ must show true commitment to conserving Jamaican biological diversity and tropical forests. Much existing legislation provides for adequate protection of resources; however, government policies often do not support enforcement of these laws. Adequate budgets need to be provided to GOJ agencies responsible for conserving biological diversity and tropical forests. Sufficient funding will result if policy makers are

educated about the interrelation of healthy natural ecosystems and protected watersheds with important sectors of the economy such as tourism, agriculture and public health.

In many cases, penalties for transgressions of laws are insufficient. Since police and magistrates enforce laws in proportion to the potential penalties, conservation laws receive little priority. Of course, with slight penalties, potential violators have little incentive to obey conservation laws.

New development projects must be assessed for their potential environmental impact, including the impact on biological diversity and tropical forests. New legislation creating a Ministry of the Environment could include such a requirement. However, existing legislation, such as the Town and Country Planning Act, Local Improvement Act and Urban Development Act call for review of development plans, and GOJ policy could require that these reviews be expanded to include environmental assessments. Monitoring of industries and other enterprises is necessary to assure compliance with conservation laws and mitigation measures identified in environmental assessments.

GOJ support for public environmental education should be increased. Support of the Royal Botanical Gardens and Hope Zoo would support this effort.

The GOJ should become a more active member of the Caribbean Conservation Association. This NGO could provide technical assistance and policy analysis to government agencies and local environmental NGOs.

B. Coastal Zones

Most development projects impact coastal zones. Since coastal resources are so important to tourism, GOJ commitment to protecting these resources should exist. Environmental assessments for new projects, and monitoring of ongoing activities, should be adequate to protect these resources.

Sedimentation has a heavy impact on coral reefs and other coastal resources. In dredging and filling along the coast, precautions must be taken to minimize sedimentation. Rivers provide the link between hillside land use and coastal impacts. Improper agricultural practices in the hillsides can negatively impact coastal biological resources.

Mining of beach sands must be managed, such that removal of sand is compensated by deposition. Impacts on tourism must be minimized, as well.

Marine parks present a promising opportunity to conserve respresentative coastal habitat, while at the same time attracting tourists. Such parks should include integrated management on the foreshore.

C. Water

Watershed protection involves many aspects of conservation of biological diversity and tropical forests. Inappropriate agricultural practices are non-sustainable, with the result that forests are felled to provide new agricultural land. With the loss of forests, wildlife habitat disappears, jeopardizing the survival of many species. Unprotected soil is carried into streams and rivers, eventually being transported to the ocean, where it suffocates coral reefs and other marine ecosystems.

GOJ policies must encourage appropriate land use, by providing to farmers technical assistance in conservation farming. Incentives can be provided to encourage conversion to soil-protecting permanent crops, in the form of agricultural credit, marketing assistance and land titling programs.

Freshwater wetland and mangroves are under constant threat of conversion to other uses. Wetlands have been drained for conversion to agriculture, and mangroves are cut for charcoal production and filled for industrial and tourist development. GOJ policies should be adopted to protect these ecosystems, not only to conserve biological diversity, but because they are natural settling basins for turbid streams and rivers, and as such can help to conserve coastal resources so important for tourism and fisheries.

D. Wildlife

The most crucial need for conserving Jamaica's wildlife diversity is the protection of habitat. While existing Forest Reserves are also Game Sanctuaries, many ecotypes are not well represented in this reserve system. A comprehensive study of Jamaica's major plant and animal associations is needed, coupled with a review of how well they are represented in existing Forest Reserves and proposed National Parks.

Legislation is required, authorizing and regulating a National Parks and Protected Areas system. Mechanisms for assuring adequate funding to cover training of park personnel and recurring management costs need to be found. Since such resources would contribute to the tourist industry, it is logical that this industry participate in their funding and management. A NGO National Parks Trust would provide more opportunities for cooperating with international NGOs.

FSCD personnel should receive training in wildlife management. In order that Forest Reserves be meaningful Game Sanctuaries, department policies need to be drafted that consider habitat management, in addition to prohibition of hunting.

The GOJ should become a signatory of CITES. This requires acting on the draft legislation that would amend the Wild Life Protection Act to allow compliance with CITES.

