

# HABITAT II



The Barbados National Report

and

Plan of Action

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**Part A: Introduction**

The preparation of the Barbados National Report and Plan of Action is timely since it coincides with the review of the system of settlement and land use planning on the island, and the preparation of a White Paper on Housing. Within the planning review there will be a revision of the Physical Development Plan, a review of the legislation governing planning activities and a review of the overall process of decision making. The goals are to improve the efficiency of the office of the Chief Town Planner and to improve the speed and consistency in planning decision making generally, while allowing for greater transparency and public involvement in the planning process. This White Paper on Housing aims to guide the development of housing and shelter into the next century. In many cases the goals, commitments and strategies of the National Plan of Action coincide with approaches of these two documents, which are at varying stages of preparation.

In view of the above it is premature to prepare an implementation schedule with quantifiable targets. These can be set only after the detailed studies have been completed. At the same time however, there is a commitment to the use of indicators. These have not been indicated in the Plan of Action but were prepared and included in the report as an appendix. In the revision of the Physical Development Plan there is a specific requirement for the calculation and use of indicators in reaching new policy formulations. Additionally following the completion of the National Physical Development Plan detailed plans for specific areas and subjects will be prepared and these will include quantifiable objectives and targets.

Against the above background the Report is subdivided into two main sections which include:-

- I) the diagnostic section which reviews the settlement and shelter situation on the island over the past thirty years. The economic background to the settlement pattern is discussed here along with the demographic factors and changes which provide an explanation of the urban environment and the urbanization process. The policy approaches which were adopted over time to address the shelter and settlement challenge are also described and the section ends with a statement of the priority shelter issues.
- ii) the second section includes the plan of action and is subdivided into shelter and settlements components. In this section goals, commitments, principles and strategies guiding the plan are highlighted.

The final section contains the conclusion and summary and reference is made to mechanisms for implementing and monitoring the Plan. In this section a comment is also made on the indicators which will be used to measure progress in the achievement of the plans, goals and objectives.

## 1. Process

There were two main stages in the development of the National Report and Plan of Action. In the first a team of academics was engaged to perform a diagnosis of the shelter and settlements situation and to identify the major issues as they appeared from the above analysis. Included in this stage of the process was the building of consensus on the situation and the major issues. This was achieved by two different means. During the process of preparing the first draft of the diagnostic study consultations were made with a number of key actors involved in the settlement and shelter fields. On the completion of the first draft representatives of the major actors on the National Preparatory Committee were requested to comment on the findings of the academics. These comments were subsequently incorporated into the finished study which comprises the diagnostic section of the report.

In the preparation of the National Plan of Action a core group comprising officials of the Town and Country Planning Department and the Ministry of Public Works, Transport and Housing prepared a draft document. This was used as basis for wider consultations and the comments from this process were incorporated in the final draft plan. In the case of the settlements and land use segments of the Plan the National Habitat II Committee was used to draw on the views of the constituent groups.

In relation to the shelter policies the Chairman of the National Preparatory Committee, the Minister of Public Works, Transport and Housing hosted a one day meeting with representatives from professional groups, builders, the private commercial sector, the small business group, tertiary educators, financiers, building materials suppliers, real estate agents and utility companies. The issues raised in these discussions were incorporated in the final document.

## 2. Participants

The major participants in the process include:-

### Real Estate Agents

Big Mac  
Realtors Limited,  
Alleyne Aguilar & Altman Ltd.,  
Bajan Services,  
Bill Mallalieu  
Estate Agents & Valuers Association

### **Builders/developers**

Kentor Ltd  
Ideal Homes Ltd,  
Eastern Land Development,  
Barrack Construction,  
Nassar Construction,  
H & J Construction Ltd.,  
GAP Investments Ltd.,

### **Builders/Suppliers**

Manning Wilkinson & Challenor Ltd.,  
Marshall Trading,  
Leo Leacock & Co. Ltd.,  
Barbados Lumber Company,  
C.O. Williams Construction Ltd.,  
Walkers Sand Quarry,  
Concrete Products,  
Trowel Plastics Ltd,  
B.R.C. West Indies Ltd.,

### **Utilities**

Barbados Water Authority,  
Natural Gas Corporation,  
Barbados Light and Power Co. Ltd.,  
BARTEL,

### **Financiers/Insurance Co**

Barclays Financial Corporation,  
Barbados Finance Co. Ltd.,  
Barbados National Bank Trust,  
Royal Bank Corporation,  
Caribbean Commercial Trust  
The Mutual  
CLICO General  
Insurance Corporation of Barbados  
Barbados Fire and General Insurance  
Insurance Institute of Barbados

Barbados Public Workers Credit Union  
City of Bridgetown Credit Union  
Teachers' Credit Unions

**Socio-Economic Groups**

Barbados Workers Union  
Barbados Public Workers Union

**Training Institutions**

Barbados Community College  
Samuel Jackman Prescod Polytechnic

**Professional Associations**

Barbados Association of Professional Engineers  
Barbados Institute of Architects  
Barbados Association of Quantity Surveyors  
Town & Country Planning Society

**Habitat II Committee**

- ✓ Barbados Chamber of Commerce & Industry
- ✓ Barbados Town Planning Society
- ✓ Small Business Association
- Barbados National Standards Institute
- ✓ Barbados Institute of Architects
- ✓ Barbados Institute of Engineers
- Representative of Women's Groups
- ✓ National Housing Corporation
- ✓ Barbados Manufacturer Association
- Barbados National Organization for the Disabled
- Barbados Association of Community Councils
- Trades' Union Group
- Ministry of Health and the Environment
- Ministry of Public Works, Transport and Housing
- Town and Country Planning Department.

**Part B: Assessment and Priorities**

## REVIEW OF THE SETTLEMENT SITUATION 1965-95

### **2.1 INTRODUCTION**

Barbados is a small country by any measure. With a surface area of 431 square kilometers, its resident population stood at approximately 264,000 persons at December 31, 1994. With a population density of 612 persons per square kilometer, Barbados is one of the most densely populated countries in the world. It has however been classified by the World Bank as an upper middle-income country with a gross national product (GNP) per capita of US\$6230 at 1993 prices. Such a classification would suggest that the country has made significant economic progress as judged by the GNP per capita indicator. The island is generally regarded as being deficient in natural physical resources. Besides small pockets of oil and natural gas, the main natural resources are fertile soil which has been exploited for agricultural production since the seventeenth century, coral sand beaches which have been a major attraction for tourists and other marine resources.

The dynamics of economic activity in such a densely populated island state have an important bearing on the settlement situation in the country. The network of cities, towns and villages has been influenced over the years by the nature of productive activity within the country. This section examines the relationship between the socio-economic development of the country and changes in the settlement pattern over the period 1965-1995. The chapter begins with an analysis of the impact of economic changes and development on settlement patterns in the post-independence (1966) era. A discussion of the changes in land use patterns with particular reference to agricultural land use is then undertaken. Changes in the structure of the population and population growth rates are analysed within the context of changes in settlement development over the 1965-95 period. Since the dynamics of settlement development result in changes in the provision of social and community services, transport and communications systems, the use of energy and the allocation of land for recreation and conservation purposes, these issues are examined within this chapter. The chapter concludes with an overall assessment of socio-economic change on the nature of settlement development since independence in 1966

### **2.2 ECONOMIC GROWTH AND STRUCTURAL CHANGE: 1965 - 1995**

The growth performance of the Barbadian economy can be examined via two economic indicators: real gross domestic product (GDP) and real GDP per capita. The GDP of Barbados increased from Bds. \$158.2m in 1965 at current prices to Bds. \$2,924m in 1994, that is, at an average annual growth rate of 12.4 percent. Since the increase in GDP at current prices involves increases in both output and prices, real GDP or GDP at constant prices is a better measure of economic growth. The available data for or real GDP for Barbados suggest that real GDP increased from Bds. \$627.7m in 1970 to Bds. \$836.8m in 1994, that is, an average annual growth rate of 1.16 percent [see Table 2.1]. Although there was an upward trend in output over the 1970-94 period there were periods of recession,

during the 1972-5, 1981-82 and 1990-92 periods. The 1972-5 period of decline was primarily due to increases in raw material and oil prices, while the 1981-82 and 1990-92 periods were characterized by worldwide recessions.

Per capita GDP at constant prices increased from Bds. \$2620.88 in 1970 to Bds. \$3166.10 in 1994; that is, an average annual growth rate of approximately one percent. [The average annual rate of population growth over the same period was 0.39 percent].

While Barbados has been able to control its population growth rate through an active family planning programme introduced in the 1950s, the expansion in output of goods and services since the late 1960s has been relatively modest.

A sectoral analysis of domestic production indicates that there has been a secular decline in sugar production over the study period. Real output of sugar declined from Bds. \$57.6m in 1970 to Bds. \$22.2m in 1994. The contribution of sugar production to overall production declined from approximately 20 percent in 1965 to 2.6 percent in 1994. Sugar production has historically contributed significantly to output, employment and foreign exchange in Barbados. In the 1960s, economic development planning focussed on the diversification of the economy to reduce the heavy reliance on the sugar industry. Fiscal and other incentives were offered to the manufacturing and tourism sectors in an effort to enhance their contributions to the economy.

While real output (GDP) in the manufacturing sector increased from Bds. \$55.3m in 1970 to Bds. \$79.2m in 1994, the share of manufacturing output in total output has increased modestly from 8.8 percent in 1970 to 9.5 per cent in 1994. There has also been significant changes taking place in the manufacturing sector over the period. The data show a general decline in traditional manufacturing activity (garments, furniture etc.) and a rise in 'modern' manufacturing activity (data processing, informatics and other computer-based production processes). During the 1980s, the wearing apparel and electronic components sub-sectors were beset by production and demand problems. The wearing apparel (garments) industry has not been able to recover from the fall in demand within the CARICOM region, while output in the electronic components industry slumped because of the closure of major foreign companies in the mid 1980s. In recent years, the data-processing industry has been the main generator of growth in the manufacturing sector.

With the decline in agricultural production (especially sugar production) and the slow expansion of the manufacturing sector, Barbados has had to rely on the services sector to propel the economy. Tourism activity, defined by the goods and services provided to visitors (hotels, restaurants, bars, nightclubs, taxis, car rentals, tour operators etc.), has become an important generator of output, employment and foreign exchange. For instance, tourism output increased from Bds. \$56.0m in 1970 to Bds. \$129.8m in 1994. Its share in total output rose from 8.9 percent in 1970 to 15.5 percent in 1994. Within the tourism sector, cruise ship visitors have increased from 51,593 in 1966 to 459,502 in 1994; while stay over visitors rose from 79,104 in 1966 to 425,632 in 1994, that is, an average annual growth rate



of 9.14 percent and 6.96 percent respectively. There was a gradual increase in the average length of stay from 6.5 nights in 1966 to 9.8 nights in 1980. After a decline in average length of stay during the early 1980s, there has been some recovery in the 1990s.

Wholesale and retail trade, business and general services along with government services have been the dominant sectors in the Barbadian economy. In 1970, these three sectors accounted for 52.4 percent of overall output, while in 1994, the contribution was 49.8 percent. Coupled with tourism activity, the services sector in Barbados accounts for approximately 65 percent of total production. In effect, Barbados has been transformed from a largely agricultural based economy in the pre 1950s period to a services economy in the 1990s.

The employment data further confirms the transformation of the Barbadian economy from agriculture to services. In 1966, for instance, the agricultural sector accounted for 30 percent of total employment, while in 1995, the contribution has only been 5.9 percent. The services sector (wholesale and retail trade, financial services and government and other services) accounted for 43.6 percent of total employment in 1966, while in 1994, it accounted for over 60 percent of total employment.

Unemployment still remains a chronic problem despite the expansion and diversification of economic activity in Barbados. With an expansion in the labour force from 93,100 in 1965 to 129,000 in 1994, the number of unemployed persons has jumped from 12,100 in 1965 (crop time) to 28,300 in 1994. The unemployment rate has ranged between 7.3 percent and 21.9 percent over the period.

The available data on the distribution of income in Barbados do not permit a clear conclusion to be drawn about the change in inequality over time. Using household expenditure and income data, Downes (1987) concluded that there was a redistribution of income towards the 'middle income groups' over the period 1951/2 to 1979/80. Cox (1979), using income tax data, also provides some support for this observation while at the same time indicating that there was an increase in income inequality in the 'lower-income' groups over the period 1970-1974. Holder and Prescod (1984) using income tax data, too, found that overall income inequality declined over the period 1960 to 1980. The use of income tax data and, to some extent, household expenditure data suffer from such limitations as under-reporting of income, under-enumeration of income recipients and limited recall of income received. Subject to the data limitations, the available studies suggest a general redistribution of income towards the 'middle income' groups.

Over the 1965-95 period, Barbados has experienced a significant degree of structural change with the decline of sugar agriculture and the rise of 'modern manufacturing' and services sector activities. The Government has sought to minimize its direct intervention in productive activities. It has sought to be a facilitator of economic activity by providing the necessary legislative and institutional framework to allow non-governmental agencies to contribute to economic growth. Its development planning has been largely indicative.

Unemployment still remains a chronic economic problem, while the distribution of income has tended to benefit the 'middle income' groups.

### **2.3 POPULATION CHANGES**

In the 1950s, Barbados began a program of family planning which has slowed the birth rate to one of the lowest in the Caribbean. In addition, developments in primary health care (via district hospitals and health centres - polyclinics) have reduced the death rate significantly. Infant mortality has declined from 45 per 1000 births in 1970 to 8.5 per 1000 births in 1994. These factors combine to give Barbados one of the lowest population growth rates in the world, that is, less than 0.5 percent per annum over the 1970-1994 period.

An analysis of population changes by sex and age group for the census years 1970, 1980 and 1990 indicates the following:

- (i) the proportion of males has been lower than females, with males accounting for approximately 47 percent of the population
- (ii) the average annual growth rates for intercensal years have been higher for males than females. For the 1970-80 and 1980-90 periods, the male population grew by 0.54 percent per annum, while the female population showed an increase in the average annual growth rate from 0.36 percent during 1970-80 to 0.43 percent for the 1980-90 period
- (iii) the under 15 years old population has declined from 87,100 in 1970 to 62,700 in 1990, while the over 60 years old population has increased from 27,700 in 1970 to 39,900 in 1990. Hence the Barbadian population is ageing over time as the population pyramid narrows at the bottom and widens at the top.
- (iv) the working adult population (15-60 years) has increased from 51,700 in 1970 to 60,700 in 1990.

The general decline in the youth population (under 15 years) can be attributed to the decline in the birth and fertility rates, and suggests that the family planning and educational programmes instituted by the government over the years have been successful. The growth of the over 60 population has implications for pension schemes, housing and health facilities in the country. While the male population over 60 years increased at an average annual growth rate of 2.54 percent for the 1970-90 period, the rate for the female population was 1.41 percent. The improvements in health care has kept the death rate under 10 per 1000 over the 1970-94 period.

## **2.4 POPULATION CHANGE, ECONOMIC ACTIVITY AND SETTLEMENT PATTERNS**

Population mobility and changes in economic activity have an important bearing on the nature and change in settlement patterns. Although Barbados is a small island country, significant changes have occurred in the settlement patterns since the beginning of the century. Bridgetown, the capital of the country has remained the main area of economic activity, with the other minor towns, Oistins, Holetown and Speightstown showing some increases in economic activity. These towns are situated on the west and south coasts of the country and cater to the needs of the majority of the population. Village and town development has been a major feature of the history of Barbados since the 1830s. Marshall (1988) points to the significant growth in villages from 18 in 1830 to 158 in 1930. The majority of these villages in the 1930s were in St. Michael, Christ Church, St. James, St. George and St. Philip and, to a great extent, form the basis of modern-day urban and sub-urban settlement in Barbados.

An analysis of the distribution of the population by parish over the 1970 - 1990 period shows a significant increase in the population in the parishes of St. Michael (excluding Bridgetown); Christ Church, St. James, St. George and St. Philip. Christ Church, St. James and St. Philip have recorded very high population increases over the period.

The majority of the population of Barbados settled along the coastal areas of St. James, St. Michael, Christ Church, St. Philip and to a lesser extent St. Peter. The central parishes of St. George and St. Thomas have also witnessed a growth in residential settlement. The rural parishes of St. John, St. Joseph and St. Andrew have experienced a decline in their populations; while the rural northern parish of St. Lucy has witnessed a relative stability in residential settlement. Bridgetown, has experienced a fall in its population from 8,868 in 1970 to 6,436 in 1990.

An examination of the geographical mobility of the Barbadian population would indicate a movement away from the rural and eastern parishes of St. Andrew, St. Joseph and St. John towards the urban and sub-urban areas of Christ Church, St. Philip, St. James, and to a lesser extent, St. Michael (excluding Bridgetown). There has been a decline in the population living in the inner city (i.e. Bridgetown) and the development of 'Greater Bridgetown' as suburban areas have expanded around the city centre.

The decline in agricultural production in the rural areas and the development of the services sector activity in the urban and sub-urban areas partly account for the shift in population. Tourism activity is heavily concentrated along the south (Christ Church, St. Philip) and west coast (St. Michael and St. James) [see Fig. 2.2]. Although general services activities are dispersed through the country, the heaviest concentration tends to be in the urban and sub-urban areas. Within the St. Michael area, there are 5 out of the 9 industrial estates producing a wide range of manufactured goods. The other estates are situated at the Airport (Christ Church), Six Cross Roads (St. Philip), Newton (Christ Church) and St. Lucy.

Central Government also operates primarily in the capital, with sub-offices in selected parishes.

The experience of several countries show a high correlation between population settlement and economic activity. Barbados has a well-developed and dense road system, and is serviced with a fairly good transportation system. Given the small size of the country and the high population density, it is difficult to specify a causal relationship between changes in population settlement and the development of economic activity. The relatively good road and transportation systems allow persons to settle away from their work environment since commuting distances are short. As discussed below, the number of cars registered in Barbados has increased significantly over the years, thus permitting relatively easy commuting from home to work.

## **2.5 LAND USE IN BARBADOS**

Population movements and the development of economic activity have important implications for the use of land in Barbados. Over the period 1966-76, the percentage of land allocated for urban development increased from 21.2 percent to 37.6 percent, while the amount of arable land declined from 57.5 percent to 46.2 percent. Although recent data are unavailable for this classification, it is likely that the percent of land allocated for urban and sub-urban development has increased. Codrington (1978) noted that in 1976, 62.2 percent of total rateable land was used for sugar plantations and tenancies; 26.4 percent for residential with agriculture and commerce, 9.8 percent for residential alone and 1.6 percent for tourism, commerce and industrial activities. Recent data for 1995/96 from the Land Tax Department indicate that 27.3 percent of total rateable land was used for residential purposes, while 63.6 percent was used for agricultural purposes and 9.1 percent for business activity. These data would suggest that the percentage of total land for residential and business activity has increased over the 1965-94 period. There is clear evidence that land previously identified for agricultural purposes has been sub-divided and used to accommodate new residences and businesses (for example in St. George, St. Thomas and St. Michael). Middle income residential areas (parks and heights) have developed in the suburbs with the growth of the professional and middle income classes

The amounts of land used for sugar production also suggests that there has been a reallocation of land use in Barbados. The area of sugar cane reaped declined from 20,200 hectares in 1965 to 7,900 hectares in 1993, coupled with a reduction in average yield (i.e. tonnes of cane per hectare). Data from the Censuses of Agriculture provide further evidence on the changing nature of land use in Barbados. There has been a decline in both the number of agricultural small holdings (less than 10 acres) and agricultural estates (10 acres and over) between 1961 and 1989. In 1961, small holdings numbered 27,626 with a total acreage of 12,546, while in 1989, there were only 16,951 small holdings accounting for 7,880 acres. The number of estates declined from 286 in 1961 to 227 in 1989, with a corresponding decline in acreage from 71,910 acres to 45,395 acres. The data show that the majority of agricultural small holdings were located in St. Michael, Christ Church, St. Philip, St. George

and St. James, while the agricultural estates were found in St. Philip, St. Lucy, St. John and St. George. The largest estates however can be found in Christ Church, St. Thomas and St. Peter. Further evidence on the sub-division and allocation of previous agricultural land for residential purposes can be inferred from the data relating to mortgage and real estate loans extended by financial institutions (commercial banks, mortgage companies and insurance companies, and to a lesser extent credit unions). Residential mortgages from the financial sector increased from \$36.2m in 1973 to \$573.7m in 1993, that is, an average annual growth rate of 31.8 per cent. Although this growth rate also reflect an escalating price effect, the growth in residential households has been high.

In conclusion, the growth in population and its mobility to urban and suburban areas, along with the development of non-agricultural economic activity has resulted in a decline in land use for agricultural purposes and an increase in the use of land for residential and business purposes [see Fig. 2.3]. Land use policy has however restricted residential settlement and business activity to areas which do not affect the water supply of the country and generally to the more marginal agricultural lands..

## **2.6 SOCIO-ECONOMIC IMPACT OF SETTLEMENT CHANGES**

Geographical mobility of the population and development of business activity are usually associated with changes in the provision of social services - health, education, transport, housing, community services. In addition, there is an increase in the demand for energy as the population grows and the per capita income of the country increases. In many cases, the provision of social services falls on the government, so that the increase in the demand for such services put pressure on government finances. In order to meet the increased expenditure, the government has to raise taxes or privatise some of the services. Government current expenditure on social services (education, health, housing, community and social services) increased from \$10.3m in 1964/5 to \$419.7m in 1994/95, that is, an average annual growth rate of 11.8 percent at current prices. Capital expenditure grew from \$1.96m in 1964/5 to \$38.83m in 1994/95; that is, an average annual growth rate of 9.4 percent at current prices. With an average annual inflation rate of 8.2 percent over the 1965-94 period, the real provision of social services increased over the period.

Barbados has a well developed health system. The government has placed a heavy emphasis on primary health care (both personal and sanitation). A system of polyclinics has been established to ease the pressure off the hospital system. Polyclinics are situated in St. Michael (4), Christ Church (1), St. Peter (1), St. George (1) and St. Philip (1) and cater to the health needs of these densely populated parishes [see Table 2.16]. In addition to the eight polyclinics which provide outpatient care, there are a number of hospitals and out-patient clinics. The main hospitals are situated in St. Michael (Queen Elizabeth Hospital, the Psychiatric Hospital and the Geriatric Hospital). The evidence on the distribution of hospital beds indicate a decline over the period 1966 to 1991. In 1986, there were 2,630 public and 176 private hospital beds, while in 1991 there were 1,973 public and 33 private hospital beds. This decline may partly reflect the emphasis on preventative health care via the polyclinic and

outpatient clinic system rather than curative health care via the hospital system. While all eleven parishes are serviced by a health facility, health care facilities are concentrated in St. Michael.

The human capital formation of Barbados has been enhanced by the development of the country's educational system. Government total expenditure on education increased from \$6.9m in 1964/65 to \$250.0m in 1994/95, that is, an average annual growth rate of 11.4 percent. With an average annual rate of inflation of 8.2 percent, there was a real growth of education expenditure of 3.2 percent per annum. Education expenditure now accounts for approximately 19 percent of total government expenditure. While the number of primary schools has declined from 119 in 1975 to 91 in 1994, the number of secondary schools has increased from 10 in 1975 to 22 in 1994. These changes have resulted from an amalgamation of primary schools and an expansion and reorganisation of the secondary school system.

As the population data indicate, there has been a decline in the school-age population (5-18 years) over the period 1970-95. This decline is reflected in the enrolment figures for both primary and secondary school students. In 1975, primary school enrolment was 35,710 students, while in 1994 the level was 27,179 students. In the case of the secondary school population, there was a marginal increase from 19,042 students in 1975 to 21,176 in 1994. The number of teachers in the primary school system increased from 1,390 in 1975 to 1,490 in 1993 resulting in a decline in the student-teacher ratio from 26 in 1975 to 18 in 1993. Similarly, the number of teachers in the secondary school system grew significantly from 307 in 1975 to 1,243 in 1994, especially after the reorganisation of the system in 1979/80. The student-teacher ratio declined from 62 in 1975 to 47 in 1994. As is the case of the health care system, the majority of the country's schools are located in the urban and sub-urban areas of St. Michael.

The provision of social and community services have been planned to correlate with the geographical concentration of the population. With the exception of community centres, there has been little or no expansion in the number of community facilities (post offices, libraries, cemeteries, fire and police stations). The number of community centres increased from 15 in 1982 to 28 in 1995 and reflect the need for community development as the geographical distribution of the population changes. The data indicate a concentration of community facilities in the urban and sub-urban areas of St. Michael, Christ Church, and to a lesser extent, St. James. The distribution of sporting/recreational facilities under the control of the governments's National Sports Council also shows a heavy concentration in the St. Michael and Christ Church areas. Over 50 percent of the sporting facilities are located in these two heavily populated urban and sub-urban parishes.

Barbados has a very dense road network of over 1500km which provides ready access to all parts of the island. A series of highways cross the island in both east-west and north-south directions. The highway system ultimately leads into the capital of Bridgetown reflecting its traditional dominance as a business centre. The highway system also connects up the other minor towns to the capital, that is, Speightstown and Holetown via Highway 1

and Oistins town via Highway 7. The air and sea ports are linked via Highway 7 and the Spring Garden-ABC Highway system. There are approximately 1475km of paved secondary roads which are linked to the main roads and these provide easy access to any point of the island. The Government has spent a significant amount of funds on road and transportation development. In 1964/65, total (current and capital) expenditure on roads and transport was \$6.1m, while in 1994/95 it was \$80.8m. Over the study period, the Government has undertaken major highway projects (the Spring Garden Road, the East Coast Road Extension, the Speightstown Bypass, the St. Barnabas highway and the ABC Highway).

The road network has been under increasing pressure due to the increase in vehicular traffic generated from both economic activity and privately owned cars. The number of privately owned cars has increased from 10,973 in 1966 to 43,077 in 1993, that is, an average annual growth rate of 4.2 percent. Buses, coaches, taxis and other commercial motor vehicles increased in number from 7,347 in 1984 to 9,110 in 1993. The increase in the number of privately owned motor cars reflects a number of factors: the increase in per capita income, the movement of the population to new residential districts in St. Philip, St. George and St. James; the poor quality of public transport to certain residential areas and the social status associated with owning a motor car. The growth in vehicular traffic has however resulted in congestion on the roads leading into and out of Bridgetown during peak morning and afternoon hours. Although the construction of new highways has eased the level of congestion, the problem still remains. In addition to traffic congestion, the increase in the use of motor vehicles raises the degree of environmental (air) pollution especially in the urban and suburban areas. Exhaust fumes increase the level of air pollution, especially since the gasoline used in Barbados has been largely leaded. In recent years, attempts have been made to encourage drivers to use unleaded gasoline thereby reducing the environmental impact of car exhaust fumes.

The growth of economic activity and household formation dispersed geographically about the country result in an increase in the demand for energy. Total consumption of energy in terms of tonnes of coal equivalent (t.c.e.) grew from 263,314 tonnes in 1965 to 457,831 tonnes in 1990. Energy consumption declined however to 370,969 tonnes in 1993 with the onset of a decline in economic activity. While the percentage of energy consumption for non-commercial use rose from 50.8 percent in 1965 to 87.6 percent in 1993, the percentage for commercial use declined from 49.2 percent in 1965 to 12.4 percent in 1993. The rise in energy consumption has been accompanied by the increase in the use of water, natural gas, electricity and oil. Since the increase in demand for energy places a heavy demand on the foreign reserves of the country, Barbados has successfully exploited the use of solar energy, especially for heating purposes. The number of solar water heaters installed in Barbadian homes and business increased from 12 units in 1974 (with a total capacity of 660 gallons) to 2,857 units in 1989 (with a total capacity of 177,392 gallons). There has however been a decline in the number of units installed since 1989. Government granted income tax concessions for individuals purchasing solar water heaters and this has resulted in a significant growth in the use of such heaters especially in new residential areas.

The development of economic activity and changes in the geographical settlement pattern have resulted in an increase in the demand for social services and energy. The Government has been the main provider of social and community services. Many of these services are situated in lower income housing areas which have been the main areas of unemployment. Although social and community services can be found in all eleven parishes, they are concentrated in the heavily populated urban and sub-urban areas (e.g. education, health, community development). Energy use has increased significantly over the years with a growth in the demand for solar water heating systems. Although the road network is dense and government has sought to expand the road system, traffic congestion is a problem primarily during early morning and late afternoon hours into and out of Bridgetown.

## **2.7 ENVIRONMENTAL ASPECTS OF THE SETTLEMENT SITUATION**

The growth and development of settlements (cities, towns and villages) can have an adverse effect on the ecological environment in a small island country. There is a heavy concentration of residential and business settlement along the south and west coasts of Barbados, that is, along the coastal areas of St. James, St. Michael, Christ Church and St. Philip. This concentration has implications for the proper disposal of waste water, the disposal of solid waste, coastal/beach erosion, air and water pollution and the drainage system.

The Barbadian population enjoys universal access to safe drinking water. The total number of consumers (metered and unmetered) who obtain water from the Barbados Water Authority increased from 59,384 in 1977 to 94,618 in 1994. At present approximately 94% of all households have access to safe drinking water. The potable water system consists of (i) twenty pumping stations and two 2-spring sources supplying 145,000 m<sup>3</sup>/day of potable water, (ii) 10 re-pumping stations with transfer capacity of approximately 33,000 m<sup>3</sup>/day; (iii) 2400 km of transmission and distribution mains and (iv) 27 reservoirs of total storage capacity of 136,000 m<sup>3</sup>. Although the quality of water is high and the supply of water is reliable, Barbados has been classified as a water scarce country. Depending on the average annual rainfall, the supply of water varies from 34.37 to 54.79 million gallons per day (m.g.d.), that is, an average of 44 m.g.d. Estimates of daily water demand stand at 40 m.g.d. [see Smith 1994]. With the growth in demand for water, pressure will be placed on the supply of water. The gap between the demand for and supply of water requires careful water management and conservation.

The ground water supply has been protected from contamination through the identification of water zones within which land development and waste disposal has been regulated. Within Zone 1, no new development is allowed; in Zone 2, sewerage disposal is regulated; in Zones 3 and 4 waste disposal restrictions are enforced, while in Zone 5 there are no constraints. Zone 1 covers about 8 percent of the island.

Barbados has sought to meet its liquid waste disposal problem by constructing a sewerage (wastewater) treatment plant for the Bridgetown environs. At present, the



Bridgetown plant is the only operational one on the island, but plans have been implemented to construct sewerage systems to cater to south and west coasts settlements. Apart from handling waste water within the sewered area the plant was built to process 5000 gallons of septage per day but due to the pressing demands of residents and businesses, the plant handled an average of 24,300 gallons of septage per day during 1994. Outside of the Bridgetown area, sewage is disposed via suckwells, privy pits, septic tanks and package treatment plants mainly by hotels [Barbados Physical Development Plan 1986]. Sewage wells can threaten the safety of the groundwater and hence their location is strictly controlled.

The increasing affluence of the Barbadian population and the growth of business activity have resulted in a significant increase in solid waste. The Sanitation Service Authority is the government agency responsible for the collection and disposal of refuse; street cleaning; the operation of public baths and conveniences and the administration of five public cemeteries. Refuse collection is based on four geographical districts: Southern area (St. John, St. Philip, St. George and Christ Church); the St. Michael East area (eastern areas of St. Michael and Christ Church); the St. Michael West area (the remainder of St. Michael) and the northern area (St. James, St. Peter, St. Lucy, St. Thomas, St. Andrew and St. Joseph). The current refuse disposal system consists of a Pulverization Plant and the Mangrove landfill. Incinerators exist at the Queen Elizabeth Hospital and the Bridgetown sea port. Plans are being made to construct a second landfill, which has been the main method of waste disposal.

Little data exist on the generation of solid waste in Barbados. A survey undertaken by the Sanitation Service Authority in 1983 within selected areas of St. Michael, St. James, Christ Church and St. George showed that the average amount of refuse collected was 297kg per day [see Griffith, 1993]. The figures on an area basis ranged from 85 kg per day to 513.2 kg per day. A gate survey at the Mangrove Pond landfill was undertaken in 1993. Based on the data collected, total municipal solid waste (MSW) disposed was approximately 265 tonnes per day. Griffith and Worrell (1995) adjusted the data to take into consideration bulky waste and arrived at an estimate of 400 tonnes of refuse disposed per day. A recent (1996) survey of refuse received at the Mangrove Pond landfill indicate that it has been receiving 485.2 tonnes per day. Although these figures on waste disposal are subject to error, they suggest that there has been an increase in the generation of solid waste in Barbados. This growth has implications for land use and solid waste management.

Tourism development along the south and west coasts has contributed to marine pollution through bacteriological contamination from raw sewage, nutrient enrichment of coastal waters, resulting in destruction of shallow water corals and in beach depletion along parts of the west coast. Archer (1985) noted that chlorine-charged effluents were discharged into Carlisle Bay which could have adversely affected the marine environment on the south and west coasts. Since the mid-1980s attempts have been made to redress this problem and there has been significant recovery and rehabilitation of the coastal and marine environment on the southern and western sides of the island. There is however a need for an integrated waste management system especially in light of the heavy commercial and residential

concentration along the south and west coasts. The development of tourism and its ancillary services along the south and west coasts has also led to a reduction in the residential coastal population by 36 percent. In addition, green spaces and open areas along these coasts have been lost.