E. Forests

A comprehensive National Parks and Protected Areas system would include representative samples of Jamaican forests. However, conservation implies wise use, which includes reaping of trees and other forest products in a sustainable fashion.

With the exception of a few hardwood species, Jamaica's natural forests are generally viewed as non-economic. These exploited species are utilized in a manner more akin to mining a non-renewable resource, rather than being managed in a sustainable manner. Most FSCD management in Forest Reserves is directed towards plantations of softwoods and hardwoods. Inventory, stand management and improved utilization of natural forest species are needed.

The view that natural forests are uneconomic explains in part the conversion of these forests to coffee and pine plantations. The value of these forests for wildlife habitat and watershed protection needs to be weighed against the potential economic benefit of coffee and pine production. Management techniques for these forests, and utilization of a wider range of species, should help with their conservation.

The FSCD operates a program to promote establishment of plantations on private lands. This program should be expanded, to cooperate with the existing network of agricultural extensionists to provide technical assistance to private landowners for management of natural forests in woodlots, and for management of agroforestry associations. Certain timber trees, such as cedar (Cedrela odorata), are commonly found growing with agricultural crops. These trees are sold to sawmills or middlemen when they attain a commercial size, and the farmer needs cash. However, since most farmers do not know how to determine the number of board feet in a tree or log, they frequently are grossly underpaid for this timber. A poor return from timber trees discourages farmers from investing land and labor in their management.

Studies should be made of the use of non-timber forest products by rural populations. The economic significance of these resources to on-farm budgets should be determined. Additionally, management guidelines should be developed to allow sustainable use of these resources.

Tree cutting for charcoal production has a major impact on ecosystems in an ever-widening radius around major towns. This occupation offers much potential to unskilled workers, but needs to be controled. Management systems need to be developed to produce fuelwood from plantations and natural forests, so that a source of income is available to the rural poor.

VIII. Recommendations for Proposed Actions

Based on the above discussion, recommendations for proposed actions in order to conserve biological diversity and tropical forests for the Government of Jamaica, international development organizations and non-governmental organizations, can be summarized as follows:

A. Actions Required

1. Short Term

a. Representative areas of the remaining forest, other terrestrial, and near-shore coastal habitat types in Jamaica need to be protected.

   i. A system of National Parks and Protected Areas needs to be established.

   ii. Legislation needs to be passed, and regulations need to be promulgated, to clarify the definition, criteria and objectives of protected areas.

   iii. Management plans for protected areas need to be prepared that include an ecosystem approach to resource management.

b. A National Conservation Strategy is needed for Jamaica.

   i. Policy dialogue is necessary with the GOJ in support of a National Conservation Strategy.

   ii. A National Conservation Strategy should fit into a National Environmental Policy and National Development Strategy.

   iii. The National Conservation Strategy should form a part of the IUCN World Conservation Strategy.

2. Medium Term

a. The diverse and often overlapping institutional framework for management of environmental affairs in Jamaica needs to be rationalized and streamlined so as to clarify responsibilities and eliminate duplication of effort.

b. Public education is needed on the potential contribution of protected areas to the economy, especially to tourism, near shore fisheries and water system protection. Environmental education should be supported at all levels in Jamaica, to educate the public about their natural heritage.

c. An inventory of the major Jamaican habitat types should be made. This would involve 24 person-months of field-based Technical Assistance. Candidate areas for protection, of a size that can be efficiently managed, should be nominated. Ideally, these areas would be compatible with other development in the area, by providing recreation areas for tourists and local residents, protecting watersheds for communities, etc.

d. Systems for sustainable production on hillside farms need to be developed.

   i. Policy dialogue is needed in order that the GOJ supports consistent policies in its land management, extension and marketing agencies.

   ii. Sustainable technologies for farming hillsides need to be adapted to Jamaican conditions. Cost/benefit information needs to be transferred to farmers.

   iii. Community involvement is needed to develop and promote sustainable hillside production and marketing systems.

e. Jamaican forest land management institutions need a clear allocation of responsibilities, with legislation, regulations and sufficient budget to support them.

f. All development projects in Jamaica should include an initial environmental examination (IEE). If the IEE shows a potential negative effect, an environmental assessment (EA) should be done to determine what negative effect, if any, the project will have on both terrestrial and near-shore coastal biological diversity.

g. Training is needed in the planning, management and administration of Managers for protected areas.