## **2.8 CONCLUSION**

A review of the settlement situation over the period 1965 to 1995 indicate a concentration of settlements along the south and west coasts of Barbados. While there has been a decline in the inner city (Bridgetown) population, there has been a growth in the suburbs, giving rise to the Greater Bridgetown area. Both residential and commercial activities have expanded in the parishes of St. James, St. Michael, Christ Church and St. Philip. The evidence suggest a decline in land use for agricultural purposes and an increase in land use for residential and commercial/industrial purposes. With the emphasis on services-sector development, tourism-related activities have placed a heavy demand on land use especially on the west and south coasts. Social and community services have been expanded to meet the changing pattern of residential settlement. The road system has been expanded to meet the increase in traffic especially into and out of Bridgetown. The dense road system along with the well development telecommunication system provide easy links between the main city (Bridgetown) and the other towns and villages. The growth of residential and business activity has however placed a strain on the ecological environment.

Although the waste disposal system has been withstanding the pressure of demand, there is an urgent need to expand the liquid and solid waste disposal systems in order to reduce any adverse effects which settlement development can have on the ecological environment.

### **3.0 Current Conditions - Shelter and Settlements Conditions**

#### **3.1 INTRODUCTION**

Cities, towns, villages and rural areas play a vital role in the national development of a country. In small island countries settlement development must however proceed within the context of the limited land space available in small island countries. In the case of a densely populated country such as Barbados, a policy framework must be established to permit the optimal allocation of scarce land and other natural resources among competing uses. Land use policy formulation must take into consideration such factors as the availability of water, the ecological impact of the built environment, food security, the macroeconomic policy framework and the fulfilment of basic social needs (food, shelter, health, education, etc.).

Plantation agriculture has historically determined the pattern of land use in Barbados. Small villages or tenancies were developed on the outskirts of sugar cane plantations and provided these plantations with wage labour. Over the years, agricultural (plantation) land has been sub-divided for both residential and business activities [see Marshall, 1988; Nurse, 1983]. In recent years, the expansion of manufacturing and tourism-related activities has added to the demand for land for industrial estates, hotels, apartments, golf courses and recreational activities.

Settlement development in Barbados has been governed by enabling legislation covering land use planning and development. The primary piece of legislation regulating the use of land is the Town and Country Planning Act. This is supported by the Town and Country Planning Order 1972. This legislative framework forms the basis for policy guidelines, physical development plans and development planning standards to be prepared and implemented.

#### **3.2 LEGISLATIVE FRAMEWORK: AN OVERVIEW**

Barbados has an elaborate legislative framework governing the development of settlements. The main piece of legislation is the **Town and Country Planning Act** which makes 'provision for the orderly and progressive development of land in both urban and rural areas and to preserve and improve the amenities thereof, for the grant of permission to develop land and for other powers of control over the use of land, to confer additional powers in respect of the acquisition and development of land for planning and for purposes connected with the matters aforesaid'. The Act provides for:

- (I) the establishment of a Town and Country Planning Advisory Committee to advise the Minister responsible for land use matters.
- (ii) the preparation of physical development plans for the country by the Chief Town Planner.

- (iii) the Chief Town Planner to grant planning permission for any land development except where the Minister has designated any area as a 'development area.'
- (iv) the proper planning of a development area and the associated amenities. The Chief Town Planner can direct the discontinuation of the use of land for a specific purpose or the alteration of buildings or works.
- (v) the issuance of tree and building preservation orders in the interest of amenity and architectural or historical necessity.
- (vi) the restoration of a building to its former state if any work has been undertaken in contravention of a preservation order.

The preparation of development plans once every five years is a key aspect of the Act and provides policy directives governing land use and settlement development in Barbados. The Plan:-

- (I) defines the sites of proposed roads, parks, airfields, nature reserves etc.
- (ii) allocates areas of land for use for agricultural, residential, industrial, commercial or other purposes.
- (iii) designates land subject to compulsory acquisition by the Crown.
- (iv) sets out the general land use policy direction of the Government.

Since 1968, the Government of Barbados has produced two country-wide physical development plans and a special area development Plan. These plans include:

- (I) Physical Development Plan for Barbados which was published in 1970 and covered the period up to 1985.
- (ii) Physical Development Plan for Barbados (Amended 1983) which was subject to public scrutiny in 1986 and adopted by both Houses of Parliament in 1992.
- (iii) The Greater Bridgetown Physical Development Plan 1987.

Both physical development plans noted the decline in rural and inner city areas and the growth of the suburbs and outer city areas. There was "a concentration of urban physical development in the suburban periphery of Greater Bridgetown, in St. Michael, St. James, Christ Church and as far as St. Philip" by 1986 [Physical Development Plan Amended 1986, p. iv]. The strategy adopted in the 1986 Plan was to 'rationalize the emerging linear urban corridor within which various urban areas are integrated into one metropolitan zone', with outer centres in Speightstown, Oistins, Holetown and in St. Philip. The 1986 Amended Plan

called for a limit on urban development and the formulation of an integrated rural development programme (e.g. the development of agro-industries). A policy of preservation of all arable lands for agricultural production was reinstated in 1986. The Government initiated a policy whereby 45,000 acres of land have been reserved for agricultural purposes. Industrial (manufacturing) activity was encouraged along the northern and southern sections of the urban corridor. Tourism infrastructural development was encouraged along the existing tourism zone (south and west coasts). Given the high concentration of the population in the Greater Bridgetown area, a physical development Plan was prepared in order to control urban sprawl and initiate inner city urban renewal. Transportation policies were designed to ease the traffic congestion problem in Bridgetown. The Spring Garden Highway and the Adams-Barrow-Cummins (ABC) Highway which connect the sea and air ports were designed to ease the traffic flow.

The ABC Highway was constructed in order to:

divert traffic from the existing highway system (especially Highways 1 and 7 which run along the west and south coasts from Speightstown in St. Peter to the Crane in St. Philip).

- i. create a by-pass route on the edge of the existing built-up area.
- ii. create a specialised route for heavy vehicles.
- iii. create an efficient linkage for existing and proposed industrial areas and to connect these areas to the air and sea ports.
- iv. improve the flow of goods, services and people around the island (especially the urban areas).

(See Town and Country Development Planning Office (1990): **Adams-Barrow Cummins Highway Land Use Study**)

Land use along the highway corridor has been controlled in order to "preserve the integrity of the road as a major artery", protect agricultural lands bordering the road and ensure the protection of the country's water resources. Land use development has been rationalised within the context of the National Physical Development and Greater Bridgetown Area Physical Development Plans. Provisions have been made for land to be used for large and small scale commercial activities, industrial development, residential settlement and recreational activity at selected sites along the highway corridor.

Water conservation and protection policies were also specified. Zone 1 water areas were identified and no new developments were permitted in these areas. Environmental aspects of settlement development were also emphasized. The construction of the ABC Highway avoided the environmentally sensitive areas such as a gully (dry valley) near

Warrens, the water catchment area around the Belle and Codrington pumping stations and the Graeme Hall Swamp [Griffith and Foster, 1993]. The Scotland District area on the east coast of the island was proposed as a National Park. ( Protected Landscape Category V of the IUCN Designation.)

The Greater Bridgetown Physical Development Plan outlines policies for housing development (tenancies redevelopment and upgrading, house relocation, low and middle income housing development); transport development (parking management, sidewalk and footpath construction, road network development); environmental management (coastal erosion, water and air pollution); social services provision (schools, community centres, drainage, sewerage disposal etc.) and land use development and planning. The Plan also specifies economic growth components through employment centres and a measure of decentralisation, urban renewal, change in land use patterns and conservation of the built heritage.

Settlement development along the coastline is regulated in a number of ways which are aimed at managing the incidence and intensity of development. A significant policy instrument utilised for development control is the coastal building line or setback regulations. The Town and Country Planning Development Order, 1972, provides for a building line of 100 feet from the High Water Mark in respect of "permitted development". In all other cases, the Chief Town Planner or the Minister will prescribe approximate standards after consultation with the CZMU.

In addition, recent amendments to the legislation have removed the "permitted development" rights of persons to enclose beach front property without formal permission and have also for the first time, established limits on enclosures, fences and/or walls on coastal cliffs. No means of enclosure can be erected closer than 10 feet from the stable edge of a coastal cliff.

The main objectives of these measures are to ensure that land use development do along the coastal strip do not disrupt coastal processes and to ensure public access to coastal beaches and cliffs. the problem with the enforcement of these provision is the definition of the HWM. In many cases the provisions are breached (see Atherley and Nurse, 1991). Given gradual reduction of open green spaces along the coastline there is also a need to use the coastal setback policies in order to preserve the west and south coasts resources.

The **Trees Preservation Act** expands the tree preservation provisions in the Town and Country Planning Act. Planning permission is required before a tree can be 'killed'. In order to preserve or enhance the amenity of unused land near a public road, the Chief Town Planner may require the owner to plant or replant trees. The owner may also be required to clear his/her land of weeds or overgrown grass. The provisions of the Act therefore seek to enhance the greenery associated with built-up settlements. The **Cultivation of Trees Act** also seeks to enhance green areas and promote tree planting.

The **Public Works Act** provides for the alteration, improvement and repair of existing public works. It also incorporates provisions for the proper construction and maintenance of government buildings.

The **Highways Act** makes provision for the construction, maintenance and repair of all 'highways' (public roads, streets, lanes, alleys, bridges, watercourses, embankments, drains, gutters and sewers).

The **Prevention of Floods Act** is concerned with the 'execution of works necessary to prevent and control flooding and inundations caused by excessive rain and by high tides'. 'Flood works' include such measures as removal of structures, trees or crops, and the construction, alteration or removal of physical structures.

The **Land Acquisition Act** permits the compulsory acquisitions of land by the Crown for a public purpose (road extension, building construction, housing re-settlement).

The **Soil Conservation (Scotland District) Act** establishes the Scotland District Soil Conservation Board which advises the Minister of Agriculture on the use of lands in the conservation area, Scotland District, in order to conserve the soil and prevent or reduce soil erosion. The Scotland District is a hilly area in the north east of the island where the coral cap has been lost, thus exposing the underlying oceanic deposits of sand, clay and oceanics. The slopes are often affected by shifts and slides especially during a heavy rainfall. Attempts have been made over the years to prevent soil erosion and conserve the top soil. The Act provides for the strict control of settlement and agricultural activity in the Scotland District.

The **Beach Protection Act** prohibits sand mining and, along with the coastline setback policy seeks to protect the beach areas from human settlement activity.

The **National Conservation Commission (NCC) Act** gives the Commission the general responsibility for conserving the natural beauty, topographic features, historical buildings, sites and monuments of Barbados. The Commission has responsibility for beaches, public parks and gardens under public control.

The **Quarries Act** controls the operations of quarries in the country.

The **Barbados Agricultural Development Corporation Act** (now incorporated into the Barbados Agricultural Development and Marketing Corporation Act) requires the Corporation to stimulate, facilitate and undertake the development of plantations and other agricultural lands on a commercial basis.

In the area of waste management associated with human settlements, three pieces of legislation have been identified - Health Services Act, the Sanitation Service Authority Act and the Water Protection Act.

The **Health Services Act** provides for the general promotion and preservation of health in the country. The Minister of Health is authorised to construct and maintain sewers, sewerage and disposal works. The Health Services regulations also provide for the Environmental Engineering Unit to control health standards in various situations including the construction of a new building.

The **Sanitation Service Authority Act** establishes the Sanitation Service Authority which is responsible for the removal of refuse from any premise, the cleaning of streets and the maintenance of sanitary conditions within the country.

The **Water Protection Policy** has been designed to control the location of sewage wells in order to protect the ground water supply.

Several agencies are involved in the administration of the legislative framework governing human settlement in Barbados. The Town and Country Planning Department, the Ministry of Public Works, Transport and Housing, the Barbados Water Authority, the Ministry of Agriculture and Rural Development, the Coastal Management Unit, the Ministry of Health and the Sanitation Service Authority. The Government has sought to link "the system of settlement and land use planning in a very fundamental way with national economic and social development strategies through the agency of [the] Planning and Priority Committee", the second most important decision-making body in the island.

The **Tenancies Freehold Purchase Act** (1980) allows long standing tenants on plantation and non-plantation tenancies to purchase their lots from landlords, while the **Tenancies Development Act** (1980) provides for the improvement in the physical facilities (roads, drainage, water supply, sewage disposal, electricity supply etc.) within the tenancies. The Government has established facilities to assist with the purchase of their lots, thus ensuring the smooth transfer of property rights. It has also provided funds to assist with the general development of tenantry roads.

### **3.3 OTHER POLICY MEASURES**

Policies which affect settlement development have been formulated and implemented outside the standard legislative framework. For example, in the 1995 Budgetary Proposals, the Government announced the creation of four special development zones: Speightstown (St. Peter), Carlisle Bay (Bridgetown), St. Lawrence (Christ Church) and the Scotland District (St. Andrew) [Fig. 3.3]. These zones will receive special tax concessions.

### **3.4 PHYSICAL DEVELOPMENT PLANNING:**

Prior to the 1970s, there was no overall settlement policy in Barbados so that land development and settlement was relatively uncontrolled. There was a steady movement of the population from the rural areas to the urban areas especially Bridgetown. The movement of people to the urban area created "a ribbon development along the main highways and the



sporadic sprawl of the city into the surrounding country-side without provision for public or several services on an adequate scale" (Town and Country Development Planning Office (TCDPO), 1970, p. vii). The urban area was highly congested and disorganized.

Formal Physical Development Planning in Barbados began with the preparation of the first **Physical Development Plan for Barbados** in 1970 (TCDPO, 1970). The plan sought to link physical development planning to an increase in national income, improved environmental standards of living and work, better communication systems and coordination of land development. The Plan became operational in 1976 and covered the period up to 1985. In order to ease the attraction to Bridgetown, the planners advocated a 'positive policy of decentralisation' of population, social services, economic activities and employment facilities away from Bridgetown. A planned hierarchy of settlements was suggested as a strategy for rationalizing the distribution of the population. The hierarchy consisted of:

- (i) **village centres** which would be approximately 2.4 km apart and serving a population of 1000-3000. A range of services would be provided in these 58 planned centres; primary school, local shops, church, community centre, playing field.
- (ii) **district centres** which would be approximately 8 to 10 km apart and serving a population of 14, 000 to 33, 000. These seven centres would have a secondary school, banks, main shops, post office, police station, etc. (Belleplaine, Holetown, Welchman Hall, Nessfield, Six Cross Roads and St. George).
- (iii) **regional centres** were proposed for the north and south of the island serving between 65,000 and 103,000 persons. Speightstown in the north and Oistins in the south were identified as these regional centres. These centres would be provided with a district hospital, library, cinema, tourist facilities, major commercial functions, etc.
- (iv) **metropolitan Bridgetown** would be the main administrative commercial, cultural and recreational centre:

As Potter and Hunte (1979) note, the Plan advocated "the adoption of a growth centre policy set within a central-place type hierarchical settlement framework" (p. 360). The plan also indicated that the Scotland District was badly eroded and new a policy of soil conservation needed. There was however potential for economic development in the area especially intensive agriculture, secondary manufacturing and extractive industries (i.e sand, clay and quarrying). Given the competing demand for land in such a small country, the plan recommended that all arable land must be kept in agriculture ( 70, 000 acres plus 12, 000 acres of marginal arable and grassland) It also pointed out that with tourism becoming an important economic activity, land provision should be made for tourism development not only

along the South and West coasts but also in areas with "ragged coast lines and great old plantation houses and yards" not yet exploited. The Plan envisaged that this new hierarchical settlement structure would be completed by the late 1980s.

In their assessment of the first Physical Development Plan, Potter and Hunte (1979) and Potter (1986) noted that it was somewhat 'utopian' and the time-scale was 'over optimistic'. Potter (1986) indicated that "although it seems both desirable and feasible to channel future urban development into a relatively restricted number of selected sites, in reality, a less ambitious initial programme of decentralisation into an inner and outer ring of settlements should be followed." Reporting on progress with the policy of decentralisation, Potter and Hunte (1979) noted that successive government have been committed to a policy of planned decentralisation although progress was slow due to financial constraints. Some redeveloped had occurred in Oistins, Holetown and Speightstown and selected government offices were being located outside of Bridgetown.

The **Second Barbados Physical Development Plan (Amended 1986)** was first published in 1983 and subject to a public enquiry in 1986. The final version was published in 1988. This second plan acknowledged the inadequacies of the initial plan and noted that "the target settlement structure defined in the first plan did not materialize in all of its aspects as envisaged. The articulated hierarchy of settlements did not polarise as was planned and instead there was a concentration of urban physical development in the suburban periphery of Greater Bridgetown, in St. Michael, St. James, Christ Church and as far as St. Philip". The planned hierarchy of settlements framework therefore had to be abandoned. The Second Plan sought to modify the developing settlement trend by seeking to "rationalise the emerging linear urban corridor within which various urban areas are integrated into one metropolitan zone" (p. iv). It was also recognized that there was a need for "a balanced hierarchy of urban and suburban centres within the corridor as well as optimum locations for manufacturing, tourism, housing, recreational, etc. developments". In the amended structure Central Bridgetown would be a national centre, Speightstown and Oistins would be a regional centres with Holetown being a tourism-oriented local urban centre. Warrens, Wildey and Worthing would become suburban centres. The overall settlement policy was to have a clear urban-rural demarcation with a boundary and different policies for urban and rural development. The boundary for urban growth would stretch from Checker Hall (St. Peter) in the north along the west, south and south-east coasts to Ragged Point (St. Philip). Urban-based development would be focussed in three 'axes of growth', namely, Speightstown - Checker Hall in St. Peter; Oistins in Christ Church and Warrens - Cave Hill in St. Michael. Such urban development would be in keeping with the spirit of decentralisation embodied in the first development plan. The Plan provides for the development of selected rural villages which would complement urban development.

The road system has also been developed to complement the amended approach to physical development planning. The ABC Highway which links the air and sea-ports runs along the boundary of the urban-rural divide; while the new 2A Highway runs inland and

parallel to coastal highway 1 from Mile and a Quarter in St. Peter to the ABC Highway at Warrens. As indicated earlier, the **Greater Bridgetown Development Plan (1987)** provides for the development of the capital and its environs. The current government unveiled plans for these renewal/rehabilitation of Bridgetown which is expected to undergo significant improvement in the quality of the environment through the creation of green spaces, pedestrianisation of part of the core area and generally "greening" in order to create a more pedestrian/shopper friendly environment. General upgrading of central Bridgetown is proposed to be gradually undertaken in terms of functional, aesthetic and environmental improvements with the objective of providing a pleasing and convenient town centre.

At the heart of the urban renewal process in the commercial sector will be the rehabilitation and redevelopment of the waterfront area - the Carlisle Bay Area - from Needham's Point to the Deep Water Harbour. In this area, the focus will be tourism and other business service activities, adaptive reuse and revitalisation of the old warehouse areas and the waterfront. At the same time, the city will be opened up to the benefits from the economic and aesthetic advantages of the waterfront. This will be achieved through combined government/private sector initiatives and partnerships.

### **3.5 SETTLEMENT POLICY ISSUES:**

The review of the Settlement situation over the 1965-95 period and the description of the frameworks governing physical development in Barbados suggest several settlement policy issues which decision-makers and planners must consider. Settlement policy involves an identification of the general settlement objectives and the measures needed to achieve these objectives.

Both Physical Development Plans (1970, 1986) sought to achieve a balanced approach to physical development. While the 1970 Plan specified a rigid hierarchy of settlements through the country, the 1986 Plan sought to demarcate urban and rural areas so that different policies can be specified for both areas.

Both plans were concerned with traffic congestion in the city (Bridgetown) area, the lack of parking space and inadequate room expansion. Planning authorities have sought to accommodate the needs of residents and businesses within the general guidelines in the 1986 Physical Development Plan.

The first settlement issue facing a small developing island such as Barbados is how to allocate land resources to alternative competing demands. A related issue is the determination of the boundaries of urban expansion in order to avoid urban sprawl. A clear policy on urban development is therefore needed. Although the market mechanism can be used to allocate land for alternative uses, it can lead to undesirable settlement patterns. A combination of direction government interventions and free land market activity would be needed in a small island given the need to protect the environment and to cater to the resident population and tourists.

The general decline of the Bridgetown and Speightstown centres means that policies for urban renewal are needed. In recent years special plans have been developed to renew and restore business activity in these towns. Some attention is also being paid to Oistins town. The development of these towns is vital to the achievement of a balanced settlement development in Barbados.

Historically, Barbados has relied on agricultural land for employment, income and foreign exchange. With the rise of the services sector (especially tourism) there has been less reliance on agriculture. In the interest of food security and environmental protection the need to keep economic activity as diversified as possible, there is a need to allocate a fixed portion of the land resources for agricultural purposes. The 1991 Agricultural Census established that there were 51891 acres (21000 hectares) of land which potentially could be used for agricultural purposes.

Recent pronouncements indicate an allocation of 45 000 acres should be reserved to meet the agricultural needs of the country in fulfilling the requirements of the sugar industry as well as non-sugar agricultural production. If this is the case it would mean that a reserve of 6891 acres. In the circumstances policy measures should be adopted which would preclude the indiscriminate alienation of this reserve land to non-agricultural uses.

Measures are already in place to protect the water resources from unwarranted settlement developments. There is a need to ensure that these measures are strictly enforced. The main water resource concern is the potential for demand to exceed supply as the resident and visiting (tourist) population increases. Policy measures to deal with demand supply and conservation of water resources is therefore essential.

Settlement policy must also be related to solid and liquid waste management. Settlement patterns must be developed in such a way that adequate systems for the disposal of solid and liquid waste are in place. The need to 'carefully control and plan' urban development waste management in north-south to dispose of waste is particularly important.

There is also a need to encourage greater local participation in settlement decision making given the absence of local government. Citizens must be made aware of the problems associated with settlement development in a small island and must be given a chance to contribute to settlement policy making.

### **3.6 CONCLUSION**

Settlement policy in Barbados is governed by a series of legislative measures, the chief of which is the Town and Country Planning Act. These measures provide for the development of urban and rural areas in accordance with Physical Development Plans. Given the scarcity of land in Barbados, a clear policy framework is needed to ensure the optimal allocation of land among competing uses (residential, recreational, tourism,

commercial, industrial and agricultural). In addition to the legislative measures, the Government has also used tax and expenditure measures to influence settlement development in Barbados.

## **4.0 A REVIEW OF THE HOUSING SITUATION 1970 - 1995**

### **4.1 INTRODUCTION**

In the last two and a half decades, Barbados experienced some transformation in the quantity and quality of its housing stock. This transformation was island-wide and helped to reduce the rural-urban distinction which was particularly visible in the past. Overall improvements in income levels occasioned by human and physical resource development contributed to better living standards and increasing expectations. Government facilitated the process by direct investment in the provision of housing as well as insightful policy initiatives to encourage private sector/individual building of houses. The foundation was therefore laid to improve the provision of housing and to encourage home ownership.

The continuous upgrading of the housing stock both in terms of quantity and quality has been influenced predominantly by the cost and the availability of finance. This section reviews the growth and quality of the housing stock over the period 1970-95. It begins with an assessment of the growth and distribution of housing, pointing to specific trends at the parochial and national levels. Changes in the quality of housing are examined within a set of diagnostic housing variables. Issues of cost and size are also identified. The performance of the public sector housing programmes is stated and the chapter concludes by taking a look at the financial institutions involved in the provision of mortgages.

### **4.2 GROWTH AND DISTRIBUTION OF HOUSING STOCK**

According to the census data for 1970 to 1990, the housing stock grew by 16,572 (28.3%) to reach 75,170 as at 1990. This represents an average annual growth rate of 1.3% or some 736 houses per annum over the period. There was however some slowdown in the growth rate during the second decade 1980 - 1990, but on average 766 houses were still added to the existing stock annually. This figure matches fairly well the average number of water connections for residential building of 846 for the period 1980 - 1990. The data suggest that water connections fell at a rate of 6.8% per annum between 1991 and 1994. In addition to this, the fall in the number of electrical inspections for new residences - from 2,116 in 1991 to 1,422 in 1994 supports the evidence that house building contracted, mirroring the contraction in economic activity.

The increasing supply of houses was accompanied by some changes in the distribution pattern across parishes. As expected, St. Michael accounted for the greatest, though declining, share of the housing stock for each of the three censuses conducted between 1970 and 1990. The absolute level of housing stock in the parish fell from 28,295 in 1980 to 27,712 in 1990, thus joining St. Andrew as the only other parish to record a fall in its housing stock between censuses. In the meantime, the housing stock grew fastest in St. James, Christ Church and St. Philip; with St. James moving - in terms of the total number of dwelling units - from fifth place (6.0%) to third place (8.9%) in 1970 and 1990, respectively. Of the parishes that experienced growth over the entire review period, only St. Peter registered

slower growth in the second decade than in the first. Notwithstanding this trend, St. Peter (3.9%) still accounted for a greater share of Barbados' housing stock in 1990 than St. Andrew (2.0%), St. Joseph (2.7%), St. John (3.5%) and St. Lucy (3.7%).

The proportion of wooden houses to total houses for the entire country declined from 75.3% in 1970 to 39.9% in 1990. While wooden houses still account for the single largest category of houses, the growth of concrete and wood and concrete houses has been nothing short of spectacular over the same period. In 1970, concrete block houses were 10.8% of total houses as opposed to 35.5% in 1990. Similarly, wood and concrete houses moved from a mere 4.4% to 21.3% for 1970 and 1990, respectively. Across parishes, wooden houses as a share of total houses ranged from 61% - 91% in 1970; this range fell significantly to 29% - 58% in 1990. Apart from lower maintenance cost of wall structures, there is evidence to show that a comparable timber house is more expensive to build than a wall house, among the smaller categories of houses. In addition, wall structures are rather more permanent and resistant to storm conditions than wooden structures.

The increasing trend towards the building of wall houses may be explained by some socio-economic factors. There is a desire to avoid the stigma associated with living in a chattel house and so the aspiration is to own a wall house. Beyond this, wood is expensive and susceptible to termites, thus making maintenance cost quite high. In addition, wooden structures are more prone to fire and this makes it relatively more expensive to insure. There are obvious negatives, but there is some attempt to keep alive the indigenous architecture of Barbados by encouraging the up-keep of chattel houses.

#### **4.3 INDICATORS OF QUALITY HOUSING**

The growth in the number of houses was accompanied by better quality housing as evidenced by wall structures (concrete blocks and wood and concrete) replacing wood structures as the preferred choice of home owners. This move toward wall structures was supported by improvements in other diagnostic housing variables such as electrical lighting, gas for cooking and water toilets.

Apart from better material, such indicators as owner occupancy, electrical lighting and gas for cooking point to a definite increase in the overall quality of housing in each succeeding decade. After taking a dip in 1980, the share of owner occupied houses rose to 76.1% in 1990, thus surpassing the figure of 73.0% in 1970. This indicator also shows that owner occupied houses are most prevalent in the rural parishes. Indeed, St Andrew - which may be regarded as having the lowest quality housing stock - has the highest relative share of owner occupied houses among the parishes; followed by St Lucy, St Joseph and St John. Potter (1992), using a more disaggregated approach with 1980 data, found that there is a progressive tendency for levels of house ownership to decline as one travels toward the more affluent west and south coasts of the island. The cheaper cost of land partly explains the ability of the rural people to own a higher proportion of their housing stock than those in the

urban and suburban districts. In addition there may be greater support of the extended family and a desire to cluster as a family which may exist on a smaller scale in the urban areas because of the unavailability and/or cost of land.

Electrical lighting can be found in 92.6% of the total housing stock, representing an almost ten percentage point increase over the figure for 1980. The range varied from a low of 87.5% for St Joseph to a high of 94.8% for St James. While an average of 66.4% of all houses used gas for cooking in 1980, the figure increased significantly to reach 84.5% in 1990. Dramatic growth in the use of gas for cooking is best revealed by the figures for St Lucy which moved from 52.6% to 80.6% over the same period. Almost similar gains were made in St. Andrew, St. George, St. Joseph and St. John.

The separate house as a proportion of total houses declined marginally for Barbados as a whole. The decline was however most evident in the more built-up parishes of St. Michael, Christ Church and St. James. The latter two parishes have witnessed the widespread building of apartment blocks and other tourist related facilities, whereas the building of terraced housing by the government and the construction of apartments by private builders predominantly for locals have influenced the decline in St. Michael.

Notwithstanding the positive developments, 45% of the housing stock is more than 20 years old comprising wooden houses - which account for 40% of the total housing stock in 1990 census. Just over 50% of these are 20 years or more. The ageing housing stock is especially evident in St. Michael - particularly Bridgetown - St. Lucy and St. Joseph. Indeed only three parishes - Christ Church, St. Philip and St. James - can boast of having an ageing housing stock ( 20 years and over) that is less than 40% of total dwellings. Potter (1992), again using a more disaggregated approach with the 1980 census data, found that clusters of districts which display a higher proportion of aged housing occurred in all the rural inland areas especially in St. Andrew, St. Peter, St. Thomas, St. Joseph and the western segment of St. John. According to the 1990 data, there is some reversal of the 1980 trend which suggested that ageing of housing stock was more a rural phenomenon than it was urban.

Not surprisingly, with increasing affluence, a growing population and limited land space, the average size of houses - as measured by the average number of rooms - grew by almost 20%, according to a weighted average estimate which was calculated from the census data for 1970 and 1990. In looking at this phenomenon of efficiency in the use of the housing stock more closely measures of under-occupancy and overcrowding are used as approximate indicators. This separation of indicators is important since it points to different types of policy measures to achieve greater efficiency.

Under occupancy is crudely measured where there are three or more rooms per person while overcrowding is measured in terms of three persons per room, or more. In 1990 approximately 77.9% of the occupied units were being used efficiently. In relation to the 1970 and 1980 positions this represents a reduction, in the level of efficiency from levels of 86%



and 81.74% respectively and suggests that there is an increasingly inefficient trend in the use of the stock.

In 1990 of the 22.1% of the occupied stock which were inefficiently used, some 20% were underoccupied. This represents an increase in the 1980 level when approximately 17% of the occupied housing stock was in this category. At the same time overcrowding was registering declines with levels of 1.5% and 1.4% being observed for 1980 and 1990 respectively .

The increase in the size of dwelling units along with the reduction in the average household size partly explains the above pattern. In this respect, the average dwelling unit contained 4.3 rooms in 1990 compared with 4.24 rooms in 1980. Correspondingly the average household size declined over the same period with figures of 3.23 and 3.63 respectively .

This decline in the efficiency of use of the housing stock may also be explained by reference to the age sex characteristics of household heads. In this respect the highest levels of underoccupancy are observed in the single person category. While no current information on age structure of household heads is readily available information from the 1970 census indicates that approximately 28.4% of heads in underoccupied dwellings were 65 years or over and thus in the category of old age pensioner. A large proportion of these were also female. This pattern is anticipated to have intensified over the 1970 to 1990 period and with the trend towards increasing longevity will most surely be the pattern for the future. The earlier formation of households among the economically active and upwardly mobile 19 to 26 year old will serve to reinforce this trend.

#### **4.4 ISSUES OF COST AND SUPPLY OF HOUSING**

Housing costs, which are monitored on a quarterly basis by the Ministry of Housing and Lands, rose at an approximate rate of 1.5% per annum between March 1988 and March 1995. On average across the six housing types used in the survey - two wooden and four 'wall' structures ranging from 520 square feet to 1,218 square feet - labour costs account for approximately 35% of total costs while materials take-up the remaining 65%. Over the seven year period for which the index was being estimated, labour costs grew faster than the costs of materials for the 'wall' houses, while the converse was true for the timber houses. The overall trend in costs, particularly for timber houses, raises a fundamental issue of land ownership, since cheaper permanent wall structures cannot be built on rented land which is the predominant lot of the low-income earner.

In the post 1990 period, the rate of decline in public sector housing was faster than in the private sector as the government grappled with the financial constraints imposed by the stabilisation programme of the International Monetary Fund. As a result, the public sector no longer enjoyed a 40% share of the new houses added to the stock, a figure which was estimated for the period 1970 - 1990. The falling public sector share of new housing stock

became apparent during the second decade - 1980-1990 - as bold changes to the deductions for mortgage interest and repairs encouraged greater private sector participation. Notwithstanding the efforts of the private sector, the demand for housing outstripped the supply for the entire review period, as evidenced by the excess of applications over allocations at the National Housing Corporation.

The public sector housing programmes - single units, rental units and serviced-sites - all experienced some decline in the post 1990 period, according to the available published data for the period 1982 - 1994. For the six year period ending 1994, only 63 rental units were built, as compared with 131 such units built between 1986 and 1988. Much greater emphasis was placed on the building of single units, but after averaging 191 units between 1986 and 1989, no single units were completed since the third quarter of 1992. Some 144 units are currently in progress. The serviced-sites programme suffered a similar fate of contraction over the last half of the review period.