3. Long Term

a. Non-protected natural forests of Jamaica need to be productively managed.

   i. Policy dialogue is needed, and possibly legislation, so that natural forest management activities are encouraged and recognized, protecting managed natural forests from agricultural conversion.

   ii. Efficient natural forest management technologies need to be transferred to public and private-sector land managers. This should include multiple-use management.

   iii. Appropriate technology to utilize a larger number of native tree species for house construction, furniture, artisanry and other uses is needed.

   iv. Rural farmers need to receive more economic benefit from timber trees, as an incentive to manage them.

b. Jamaican forest plantations need to be managed under consistent economic guidelines.

   i. Costs for reforestation should be taken directly from the sale of timber.

   ii. Appropriate technology needs to be adapted to increase the level of utilization of Jamaican hardwood plantations.

   iii. Methods to more economically and successfully establish timber plantations, especially hardwoods, are needed.

   iv. Methods and incentives for economic participation of small farmers in timber plantation management need to be developed.

B. Actions Required by USAID

In order to achieve the maximum effectiveness for limited funds available to USAID/Jamaica, efforts to conserve biological diversity and protect tropical forests should be concentrated in two areas.

A. Policy dialogue with the GOJ to promote recognition of the importance of biological diversity and the role of forests in the Jamaican economy. Discussions should focus on the rationalization of the institutional framework for environmental management as a top priority.

B. A critical need exists for protection of representative habitat types in Jamaica. As National Parks, these areas could attract tourists, help protect watersheds, serve as a resource for environmental education and protect Jamaica's national biological heritage. AID programming would strengthen host-country ability to manage protected areas by:

i. funding the drafting of parks legislation,

ii. developing management plans for selected National Parks,

iii. promoting nature-related tourism,

iv. training Jamaicans to manage protected areas, and

v. developing and implementing alternative protected area funding possibilities.

C. The PARC Project

USAID/Jamaica should begin design work as soon as possible on the Protected Areas Resource Conservation (PARC) Project (532-0148) for possible FY 88 funding. The project should be aimed directly at the conservation of representative areas of Jamaica's natural habitat.

The purpose of the PARC project is to provide the mechanism and framework for the protection of representative habitat areas of Jamaica's natural ecosystems. This will enable the preservation of the vast and diverse biological resources endemic to the Jamaica. These biological resources are the basis for the natural beauty that makes the island a primary tourist destination.

The project will: (1) provide a system and methodology for the establishment of protected areas in Jamaica, and (2) finance capital and non-recurrent costs for the establishment of one national park/protected area. The project will also provide a model to integrate the protection of biological diversity with the simultaneous demands inherent in economic development

Specifically, the PARC project will seek to overcome constraints to the establishment of protected areas/national parks. It is expected that the constraints, as well as the opportunties for development, will be catalogued and analyzed in the project preparation process. The team assigned the task of project development will draw from Jamaican, Regional, and U.S. based sources of expertise in order to blend the specific issues and constraints of Jamaica with the best knowledge and expertise available from external sources.

APPENDIX ONE

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APPENDIX TWO

Biographical Sketch

Loren Bennett Ford was born in Columbus, Ohio, in 1950. He grew up in Vermont and New Hampshire, graduating from the Phillips Exeter Academy in 1968. University studies were pursued at the University of Washington, Seattle, where the degree of Bachelor of Sciences (Forest Sciences) was conferred in 1976, Master of Sciences (Forestry) in 1977 and Doctor of Philosophy (Forestry) in 1986.

He served as a Peace Corps Volunteer in Costa Rica from 1978-80, where he carried out a survey of pests of plantations of fast-growing trees for the Tropical Agriculture Center for Research and Training (CATIE) in Turrialba.

After Peace Corps, he continued to work in Costa Rica for three years, as a professor and researcher in forestry at the Costa Rican Technological Institute (ITCR). During this time, he also gave technical training two groups of forestry Peace Corps Volunteers, and carried out two short-term consultations for USAID/San Jose.

Dr. Ford currently works for the USDA Forest Service, on an interagency agreement as Regional Forestry Advisor for the Caribbean to USAID. He is stationed at the Caribbean National Forest, in Rio Piedras, Puerto Rico.

APPENDIX THREE

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