In spite of the progress made in the quantity and quality of the housing stock, there is still no mandatory compliance with the Building Code and as a consequence building construction standards, particularly among the lower income households are variable. In this segment of the housing market engineers and architects are not generally used to design, supervise and advise on the construction of new buildings nor the repair of old buildings. Among the resultant problems which such households experience is the increased susceptibility to the worst effects of hurricanes and other natural phenomena as a result of generally low pitched roofs; inadequate by prepared foundations especially for timber houses, and overhanging structures. More widespread concerns are evident in relation to the building of houses in areas prone to land slippage and flooding and that are in the direct path of water courses. In addition there are concerns about building in areas exposed to high winds, particularly those houses which have inadequate designs of roofing and foundation. These problems are compounded by the use of non-durable and inexpensive building materials.

#### **4.5 FINANCING HOUSING**

Barbados does not have a long tradition of mortgage financing through formal institutions. Prior to the 1970's there were hardly any sources of institutionalised long-term financing available for housing. Borrowing was done on a short-term basis through informal sources. Most home owners still arrange financing through informal sources and low income families in particular typically acquire a timber house and improve or expand it incrementally. They finance this by borrowing small amounts for two or three years, completing one improvement, repaying the debt and then repeating the process as they can afford it. Even now financing through formal institutions, as it is structured, militates against the lower income earners who form the majority of the population. In 1991, for some 2,116 units completed on the island only 474 mortgages were reported taken.

Private sector financial institutions are, the principal source of housing finance as they provide approximately 80% of all mortgage lending. Government, particularly since the

1960's, has taken positive steps providing the difference through some of its agencies which include the Barbados Mortgage Finance Company Ltd., the National Housing Corporation, the Barbados National Bank and more recently the Housing Credit Fund.

There is normally a reasonable supply of short-term commercial bank financing for home improvements but these loans, unlike mortgage loans, attract the normal commercial rates and interest is calculated using the "add-on" method. By this method interest is paid on the full amount of the loan throughout its term and not on the reduced balance, as a result the real rate of interest is significantly higher than the stated rate. Several low income families are in this way excluded and those who qualify for loans pay more for home improvement and new house construction than their middle income counterparts. Many eventually finance home improvements and even house purchases out of cash savings. Credit Unions offer a reasonable rate for home improvement loans, but in spite of immense growth over the past decade their resources are still limited. Through the General Workers' Fund which is administered by the National Housing Corporation and the Housing Credit Fund of the Housing Division, Government brought some relief to this situation.

Commercial banks are now limited participants in long-term housing finance and in fact have been decreasing their total residential mortgage debt outstanding each year since 1981 when they held approximately 20% of total residential mortgage debt outstanding. They now hold only 6%. On the other hand they have steadily increased lending for home improvements and real estate. New extensions of home improvement and real estate credit increased by approximately 189% from 1981 to 1988 when a record high of \$73.1 million was extended for those purposes.

While commercial banks have been downsizing their allocations to the mortgage sector, trust companies and life insurance companies have been increasing their involvement. Trust companies raise funds to finance their lending activities primarily through deposit gathering and have depended heavily on deposits from the National Insurance Fund. The total residential mortgage debt outstanding for trust companies moved from \$72.2m. in 1981 to \$274.8m. at December 1991. For life insurance companies figures for the corresponding period show a movement from \$55.3m. to \$152.3m.

For the period 1991 to 1994 the annual numbers of new units for which mortgage loans were extended ranged between 351 and 638 with total value ranging between \$29.3m. and \$63.4m. respectively. The amounts, taken as an average, profile a borrower earning approximately \$35,000 per annum and qualifying for a loan of approximately \$99,000.

The Government of Barbados has been very conscious of the plight of low income earners and general housing conditions and has made improving the island's housing stock one of its top priorities. A continuing effort has been mounted to upgrade the island's infrastructure and programmes have been initiated for the construction and purchase of new homes, the purchase of tenantry lots and the upgrading of existing homes. In terms of the share of new construction alone the public sector is responsible for up to 20%.

The Barbados Mortgage Finance Company Ltd. is a specialised mortgage company which is owned by the Barbados Government. Incorporated in 1968 it is now a subsidiary of the Barbados National Bank which is also wholly owned by the Barbados Government. For a time the mortgage company was a leader in the origination of long-term mortgages. It has lost some market share but even so it still holds 17% of all outstanding mortgage balances on the island. Through this company Government has been able to implement new initiatives offering greater assistance to some lower income earners. The company, for example, was able to undertake financing the construction of timber units granting mortgages for up to fifteen years compared with this commercial counterparts whose maximum loan period on chattel is seven years.

The Barbados Mortgage Finance Company is currently a well run, financially sound and profitable institution and currently plans are afoot to expand its operations and at the least attempt to recapture the market share alluded to earlier.

Through the Ministry of Housing, Government has also implemented a loan scheme at the Barbados National Bank for those persons who would wish to purchase the lots on which they live and for which they were paying rent for at least five years. This programme also offers the facility of financing improvements to houses on the lots. The rates offered are attractive and some persons qualify for the concessionary rate of 6% of tenantry house spots is low enough that households have been able to purchase their spots without external financing from financial institutions.

The Housing Credit Fund was established at the beginning of 1983, as an extension of the Housing Planning Unit of the Ministry of Housing and Lands. It was charged with administering a revolving fund to provide a stable source of funds for mortgages, home improvement loans and loans for the purchase of tenantry lots. It was also formed as part of Government's plan to support and stimulate the private sector's involvement in providing low and moderate income solutions. To date the Fund has disbursed Bds. \$71.5 million benefitting approximately 7,000 persons.

The Central Bank of Barbados is charged with the management of the island's financial system and determines the monetary policy. It regulates the prime rate and with regard to mortgages, it can prescribe the maximum mortgage rate. Mortgage agreements in Barbados contain a variable interest rate clause which permits the interest rate at three month's notice. The Central Bank's involvement in setting these rates can force lenders to lower the rates on existing mortgages regardless of the cost of money. Mortgage loans for the construction or acquisition of a house or building are normally secured by a lien on that same property. From May 1, 1976, the Central Bank has from time to time, fixed interest rates on mortgage loans. The rate currently ranges between 9 and 11%.

## 5.0 HOUSING POLICY IN BARBADOS 1970 - 1995

5.1 The history of interventions in the housing market by respective Governments dates back to the late nineteenth century. In this respect two distinct periods are identifiable namely the pre-1936 and the post 1936 period. The first period is not treated exhaustively, but three pieces of legislation - the 1891 Bridgetown, Speightstown and Holetown Act, the 1898 Public Health Act and the 1905 Friendly Societies Act - point to the lack of development of urban tenancies and restrictions on the ownership of land by working-class organisations. In the second period, the beginnings of modern-day housing policy are assessed in four parts: building and health regulations; owner-occupation policies; policies in relation to the rental sector and programmes of housing welfare.

Over this period Government adopted a blend of indirect and direct measures to achieve its purpose. In order to support these measures certain institutional changes were also implemented. These are discussed below.

In the post 1936 period several initiatives emerged in an effort to increase the level of owner-occupied houses in Barbados. In 1947, the Sugar Workers' Housing Loan Fund was established; the concept was extended to the General Workers in 1958 and the Public Officers in 1952. The state encouraged the involvement of the private sector, as early as the mid-1960s, in areas of finance and insurance with the introduction of tax concessions on mortgage interest, house insurance and house repairs. However additional state participation was required and this resulted in the formation of Barbados Mortgage Finance Corporation; and with the introduction of the Central Bank of Barbados some regulatory powers were enforced to facilitate greater activity within the housing sector.

Over the past twenty years Government has instituted a number of fiscal measures which were aimed at promoting home ownership, the maintenance of housing stock, and the production of houses by the private sector while providing assistance to owner occupiers of houses which are listed for their historical and/or architectural significance. Among the measures instituted are the following:

- i) the provision of allowances on income taxes for payments to mortgage interest. This amount varied from a deduction of \$6000 at its inception in 1979 to full deduction in 1986. The deduction was discontinued in 1992 as a result of the harsh economic times which the country was experiencing. In 1995 deductions for mortgage interest were restored under a ceiling of \$3500.
- ii) the provision of a rebate to developers who construct single or condominium units for sale in any fiscal year;
- iii) the implementation of a sliding scale for land tax payments. This measure satisfies the objective of reducing the cost of home ownership.

- iv) the modification of the property transfer tax regime to assist local purchasers in buying houses;
- v) the granting of allowances to homeowners who convert their units from ownership to rental purposes;
- vi) the provision of a tax allowance of 20% of the rents paid during the year up to a maximum of \$ 1800;
- vii) the provision of tax allowances for the maintenance, repair and/or improvement of dwelling units. With special reference to chattel houses this measure makes provision for the installation of water and plumbing in preparation the full conversion of the unit from wood to concrete. The level of allowance increased from 4% of the improved value to full deduction in 1986. However a ceiling of 7.5% was placed on the extent of the allowance while owners of chattel houses were offered a fixed allowance of \$5000. At the same time special measures were instituted for owners of buildings of historic and architectural significance who could claim as much as 25% of the assessed value of the property.
- viii) the adjustment of water rates and the associated costs of the service to beneficiaries in an effort to make the service more cost effective while at the same time assisting households in affording it.

In the area of housing finance the major interventions included:-

- (i) making a loan of some \$ 20 million, from the proceeds of the export levy on sugar, to the Barbados Workers' Union for 20 years for a mortgage financing scheme. This loan carried an interest rate of 4% and was to be on-lent at a rate of not more than 6%. Much of this was used to finance the housing project at Mangrove , St. Philip.
- (ii) allocating \$8.0 million from the proceeds of the export levy to the National Housing Corporation for onlending to beneficiaries for housing construction and repairs. These funds carried an interest rate of 6% and were to be onlent at 8%.
- (iii) making loans available through the Labour Welfare Fund at lower rates for general workers.
- (iv) investing \$3 million through the National Insurance Board in the Barbados Mortgage Finance Company.
- (v) providing \$1 million in further share capital to the company.

- (vi) guaranteeing the full payment of principal and interest on mortgages to owners of chattel houses.
- (vii) establishing a fund of \$10 million for the purpose of sustaining the guarantee. This fund is administered by the Insurance Corporation of Barbados.
- (viii) borrowing \$20 million Bds. on the US market under the Housing Guaranty Programme.

In addition to its interventions through fiscal and financial mechanisms Government over time has been adapting its institutional structure to meet the housing challenge. While these changes have been mainly to facilitate its direct interventions some were also intended to assist in its ability to formulate housing policy and to achieve a systematic approach to planning for housing.

A single Housing Authority was established in 1956 - some six months after the Housing Act was passed in October, 1955 - to take over the duties of the Housing Board, the Labour Welfare (Housing Loans) Organisation, and the Aided Self-Help Housing Committee. In 1958 the Housing (Hurricane Chattel Houses) Vesting Act came into being to provide for the chattel houses built from the Labour Welfare Funds and vested in the Governor-in-Executive Committee, to be vested in the Housing Authority. Further institutional change in housing came in 1965 with the establishment of the Urban Development Corporation. By 1973, the National Housing Corporation was created to replace the Housing Authority and the Urban Development Corporation and was therefore responsible for all property (including all rights) and all liabilities of the two entities.

The Corporation has very wide-ranging responsibilities and over the years, it has developed several programmes to deal with the maintenance of property, its building programme and the sale of property. The maintenance programme is wide ranging and includes the debushing of open areas, cleaning and sinking of wells and the repairs and refurbishment of units.

In response to increasing demand and limited public sector financial resources, and guided by a philosophical approach which sought to encourage greater private sector participation the Corporation initiated joint venture programmes with private contractors particularly in the last 5-10 years continues to have a very vibrant sites and services programme in which Government services the lots while private builders construct houses for sale on them. The building programme also includes the relocation of houses, the rental of houses and house spots and the insurance of rental units. Furthermore, government has been encouraging occupants to purchase the rental units and to date some 133 properties have been sold.

Beyond its sale of property programme, the Corporation administers a General Workers Housing loan which seeks to enable general workers to:

- 1) construct or purchase a chattel/wall house;
- 2) repair, alter or extend a chattel/wall house;
- 3) remove a chattel house from its existing spot to another;
- 4) purchase land.

For the purposes of the Act, a "General Worker" is defined as a person between the ages of eighteen (18) and sixty (60) years, provided that his/her earnings do not exceed \$300.00 per week. The worker is entitled to a minimum loan of three thousand dollars (\$3,000) and a maximum loan of forty thousand dollars (\$40,000). These loans are secured by a mortgage and are protected under a Group Insurance Policy against fire and allied perils. The 9% per annum loan is payable over a maximum period of fifteen (15) years. Since the inception of the loan scheme, some \$55.7 million have been disbursed.

While efforts in the provision of housing in Barbados have been generally successful for the most part - especially in light of the country's limited resources - provision of housing for the elderly, and the disabled are in need of more attention. With the possible exception of the programme conducted under the National Assistance Board no program is geared specifically for this group. According to the definition of elderly used in just under 12% of the population in Barbados may be considered elderly of which almost 30% of these live alone. The latter statistic is not all that surprising as one-person households account for almost 40% of all households in Barbados over the last two decades.

There are mainly two types of programmes to meet the housing needs of the elderly:

- a) the geriatric hospitals, providing custodial nursing care, day care, occupational therapy, recreation, and rehabilitation facilities;
- b) homes for the elderly offering long term domestic, and custodial care, with minor provisions for recreation, rehabilitation and nursing care;
- c) private nursing homes providing residential nursing care with some recreation and rehabilitation services. These are regulated by health legislation and are partly staffed by nursing personnel but are primarily housing solutions.

The second type of programme includes:

- 1) the National Assistance Board housing welfare programmes, providing housing benefits such as repairs to the owner-occupied houses of those deemed in need;



- 2) the National Housing Corporation welfare programme in which rent-free accommodation is offered to tenants age 65 and over, whose only source of household income is the minimum state pension;
- 3) the welfare department housing welfare scheme, part of its social assistance programme offers rental assistance to needy tenants including the elderly who do not fall in the above category;
- 4) purpose-built sheltered accommodation, with warden supervision, is not common in Barbados, but the Soroptomist (International) Senior Citizens' Village offers such. It accommodates independent, elderly persons and offers handyman services and transportation assistance. A \$100 per month nominal fee is charged.

In spite of the successes in meeting some of the challenges over the last three decades, there is consensus that the several major issues still have to be addressed at the policy level. In Barbados, both the quantity and quality of housing stock improved over that period. The significant decline in the proportion of wooden houses - or conversely the rise in the number of wall houses - was the best indicator of the improvement in quality and this was supported by several other housing diagnostic variables. The improvement were particularly evident along the west, south and south-east coasts as non-agricultural activity, especially tourism, emerged as the economic fore-runner. In addition, the rural-urban distinction which was so evident in the past is quickly disappearing; and indeed there was a reduction in the level of housing stock in the Bridgetown and St. Michael areas. These trends were accompanied by a greater number of owner occupied houses which is the one area in which the rural parishes continued to outstrip the more urban parishes. Notwithstanding the positive developments, the ageing housing stock is of concern especially among the existing stock of wooden houses. This concern is reinforced by the increasing replacement cost of housing as well as the cost of repairs which are more relevant to the wooden structures.

The focus of housing in Barbados must be fulfilling the needs of several eligible individuals while creating opportunities for many, particularly those in the middle and lower income groups. Therefore issues of initial costs, maintenance costs and affordable designs still have to be addressed. Upgrading of public sector housing to include recreational facilities and estate management services is still a taxing problem. Ultimately, finance may remain the major obstacle for both the private sector/individual and the government.

It is evident from the list of budgetary measures that government gave considerable thought to many areas of housing over the last two-three decades. The policy concerns range from individual tax deductions to financial provisions for the development of the mortgage market. In addition, bold and far-reaching policies to assist old age pensioners and tenants on plantation tenancies were introduced and amended over time. There nevertheless remains a shortage of housing in Barbados at the time there is a growing inefficiency in the use of the stock.

In relation to the allowance for house repairs, the houses most in need of repairs - that is chattel houses - hardly benefitted from the policy measure. In the pre-1992 period, low-income earners - those who mostly own chattel houses - were for the most part unable to claim enough deductions and allowances to push them over the \$15,000 threshold and so being able to claim for house repairs did not make a difference to persons in this income category.

The introduction of a home allowance of \$3,500 - starting January 1996 - will allow persons with a mortgage of any age to claim the interest up to the stated limit. A claim for repairs is also permitted but the combined claims must not exceed the limit of \$3,500. While such a move will give several thousand persons some definite benefit, it does not address the most pressing need of providing houses for low-income earners. The home allowance will cost the government several millions of dollars per year, while not adequately addressing the housing needs of the more vulnerable groups in the society. Certainly in an environment of limited financial resources, the policy initiative will be a strain on Government's finances.

In conclusion, housing policy still needs to address a number of several critical areas. These include the need for more effective estate management services where they exist and their introduction where they do not exist. Housing policy neglected the adequate provision of recreational facilities and the encouragement of community participation as part of human settlement. No special attention has been paid to environmental conservation and disaster preparedness. As a wider concern, housing partnerships with the private sector ought to have been a major policy thrust for a government with obvious limited finances. In addition there is a need for a policy on abandoned houses. In short, there is a lot of scope for creative housing policy formulation in Barbados.

## **6.0 PRIORITY SHELTER ISSUES**

### **6.1 Land Market Issues**

The major issues in the land market relate to :-

- a) the insecurity of tenure for a mass of households who rent lots in non-tenantry situations.
- b) the availability of serviced land for lower income households to rent or purchase.
- c) the existence of tracts of available serviced, vacant residential land at the same time that there exists land shortage for select income groups.

A fourth, though less serious issue is that of squatting on crown lands, particularly in zone 1 water protection areas.

#### **6.1.1 Insecurity of land tenure - Single lot tenants**

Single lot tenants present a unique case since to date there are no legal provisions to protect them. As a result of this these households are virtually at the mercy of their landlords. It is estimated that there are some 1000 tenants who fall into this category. The adverse situation in which they find themselves is compounded by the fact that over 68% of such tenants have been living on their lots for well in excess of 20 years. This has implications for the quality of life of these tenants and their housing condition. Indeed upgrading of their units into more permanent and durable houses, as well as the improvement of toilet facilities, particularly from the traditional 'pit' to the more satisfactory water borne system is denied these dwellers whose progress is subject whims of the landlord.

Of special interest in this category are land tenants who are also house tenants. From a survey conducted of a sample population of urban tenancies in 1995 it was found that approximately 20% of all tenants interviewed fell into this category. Once again this situation is compounded by poor housing condition. The challenge here is somewhat different since the ability to solve the associated problems of poor housing condition and maintenance rests with landlords, and not tenants. New construction for rent, particularly by the public sector will solve the problems of the tenant but leave unresolved the challenge of ensuring an improved housing stock.

The last group in this category includes those individuals who have lost the right to purchase and yet still remain on the particular plot of land. In many cases this is the result of an unavailability of land to rent. Such households are however exposed to the constant threat of eviction, with the possible destruction and ultimate loss of their dwelling units. A survey

carried out in the Ministry of Housing in 1990 indicates that approximately 1000 households live in such situation with 200 of them qualifying for a lot to purchase from the Crown.

The transfer of tenancies in the rural area has generally been successful but in the urban areas, in spite of the same provisions of the Tenancies Freehold Purchase Act, only 50% of the tenants appear willing to purchase their lots. This apparent unwillingness, or inability, of qualified tenants to purchase their lots presents a challenge to the full realization of the goals of the Act.

Several reasons have been offered for this but the one related to the high price features prominently as the major deterrent. Tenants consider that land prices in the range of \$ 6.00 and \$ 7.00 per square foot are much too high. At the same time however valuations of recent transactions in the urban area suggests that the market price is indeed in the range quoted. In many cases however the market price reflects infrastructural development which was not paid for by the landlord who now wishes to benefit from it financially, albeit in contravention of the law. The challenge which this presents is the use of existing mechanisms, or the designing and implementation of new ones to facilitate the transfers.

### **6.1.2 Squatting**

Squatting on crown lands is fast becoming a characteristic of Barbadian society albeit on a small scale. In recent times the more significant cases of squatting in terms of numbers and location, have been in Parish Land Christ Church, Millionaire Road St. Peter and the Belle St. Michael. In the latter two areas squatting is disturbing because it is illegal and at the same time threatens to pollute the water resource in some cases for several thousands of households and businesses.

The challenge here is indeed twofold but very urgent. On the one hand and in the very short term such households need to be relocated to environmentally safer areas. This would serve to protect the island's water resource. At the same time however such illegal occupation of Crown lands represents a failure of the system to address housing needs on the island, should not be seen as the answer to an individual's housing problem. For the long term therefore Government's challenge is to provide, either directly or with the assistance of the private sector, enough serviced lots to house lower income households.

### **6.1.3 Vacant lands in the Urban area**

Recent survey information indicates that there are some 600 acres within the Greater Bridgetown Area which are vacant and appear to be underutilized. These land may be further categorized into vacant lands accounting for 500 acres; lands on which there are ruined structures accounting for approximately 25 acres and other lands on which there are abandoned structures estimated to be 75 acres. The majority of the vacant lots are located in the Grazettes St. Michael area (117), Brittons, Hill St. Michael (70), and Black Rock St. Michael (107). While this is so however, there are other areas where there are not a majority

of vacant lots in many locations but where acreage is quite significant. This situation poses the challenge of returning these lands to their

#### **6.1.4 Land in urban tenancies**

The urban area of Barbados, also referred to as the Greater Bridgetown Area, includes 200 tenancies representing approximately 1,202.45 acres of land. The majority of these tenancies are located in the parish of St. Michael, and vary widely in terms of the size of the land as well as the number of tenants to be found on the land. A few of the larger tenancies are, Alleyne's Land, Bank Hall; Hall's Village, Hall's Road; Bannister Land, Martindale's Road; Holder's Land, Bush Hall; and Bibby's Gap, Hall's Road.

It has been estimated that there are approximately 5,000 households in the 200 urban tenancies, and that although the majority of housing conditions are indeed poor, some upgrading has taken place. This is most notable with respect to the presence of the basic utilities of water and electricity, along with an apparent significant level of upgrading of toilet facilities to water closets. As a direct result of this, portions of houses have been upgraded to have permanent structures/sections to house the mentioned improvements. There is also evidence to show that the masonry or permanent foundations have increased but there still remain, numerous dwellings with loose rock foundations. Many of which appear to be quite unstable from an overall perspective.

Access to many of these urban tenancies is another issue which is of concern, as the majority them can only be accessed through footpaths or a few unpaved roads. These ways of entry and exit are sometimes rendered impassable after heavy rains and can remain quite muddy for long periods afterwards.

### **6.2. Housing structure and Conditions**

#### **6.2.1 Building design and construction**

Most of the houses in Barbados were built during the last forty years, after Hurricane Janet. During those forty years, a number of new building styles and materials have been utilised. These have generally not been tested by any disaster, apart from Allen, which brushed the North with minimal impact on Barbados. One of the areas in which change is most noticeable is in the design of the roof. The shapes of roofs changed during the mid 50's and mid 80's as overtime the hip-roof built with corrugated asbestos sheets, with no overhangs and small parapets gave way to the shallow pitch roofs with wide overhangs. This has had implications for disaster resistance since in many cases research has shown that roof failure is commonest, particularly in the case of hurricanes. Apart from the design and shape of roofs the types of materials used in building also affects the ability of the stock of dwelling units to withstand the disastrous effects of hurricanes and other natural phenomena.

The structural integrity of dwelling units, their durability and ability to withstand hurricanes and earthquakes require that more attention is paid to the building construction industry. In this respect the major challenges include:-

- i) regulating the industry through the establishment of a mechanism for enforcing the building code.
- ii) increasing the knowledge and awareness of safe building practices among builders, particularly small builders who construct the majority of the island's houses.
- iii) promoting a framework which allows for greater supervision of small builders , and artisans, by persons qualified with relevant building skills.
- iv) institute programmes which encourage the maintenance, upgrading and incremental expansion of dwellings, in conformity with the provisions of the building code.
- v) liaising with building materials suppliers and other relevant building professionals in ensuring that the materials which are made available to Barbadian households are safe, durable and able to respond to the disastrous effects of natural phenomena while being affordable at the same time .
- vi) managing the rate of change and upgrading. In areas where house upgrading is taking place, house owners should always be educated about the process so that they can maintain the process. This will help to minimise government expenditure in the long run. The particular needs of the people should be foremost when embarking on an upgrading housing project.

### **6.1.2 Poor Maintenance of Stock**

Approximately 40% of the housing stock is over 20 years old with a significant proportion of these being constructed of wood. Immediately this has implications for the need for maintenance. At the same time the increasingly aging population, particularly in under occupied units and the rising cost of materials gives indicators to the nature of maintenance in the stock. Indeed there is a significant degree of poorly maintained units which find their concentration in the urban area.

There are several reasons for the level of poor maintenance of housing stock including un-availability of finance; inability to access loan funds as a result of age, employment status and tenure of accommodation. The challenge is to create an environment in which maintenance of stock is facilitated, particularly among lower income households who live in wooden units.

### **6.2.3 Toilet Facilities**

The Government of Barbados is committed to the eradication of the pit toilet as a feature of housing in Barbados. In 1990 the Census information indicates that there were 24 138 pits representing approximately 32% of the houses in the stock. These are seen to have served their purpose and are not now consistent with the development levels, and thrust, of a modern Barbadian society. These facilities are particularly problematic in some low lying areas in the urban area where the water table is high such as in the New Orleans, Emmerton and Murphy's Pasture. Despite this goal, and the health and other problems which this feature poses the presence of the pit toilet is still a reality for a number of reasons including:-

- D) this is the only form of toilet facility which some households can afford;
- ii) the land rental tenure arrangement only allows such house owners to build pits;
- iii) in some areas such as zone 1 water protection areas and the more unstable parts of the Scotland District this is the safest and most practical form of sewerage disposal.

The challenges which the elimination of this feature poses are to increase levels of affordability of, or access to, improved facilities and to facilitate the increase in land ownership within the terms of the Tenancies Freehold Purchase Act, particularly among urban dwellers.

### **6.3. House Insurance**

Expenditure on the construction of new, or the improvement of existing houses is indeed an investment in assets in much the same manner as investments in financial instruments. At the individual household level it is useful in protecting against damage to, or loss of, houses as a result of the disastrous effects of natural or man-made phenomena. At the national level a housing stock which is protected by insurance relieves the public purse from the burden of financing emergency expenditure. In spite of its importance however insurance of house is only popular among those houses which are financed by mortgages. Indeed in some areas of the stock, particularly among the wooden houses which carry a higher risk, insurance is not wide-spread.

The house insurance challenge facing Government has two dimensions. The first relates to the insurance of chattel units and the other relates to the generally spiralling cost of insurance with the consequent effect on the affordability levels of households. In relation to wooden houses peril insurance is available once certain conditions are met, including:-

- 1) the maintenance and repair of the unit.
- 2) the design and location of the house.

- 3) the relationship between houses.
- 4) the value of the house should not be less than \$25 000.
- 5) a minimum premium of \$ 75.00 is paid, and
- 6) the house must have a good foundation.

Many chattel houses are not insured since they are unable to meet all the above conditions. Once these are met the cost of insuring chattel houses is generally affordable with a unit of \$ 40, 000 realizing an annual premium of \$165.00.

The major insurance related problem facing middle income households who finance their housing with mortgages is the spiralling cost of insurance and the impact this has on affordability. This problem became real particularly in the period from 1990 to 1994 when there was a 400% rate increase on hurricane insurance, and with an increase ranging between 50%-100% on peril insurance. While there were decreases in 1995 the rates then were still 250% higher than in 1990. In 1990, the homeowner of a \$200,000 concrete house could pay \$500 yearly coverage, all peril. In 1995, the annual premium on this same house would range between \$1300-\$1600. The challenge which Government faces in this respect is to implement, and to encourage the implementation of, mechanism which protect mortgagors from very steep increases in insurance rates.

## **6.4 HOUSING DELIVERY SYSTEMS**

### **6.4.1 Housing for disadvantaged groups**

Fulfilling the housing needs of disadvantaged groups creates the greatest challenge to Government's goal of providing adequate shelter for all by the year 2000. This approach will be multi-pronged since there are different categories of disadvantaged persons.

#### **A. The poorest of the poor**

Statistics show that some 36,057 persons, or 34% of the labour force, earn less than \$200 weekly which automatically excludes them from acquiring housing in the formal market. Another 27,154 persons earn between \$200 and \$300 weekly, accounting for one quarter of the labour force. In relation to households results of a survey of the urban area where some 40% of the population live indicate a median household income of approximate \$14 000. In the absence of cheaper housing or some form of subsidy to assist select households in acquiring a home, some 55% of Barbadians will be unable to afford a home.

The needs of the poorest of the poor are currently being addressed by the Welfare Department, the National Assistance Board and the National Housing Corporation. The Salvation Army is the major private sector agency assisting in housing the 'poor' and these are



assisted to varying degrees by church and other social groups. The Welfare Department deals with the indigent. In this respect rents in public sector housing units are paid for qualifying persons from funds made available to this Department.

The National Assistance Board builds and repairs houses for the elderly poor and the indigent on a non-cost recoverable basis. At present there are some 556 welfare houses spread across the country while the Board repairs approximately 100 units annually. The capacity to expand this assistance is frustrated by scarcity of land on which to site them and this identifies one of the challenges which Government faces in housing this group.

This National Housing Corporation builds and manages rental units which it allocates to tenants who currently earn less than \$ 2000 per month. The pace of house building frustrates the ability of the Corporation to satisfy a higher level of need. At the same time the Corporation provides only two and three-bedroom two-storey units which are generally not suitable for single-person elderly households.

Apart from the elderly poor the elderly household exhibits patterns which need attention. The elderly population of Barbados continues to grow. A feature of the housing patterns of this group relates to their sole occupation, very often, of large homes (three bedroom or more). This results in under-utilization of space, loneliness, lack of care and other associated problems.

Nursing homes exist islandwide for the elderly, but they generally operate at capacity and cannot satisfy the total demand. The National Assistance Board provides the Black Rock Hostel and the Golden Rock Home for elderly persons who have either been abandoned and are incapable of taking care of themselves or whose houses are in a dilapidated state. The former currently has 14 residents while the latter has 20.

The challenge facing Government is to produce units which are designed to meet the needs of the elderly in environments which allow them to maintain an independent lifestyle without losing community support. Such programmes must be consistent with Government's overall policy on aging.

## **B. The Homeless**

Homelessness in Barbados is not a large scale problem, but the gravity of its nature is such that it is a cause for major concern. It may be related to mental health, drug use, the incidence of house fires, evictions or plain poverty. The latter three examples are normally redressed through the emergency efforts of the foregoing agencies. Mental Health and drug use entail a different type of homelessness those affected are voluntarily homeless, roaming and living on the streets.

The Sir Clyde Gollop shelter which is operated under the aegis of the National Assistance Board provides night shelter for 30 vagrants, but a count in Bridgetown alone has

revealed at least another 20 persons who sleep on the streets. The Salvation Army previously maintained a hostel at Reed Street but Government was forced to have it demolished after it became derelict. Plans are now on the way to begin consideration of a new building.

The immediate challenge of homelessness is its containment while studies to understand its nature are undertaken. The provision of hostel accommodation is one such answer to the problem which however needs to be dealt with at its root level.

### **C. The disabled**

As at 1990, there were some 9649 disabled persons in Barbados with disabilities ranging from visual and hearing impairment to loss of limbs and paralysis. Half of the disabled population is elderly. At present, no special provision of housing on Government estates, or elsewhere, is made for the disabled. Units are not designed to accommodate this group in terms of accessibility and use. In a general sense the special needs of the disabled are not being addressed and access to housing is restricted.

### **D. Shelter for battered women**

Over the years various incidences of battered women have been brought before the relevant authorities. The problem is however, thought to be highly under-reported. It cuts across all social groups in society and very often, children are involved. There are cases of both unemployed and working women; women of lower income and higher income.

The rationale behind the provision of shelter for battered women is directly related to a dire need to have them located away from the abusive persons. The shelter does not have to be government operated. In any event, the aim is for confidentiality so that the whereabouts of these women will remain unknown to their abusers at least until their cases have been satisfactorily addressed.

## **6.5 THE BUILDING INDUSTRY**

### **6.5.1 CONSTRUCTION STANDARDS**

There are at present, no enforceable construction standards in Barbados. However, the advent of the building code, provides the framework within which a set of building rules and regulations can be legislated. Often naturally occurring phenomena which bring construction standards into focus are land slippage and flooding. In both instances, poor location and inadequate drainage systems are factors. Land slippage tends to be localised within the Scotland District where some 250 houses are currently threatened. Flood prone areas on the other hand are more scattered throughout the country. Complacency, ignorance and lack of affordability are major reasons why people site houses in such areas.

Apart from the absence of standards in the construction of units in environmentally unsafe areas the standards issue also relate to the construction of houses generally. A significant portion of the houses constructed on the island is done so gradually, notably by persons in the low and medium income brackets. Incremental building takes different forms, among the most popular being the conversion of timber houses into complete masonry units or units of mixed construction with toilet facilities in wall. This method of house construction is closely associated with self-help and community support.

Incremental building largely occurs in the informal sector. It is therefore not often that the statutory requirements are met. With the advent of the Building Code the challenge Government faces is to ensure compliance, while at the same time allowing the informal sector to continue to perform its role in the building industry. Government will have to ensure that it minimises any additional burdens that this group is asked to carry in terms of cost, since it is already marginalised by the formal system. It is only through its own initiative and self-help methods that the group has been able to house itself and should be encouraged to continue this trend.

### **6.5.2 Materials supply**

The building industry draws heavily on the supply of sand, clay and marl deposits across the island. The rise in the number of masonry units has resulted in even greater use, although foreign exchange savings would have been realised from the fall in the popularity of timber units.

Whereas the building material deposits are plentiful, they are certainly not unlimited, and other sources of materials need to be found, and different technology adopted, if the construction of houses is to be a sustainable activity for the future. In this respect viable indigenous alternatives are limited and a heavy reliance will therefore be placed on the experiences of other Caribbean and rest-of-the-world countries. The challenge in this regard is to identify suitable and appropriate materials and technologies which are generally affordable while attracting the maximum amount of local value added.

### **6.5.3 High Cost of Construction and Import Content**

The high cost of housing construction is currently placing even the lowest cost masonry housing solutions out of the reach of at least 55% of the work force. Cost figures for latest joint venture programme between Government and the private sector, show that a two bedroom, one bathroom house, 623 sq. ft. in size costs some \$69 000 to construct. When the price of the land of \$20 000 is included, then a low income earner who wants one of these houses would need to have substantial savings, well above the mandatory 10% deposit. In this respect the challenge is to find relatively cheap land and low cost housing and to institute financial mechanisms which take into consideration the special circumstances of the low income group.

Timber units remain the more affordable option when compared to masonry. As a result the low income group largely draws on this type of house. Indeed, a three bedroom, one bathroom unit can be bought for less than \$35, 000 at an approximate unit cost of \$50 per sq. ft.. Over the years, there has been a shift away from timber to masonry, but given the affordability of timber construction, it is likely to remain popular among the low income bracket.

High import content is cause for concern in this sector. This varies between 30% and 45% of total construction cost. Indigenous materials are however, finite, and at most, cheaper foreign materials will have to be sought out.

**PART C**      **NATIONAL PLAN OF ACTION**

## **7.0 Shelter**

### **7.1 Goals, Principles and Commitments**

In seeking to address the major issues and challenges which are outlined above there are a number of underlying goals, principles and commitments which Government will pursue. These represent both local concerns as well as those which Government agreed as a result of its interactions in, and cooperation at, the regional and international levels.

#### **7.1.1 Goals**

The two major goals of its housing policy are:

- (I) Adequate shelter for all
- (ii) Home-ownership for the widest majority of Barbadians

#### **7.1.2 Principles**

The seven principles which Government adopts in dealing with the above issues include:-

- **Equity** - Equal access to basic housing, infrastructure and other associated services for all with special provision being made for those with special needs.
- **Sustainability** - Housing will be developed to ensure economic development and employment generation with the least detrimental impact on the environment and without inhibiting opportunities for future generations. The standards which are adopted will be sufficient to sustain human life and well being while promoting human health.
- **Livability** - suitability for human living. The quality of life in settlements depends on more than the provision of dwelling units. It has to take into account the hopes and needs of the people for whom they are provided including the protection of public health, the ability to live in safety, the provision of opportunities for social integration and the promotion of opportunities for spiritual and cultural expression.
- **Cooperation** - partnership among all the actors - private, public and community organizations is essential to the successful achievement of adequate shelter for all. They have the ability to support the objectives of participation through pooling of resources, sharing knowledge and contributing skills.

- **Civic Engagement and Government responsibility** - The principle of civic engagement is based on the underlying notion that all people have basic rights as well as responsibility to accept and protect the rights of others particularly those for the future. Essentially it seeks to ensure that all people are encouraged and have equal opportunity to participate in decision making and development. Mechanisms are therefore required to facilitate this activity. At the same time new attitudes to the role of the technician need to be devised.

Government has a responsibility to protect the rights of all citizens including their right to health, and safety and to ensure that the appropriate legislation is instituted to achieve this.

- **Self-help** - The principle of self-help highlights the need for beneficiaries to recognize their own resourcefulness and to draw on it in solving their housing problems. It is at the same time associated with the notion of affordability and incrementalism in housing construction.
- **Enablement**- The principle of enablement is important to the concept of sustainable development and the associated principle of civic engagement. It relates largely to the role of government which has traditionally been that of provider and it stresses government's facilitating role based on a use of its legislative and fiscal powers.

### **7.1.3 Commitments**

Based on the above principles Government proposes to implement policies and programmes which are drafted and executed in cooperation with all key actors. To this end Government makes the following commitments:

#### **Adequate Shelter for all**

Government commits itself to the goal of improving, and maintaining improved, living and working conditions on a sustainable basis so that everyone will have adequate shelter in environments which are healthy, safe and affordable.

Within the above context Government will pursue the following objectives:

- i) ensuring that shelter policies and strategies are consistent with overall national economic goals, in an effort to support resource mobilization, employment generation and the reduction of poverty.
- ii) promoting security of tenure, particularly for those households which have been occupying rented land for prolonged periods of time.

- iii) promoting access to serviced land especially by the lower income household.
- iv) ensuring an adequate supply of affordable rental housing both in the public and private sectors, at the same time recognizing the rights and obligations of both tenants and landlords.
- v) encouraging the supply of good quality housing through rehabilitation, upgrading and continuous maintenance of the housing stock.
- vi) promoting shelter and the provision of basic services for the homeless, the "poorest of the poor", battered women, the elderly, the disabled and victims of natural and man-made disasters.
- vii) ensuring a more efficient use of the housing stock by keeping levels of overcrowding and under-occupancy to a minimum.
- viii) securing the most efficient use of residential land by ensuring that vacant lands, particularly in the urban area and in serviced developments, are brought into occupation.
- ix) encouraging appropriate, affordable, safe, efficient and environmentally friendly construction technologies, materials and methods.

### **Home ownership for all**

Government is committed to the goal of a property owning Barbados. This goal is based on the belief that the greatest degree of social progress is possible where citizens have a stake in the country. To this end the following objectives will be pursued:

- I) the strengthening of the regulatory and legal framework to enable housing markets to work and to foster self-help.
- ii) the encouragement of home ownership through the provision of select fiscal and other monetary incentives aimed particularly at those who help themselves.
- iii) facilitation of home ownership among public sector housing tenants by ensuring that mechanisms are in place to allow them to purchase the units which they currently rent.
- iv) intervention in the market in the most appropriate form to ensure that the demand for dwelling units is satisfied.



- v) acknowledgment and harnessing of the potential of the informal sector in providing housing and services for the poor
- vi) creation of an environment which protects home owners, particularly mortgage, from the loss of their property owing to the worst effects of unemployment.
- vii) increasing the provision of serviced lots and other incremental housing solutions geared to meet the needs of potentially new homeowners

### **Financing Shelter**

The availability of finance, on terms and conditions which meet the needs of those who require it, is a pre-requisite for the achievement of a successful housing programme for home-ownership. In its efforts to ensure an adequate supply of money government is committed to strengthening the existing financial market while developing new mechanisms. In this respect its objectives are to:-

- i) ensure that adequate funds are available to meet the demands for housing in accordance with terms and conditions which make them generally affordable by the households which demand them.
- ii) create a climate which facilitates the investment of funds, from both local and foreign sources, in the housing sector.
- iii) target, where appropriate, subsidies to those who are not served by the market while at the same time promoting appropriate credit mechanisms to meet their needs.
- iv) promote equitable access to financing for all people.

### **Enablement**

In giving effect to the principle of enablement government is committed to strategies which recognize the role of the various key actors in the public, private and community sectors and the contribution which they can make to the successful implementation of shelter development. In this respect the government will pursue the following objectives:-

- i) exercise public authority and use public resources in a transparent and accountable manner;
- ii) promote equal access to reliable information utilizing where appropriate modern information technology

- iii) foster and encourage greater involvement in the policy formulation and implementation processes among the various key actors in the housing sector including land developers, materials suppliers, builders, professionals, community based groups and non-governmental organizations.
- iv) establish mechanisms which facilitate, and promote practices which actively seek the participation of communities groups in the design of programmes and the formulation of development proposals for the improvement of their communities.
- v) institute capacity-building for shelter management and development activities conducive to the inclusion of broad based participation.

## **Shelter Implementation Strategies**

### **I. National shelter strategies and policies**

Government is committed to ensuring that all Barbadians have access to safe, comfortable and healthy shelter in environments which allow them to realize their full potential. To this end it will formulate, review periodically and revise, as necessary, a national shelter policy. This policy will be framed within the framework of the overall macro-economic and social development. In this respect Government will:-

- a) establish and implement a consultative mechanism among public sector authorities which have responsibility for economic, environmental, social and human settlements and shelter policy.
- b) strengthen housing information systems, making use of relevant research and modern information technology.
- c) integrate shelter policies with policies for the reduction of poverty, job creation and environmental protection.

### **ii. Access to land**

Access to land is a strategic requirement for the provision of adequate shelter for all. It opens up avenues for self help and allows households to break the vicious cycle of poverty. The inability to access land is invariably an underlying cause of squatting and the occupation of lands which should otherwise not be used for housing. In this respect the occupation of lands zone 1 water protection areas is a case in point. In ensuring access to land the following strategies will be pursued:

- i) increasing the supply of land for housing within the context of the total supply of land on the island and its competing needs. In order to ensure this Government will:-
  - a) review its current terrier of properties across the island and allocate suitable sites from among this group for residential purposes.
  - b) acquire parcels of land, which are suitable for housing, and are located across the country to establish a land bank for housing;
  - c) encourage through the physical planning process and with appropriate incentives the use of non-arable lots and other marginal lots on

plantations for residential purposes;

- d) institute fiscal and other measures to promote the re-use of vacant and under utilised residential lands within the urban area for residential infill, at increased.
  - e) devise joint venture and other programmes for the use of marginal lands in proximity to rural villages, for housing purposes.
  - f) continue and intensify the sites and services programme.
  - g) make full use of existing infrastructure in urban areas, encouraging increased densities of residential development for available serviced land.
- ii) facilitating access to land which is constrained by tenure arrangements.

Government is hereby committed to the following actions.

- a) the adoption of appropriate legislation to ensure the provision of security of tenure to land tenants who have lived on their lots for more than 20 years, irrespective of the size of the tenantry;
  - b) the acquisition of tenancies, in both urban and rural areas, which are poorly serviced, and developing them prior to their sale to sitting tenants.
  - c) the completion of the title transfer process in those plantation tenancies for which lots have already been surveyed by a vigorous public relations programme complemented by the promotion of the loan scheme.
  - d) the sale of lots in urban, non plantation tenancies by developing them for sale at a concessionary rate to qualified tenants.
- iii) increasing accessibility to land for tenants who live on lands which are currently constrained by legal and other statutory barriers. In this respect Government will:
- a) provide lots, for rent and/or sale, for those tenants who have lost the right to purchase and are currently unable to locate spots.
  - b) complete the programme of financial and other assistance to dis-enfranchised tenants in moving their houses.
  - c) pursue a (vigorous) relocation programme to assist households particularly those living in zone 1 water protection areas, as well as those who are

subject of eviction notices or who live on site which are required for other forms of development.

iii. **Access to Basic Infrastructure and Services**

Government is committed to ensuring that all Barbadians may enjoy basic infrastructure and services include the provision of potable water, efficient waste management, sanitation, health and emergency services. The absence of these services has implications for the quality of life of nationals, their productivity and health. Government will seek to ensure that basic services are provided for all and in this respect will pursue the following actions:-

- a) complete the programme of surveys in all plantation tenancies and formulate a programme of similar surveys in the urban areas thereby facilitating the ownership of lots;
- b) provide and upgrade infrastructure in both urban and rural tenancies, in a phased programme, in order to permit households to enhance their investments and to motivate further improvements and expansions to their dwellings
- c) provide serviced lots, both directly by its own efforts, and indirectly through cooperation with private land developers, for all income groups at the same time paying particular attention to the needs of the low and middle income groups
- d) provide adequately serviced small agricultural holdings in the rural areas within the context of a rural scale housing programme.
- e) ensure that every rural household is provided with running water, water-borne toilets and electricity
- f) review existing land development standards, particularly as they affect the affordability of urban and rural dwellers and institute revised standards which assure safe and healthy living conditions at affordable costs.
- g) formulate a financial programme in which funds are provided specifically to assist households with the installation of waterborne toilet systems.

iv. **Mobilizing sources of housing finance**

The mobilization of funds, both locally and externally, particularly long term funds, is critical to the success of governments housing policy. The proposals recognize a need (a) to assist individuals in qualifying for mortgages, while at the same time, encouraging them to enter and remain in the mortgage market and (b) ensure the availability of funds to meet the

needs of potential mortgagees. In these respects Government will pursue the following programmes:

- a) re-institute the provision of tax concessions for mortgage interest,
- b) ensure that the mortgage rate is kept at a minimum, bearing in mind general interest rate patterns in the economy;
- c) promote the adoption of thirty year mortgages on a wider scale;
- d) institute a Housing Mortgage Insurance Scheme which aims at providing protection from foreclosure proceedings those mortgagees who are unable to finance their mortgages as a result of unemployment;
- e) establish a Secondary Mortgage Market to facilitate trading in mortgages
- f) make greater use of housing bonds and other financing instruments to increase the availability of mortgage funds.
- g) stimulate interest in home ownership, particularly for young persons, by granting tax concessions in respect of savings deposited specifically for this purpose;
- h) institute a Building Societies Act;
- I) provide increased incentive to credit unions for loans to purchase, maintain, repair and upgrade housing
- j) promote legislation which strengthens the effectiveness of existing specialised housing finance institutions
- k) institute cost recovery mechanisms as far as possible in its programmes based on direct intervention
- l) institute a subsidy programme which focuses on the particular needs of the household, rather than the cost of the structure or the profitability of the executing agency

v. **Improving Construction, Maintenance and Rehabilitation**

A good quality of housing is assured by a blend of materials, financing and technology. By improving quality, and reducing cost of construction, housing will be more durable, last longer, be protected against disasters while at the same time being affordable to lower income households. An improved quality in the stock is achieved by paying equal

attention to the construction of new units and the maintenance and rehabilitation of existing houses. Government is committed to an improved quality in the stock of houses and to this end, with the participation of the private sector, will pursue the following strategies:-

- a) provide, and promote the provision of, a range of new housing solutions including starter homes, 'wet cores', 'party walls.'
- b) establish a Building Code and institute the appropriate mechanism for ensuring its compliance.
- c) re-institute a programme of constructing terrace units, which are designed specifically for their eventual sale to tenants who are otherwise unable to provide for their own housing.
- d) cooperate with the private financial sector in the design of financial packages which recognize the peculiar features of incremental housing construction and seek to facilitate them;
- e) institute incentives while encourage the development and increased use of indigenous building materials.
- f) design and implement programme of upgrading existing terrace units particularly those in the older estates to ensure that their roof design and construction conform with current fire regulations and are such to facilitate their eventual sale.
- g) formulate a comprehensive public sector housing maintenance policy and implement a programme which ensures that public sector houses are maintained in good order and in a cost-effective manner.
- h) require private sector landlords to obtain a certificate of habitation for premises which they wish to rent.
- I) institute a regime of tax concessions for home maintenance and insurance.
- j) encourage by the adoption of select fiscal and monetary measures the subdivision, improvement and rental, or sale, of under-occupied, poorly maintained dwellings.
- k) institute a compulsory form of home insurance in which Government takes responsibility for the aged and infirm.

- l) remove the barriers which limit chattel house owners, whose houses meet approved building safety specifications, from securing their investments by appropriate home insurance.
- m) adopt approximate fiscal financial and other mechanisms to ensure the expansion of the programme of constructing houses for senior citizens in village.
- n) environments by public and private sector agencies and other non-governmental organizations.
- o) formulate and implement a "Thousand Houses Programme" which will promote an integrated housing environment
- p) devise and adopt a package of fiscal and monetary incentives to assist dwellers in zone 1 water protection areas in improving their houses through the construction of water borne toilet facilities with septic tanks and carbon filter beds;
- q) upgrade the capacity of the construction industry by the implementation of appropriately designed training programmes
- r) review the pricing structure on all groups of building materials and select a number of basic building materials for special treatment within an approved fiscal regime;
- s) codify a set of minimum standards of healthful housing

**vi. Vulnerable groups - poor, elderly, disabled, homeless, battered women**

The Government's housing policy will be enunciated within the philosophical framework of encouraging households to utilize their own resources to acquire housing which is both safe and affordable. In doing this Government accepts that there are individuals who will never be able to provide for their own shelter and considers that a welfare element is therefore necessary in any comprehensive housing policy. Welfare assistance will however be distributed to qualified households in a manner which is consistent with the general provision of assistance ensuring that households benefit in accordance with their need. Government will therefore pursue the following measures in dealing with the vulnerable groups:-

- a) construct hostel accommodation at select locations across the country to assist with emergency housing
- b) work with private sector organizations and other actors which provide housing for special interest and vulnerable groups



- c) provide targeted and transparent subsidies and social services for the most vulnerable
- d) assist in the provision of special living facilities for the aged poor and the disabled
- e) assist in the establishment of 'safe' house for battered women

**vii. Urban renewal**

Urban renewal is a process whereby a large area of a town slowly changes its character to fit into the needs of contemporary society. Associated with this concept are those of redevelopment and rehabilitation. Redevelopment on the one hand is comprehensive and large scale and involves the clearance of property and the building of new structures based on a definite preconceived plan with a layout which is different from what previously existed. Rehabilitation on the other hand has to do with putting existing buildings and areas of development back into good shape after they have become outdated and unsatisfactory. Instead, proper maintenance and decoration of buildings and open spaces occur.

Government is committed to a programme of urban renewal, focussing on the Greater Bridgetown Area but also impacting on the urban settlements in St. Peter, St. James and Christ Church. In this respect Government will seek to realize the following goals:-

- i) promoting Bridgetown as the leading regional service oriented centre offering a range of activities which support its economic progress and development and provides the opportunity for the greatest level of employment.
- ii) facilitating the movement of pedestrians, vehicles and information in Bridgetown as the hub of transport and communications by 2000 and beyond within the context of their supporting the country's economic development policies and programmes.
- iii) retaining and restoring/enhancing those historic and architectural elements of the city which are considered important enough in terms of their natural heritage and economic potential.
- iv) creating an environment in which good health for all is fostered and maintained. This will be achieved through focussing on :-
  - a) the upgrading of public health and environmental conditions notably in depressed areas through the provision of waterbourne liquid waste disposal systems and fixtures. e.g. Emmerton, New Orleans, Nelson Street.

- b) The provision of potable water for all residential properties by the year 2000.
- c) The promotion of recycling as a major tool for managing solid waste in urban areas.
- d) The exploration and adoption of new methods of solid waste reuse and disposal e.g. the separation of food and yard waste, incineration, pyrolysis and high density baling, as a means of protecting the ground water resources of the island.
- v) promoting sustainable environmental development of the physical environment.

This will be realized through:-

- a) ensuring high level of water quality in coastal areas while reducing and or eliminating coastal erosion.
- b) pursuing a programme for the development of gullies, ridges, scenic points, rivers, trees while ensuring that their role in the physical life of the urban area and their natural beauty are not adversely affected.
- c) creating the most appropriate mechanism for ensuring the effective implementation of the urban renewal programme while making provision for the maximum amount of citizen participation.
- d) creating new, improved and affordable housing in revitalised communities.
- e) enforcing the town planning regulations for tenancies in the urban area, including the clear definition of boundaries and of rental space being at the same time ensuring that houses are properly sited.
- f) encouraging the sale of tenancies in the urban area to qualified tenants.
- g) declaring special development areas, based on the existence of tenancies and on poor housing conditions, within which specified incentive packages will be implemented.
- h) executing a programme of renewal of the physical environment of those city districts that have suffered the greatest degradation.

- i) promoting the re-use of vacant residential lots and vacant residences.
- j) executing a programme of drainage improvement and upgrading in the inner urban area.
- k) constructing, and promoting the construction of terraced, semidetached and other forms of housing, which are designed to produce increased densities, on existing vacant and underutilized lands.
- l) removing dilapidated residences from within the stock through a programme of demolition, acquisition and reconstruction.
- m) promoting the improvement of private rental accommodation through a programme of incentives for specified structural improvements, while at the same time recognizing the rights of the landlord and the tenant.

viii. **Planned utilization of land for housing**

The availability of adequate amounts of land which is approved and allocated for residential use is necessary for the successful implementation of government's housing policy. As a result there is a very close relationship between national housing policy and national physical development policy. Indeed housing policy finds its expression in the development of land. Within this context government will :

- a) identify areas for housing development based on current and projected needs.
- b) rationalize the physical layout of tenancies and selling lots which are suitable for residential use.
- c) plan and execute its programme of acquiring land for housing and other housing related activities paying particular attention to the existence of basic infrastructural services.

ix. **Housing and Disaster Preparedness**

## **SETTLEMENT GOALS, PRINCIPLES AND IMPLEMENTATION STRATEGIES**

### **GOALS**

To plan, develop and manage human settlements and land use on the island in a manner which supports the rights of all persons, to access to a secure and fulfilling life in harmony with the natural environment and available resources.

The national settlement development strategy has the critical role of: .

- (I) ensuring macro-level linkages with the economic and social development strategies and policies;
- (ii) providing a framework for the planning and implementation of sectoral physical development strategies; and
- (iii) providing a framework for the preparation and implementation of local level development plans and individual development.

### **ISSUES TO BE ADDRESSED**

#### **Planning For Sustainable Human Settlements In Barbados**

The following major issues have been identified:

- The allocation of a scarce and limited land supply among a number of competing uses in a manner which makes maximum use of our natural resources, ensures sustainability and its equitable distribution.
- The need to plan, develop and manage human settlements, in a manner which integrates disaster planning and management into the overall process.
- The need to plan, develop and manage our human settlements, in a manner which uses and conserves our coastal and marine resources and environment, given the great concentration of activity within the coastal zone.

- The need to plan, develop and manage our settlements and land use in a manner which recognises the importance of, and limits to our freshwater resources. The issue is therefore that of ensuring adequate continuing supplies of water of adequate quality to meet our development needs.
- The need to ensure proper management and disposal of solid and liquid waste.
- The need to deal with problems of urban blight and decay caused by suburban trends, abandonment and dereliction of areas within our town centres and disfunctional aspects of some activities within centres.
- Problems of traffic congestion within the main town centre.
- Protection of the built environment and archaeological heritage.
- Development and improvement of institutional frameworks which facilitate viable human settlements planning, development and management.
- Need to design human settlements in a manner which allows for access to facilities by persons with disabilities.
- Formulate and develop human settlements in a manner which allows full participation by women, youth and other disadvantaged groups, including persons living in poverty.
- Design and develop human settlements in a manner which allows for safe and healthful living and satisfying livelihoods for all persons.

## **PROPOSALS**

The attainment of this goal, is based on three fundamental principles, **Sustainability, Equity and Civic Engagement.**

**Sustainability:** The achievement of levels of economic activity which are in harmony with the carrying capacity of the ecosystem. This occurs when these economic, social, cultural, health and political needs are met in a manner which minimises the use of non-renewable resources, allows for the sustainable use of renewable resources, and waste from settlement activities are kept at levels within the absorptive capacity of the country.

**Equity:** The recognition that natural and other resources, are the common heritage of all persons and consequently, everyone must have the right of access to an adequate share of them.

**Civic Engagement & Government Responsibility:** The principle of civic engagement is based on the underlying notion that all people have basic rights as well as responsibility to accept and protect the rights of others particularly those for the future. Essentially, it seeks to ensure that all people are encouraged and have equal opportunity to participate in decision making and development. Mechanisms are therefore required to facilitate this process. At the same time, new attitudes to the role of the technocrat need to be developed.

Government has a responsibility to protect the rights of all citizens including their right to health, and safety and to ensure that the appropriate legislation is instituted to achieve this. This combination of the goal and principles provide an ideal framework for action, towards creating a desirable future for settlements planning and management on the island.

## **COMMITMENTS**

The country commits itself to the following indispensable policy elements, which will form the basis for achieving the identified goals and specifically address the issues highlighted.

## **GENERAL POLICY ELEMENTS**

- Plan, develop and manage our human settlements in a manner which makes efficient use of our natural and other resources and is in harmony with the natural environment.
- Encourage and foster economic development which will create the basis for safe and rewarding employment and livelihoods, productive lives and sufficient income for all persons.
- Protect critical and fragile resources, such as our coastal areas, agricultural lands, water supplies, fragile ecosystems, important habitats and outstanding landscapes.

- Increase energy efficiency in our settlements development and management.
- Protect and maintain our built and cultural heritage.
- Encourage the development of an efficient and effective transport system.
- Development both urban and rural areas in an equitable manner, thereby allowing each to reach its development potential in a sustainable manner, within the context of overall national development goals.
- Ensure the alleviation of urban and rural poverty.
- Promote public decision making at the lowest appropriate level and create suitable frameworks for community participation.
- Work with the private sector, non-governmental organisations, citizen base organisations and all other stake holders in the decision making process.
- Provide adequate information to all stake holders to achieve, informed and transparent decision making.
- Encourage self help practices, where appropriate.
- Create appropriate mechanisms and institutional arrangements for decision making and public administration in the context of a country with only one level of government.
- Plan, develop and manage settlement and land use systems in a manner which takes into account risks of natural and man-made disasters.
- Formulate and implement human settlements policies which take into account the special needs of the aged, persons with disabilities, women, youth and other vulnerable and disadvantaged groups.

## POLICIES AND STRATEGIES FOR SUSTAINABLE HUMAN SETTLEMENTS DEVELOPMENT IN BARBADOS

### WATER RESOURCES DEVELOPMENT AND DISTRIBUTION

Water is recognised as the most important natural resource on which our total survival depends. Water scarcity is seen as the main issue, along with the concern for water quality. The goal is therefore that of ensuring on a continuous basis, adequate supplies of water of appropriate quality to meet the needs of long-term national development. To achieve this, action will be continued in the following areas of management:-

- (i) augmentation of supply;
  - (ii) initiation of demand management;
  - (iii) continuation and improvement of the system of pollution control.
- (a) In Barbados, the following steps will be taken or continued:
- There is an estimated five percent (5%) of total ground water still available for exploitation. This will be taken up through the sinking of new supply wells at Hampton 11 (St. Philip), Porters 1 and 11, Carlton 1 (St. James) and Alleyndale,( St. Peter).
  - Increase aquifer recharge with surface run-off through construction of check dams in some gullies and the use of existing suck wells.
  - Carry out feasibility studies to consider the option of surface water development in the Scotland District.
  - Carry out the necessary detailed work to augment the feasibility studies already done for the desalination of brackish and seawater and construct plans as soon as possible.
- (b) Expand the present leak detection programmes.
- Expand the existing metering system to include all properties.



Initiate consumer education programmes on the virtues of water conservation.

Encourage and mandate the use of water efficiency devices.

Continue the mandatory provision of private water storage tanks for low grade uses and expand its scope.

Encourage and further expand the reuse and recycling of water for irrigation of golf courses.

Change tariff structures to discourage wastage and price water closer to its true economic value.

Institute licensing and metering of private irrigation wells and encourage the use of more efficient systems, such as drip and trickle devices.

Continue the present policies for water protection, through the zoning of Water Protection Areas and strict enforcement of the regulations.

Refine the zoning system to include protection from chemical contamination.

The Government believes that the implementation of the above policies and strategies offers the best way of further developing and protecting the national water resources in a cost efficient manner.

### **ACCESS FOR PERSONS WITH DISABILITIES**

The main issue to be addressed is that of ensuring that the needs of persons with disabilities are adequately met. In terms of settlements planning, development and management, this refers to entitlement to the same goods and services, as the rest of the community and to equitable opportunities for access to them. To achieve this goal, the following actions will be taken:

- Ensure a properly designed network of sidewalks is in place to facilitate the access of persons with disabilities to town centres, public buildings and spaces.
- Facilitate access to sidewalks, buildings and other

areas through construction of ramps.

- Encourage the provision of reserved parking spaces for public buildings to accommodate persons with disabilities.
- Enforce the removal of sidewalk signage and other impediments from sidewalks.
- Fully implement the recommendations contained in the Barbados Building Code for adequate design of buildings, to facilitate their use by persons with disabilities.
- Ensure that the provision of adequately designed sidewalks and ramps, are conditions for approval of new development.
- Implement programmes for the addition of facilities to existing buildings.
- Continue the process of consultation with representatives of persons with disabilities in planning for their special needs in the area of settlements planning and development.

### **PROTECTION AND ENHANCEMENT OF THE BUILT HERITAGE**

The island boasts of many old buildings of both architectural and historic importance. However, the existing of these cherished features of our past is constantly threatened by the pressures for change. Continuous protection must therefore be given to these valuable assets if there are to be retained for the present and future. Government has already put in place a number of measures namely:

- the removal of consumption tax on select building materials;
- direct financial assistance for the preservation of listed buildings, through a Restoration Fund which has been established at the Barbados National Bank;
- an annual allowance of 10% of improved value on all commercial buildings which are registered with the Barbados National Trust;

- The first list of buildings has been prepared and published and contains three hundred and fifty-two (352) entries;
- some protection from unauthorized demolition for buildings on the official list;

The present system is however, inadequate in many ways and in order to provide adequate protection for these buildings, the following are also necessary:

- adopt and implement the already drafted legislation which seeks to give greater strength to the system of protection;
- include much stronger penalties for breaches than the currently existing fine of two hundred and fifty dollars (\$250.00);
- define Urban Conservation Areas formally and prepare and implement enhancement schemes for these already identified areas - (Garrison, Rock Hall, Speightstown, Belleville, Roebuck/Crumpton Street, Hastings Pavilion Ocean View, Hincks Street, Strathclyde, Careenage Waterfront);
- implement ongoing programmes for additions and deletions to the official list of buildings and for Urban Conservation Areas, Categorisation of Buildings and reasons for listing;
- implement the urban regeneration schemes for the central areas of Bridgetown and Speightstown, in which conservation of buildings and enhancement of spaces figures prominently.
- promote and encourage the adaptive reuse of listed buildings.
- implement the proposal for establishment of the National Heritage Foundation, an aspect of whose work will be protection of heritage properties;
- continue to enforce and strengthen controls on the display of advertisements within urban conservation areas and on listed buildings and their curtilages through Advertisement Regulations or otherwise;

- promote the importance of the economic value, of the local built heritage and exploit its use as part of national tourism promotion efforts;
- encourage and continue to assist the Barbados National Trust in its programmes on restoration, management and display of listed properties and where appropriate, vest heritage properties in that organisation;
- improve the capability of the Town & Country Planning Office in this area, through instituting better procedures, and further training of staff in the area of built heritage protection.

### **MANAGEMENT AND DISPOSAL OF SOLID AND LIQUID WASTE**

Barbadians and visitors generate an average 400 tons of solid waste daily. While relatively good, practices now exist, the island still has to resolve issues of poor landfill operational practices, inefficient public collection, illegal dumping, littering; the proper management and disposal of hazardous waste, and lack of significant waste minimisation efforts.

In order to deal effectively with the above problems, the following policies and strategies will be implemented.

- provision of special waste treatment, storage processing and disposal areas, including segregated storage for metals and tyres;
- design and implementation of yard waste, composting facilities to handle sewage sludge, blood, septage and grease;
- construction at appropriate locations of engineered sanitary landfills, designed and operated to maximise the protection of human health and the environment;
- the implementation of a national source reduction programme;
- the encouragement of an expansion of existing private recycling enterprises;
- the use of advance disposal fees for special waste materials;

- continued provision of refuse collection services by the government for residential, communal and small industrial, commercial and institutional generators; Large scale generators should be required to contract out or haul their own waste;
- all private collectors will be licensed and monitored to restrict illegal dumping;
- the encouragement of residential backyard composting;
- minimise the generation of litter and incidence of illegal dumping;
- improve the existing institutional, financial and legal framework for solid waste management, through consideration of the creation of a Waste Management Board, a reorganised Sanitation Service Authority, and a strengthened Environmental Engineering Division;
- ensure cost sharing for solid waste management, between the public and private sectors, through charging of tipping fees, discriminatory fees and advance disposal fees.

In the case of liquid waste, the following policies and strategies will be adopted:

- continue to improve the present system of disposal by suck wells and septic tanks with filter beds depending on the sensitivity of the water zone within which the development lies;
- expand the existing sewerage system by implementing the South and West Coast Sewerage system proposals as already approved;
- continue to adopt and enforce the standards approved by the World Health Organisation and the Environmental Protection Agency of the U.S.A.
- continue the process of upgrading existing chemical and biological plants by allowing a five to eight year grace period for them to reach acceptable standards for liquid waste disposal;

encourage all establishments to develop waste minimisation and cleaner technology.

## **REVITALISATION OF THE MAIN TOWN CENTRES**

### **Bridgetown**

General upgrading of the Central Bridgetown area is proposed to be gradually undertaken in terms of functional, aesthetic and environmental improvements. This will provide an aesthetically pleasing and convenient town centre. The basic objectives are:

- (i) to retain and to attract national and international service activities which require central core locations and ensure its continuing growth.
- (ii) to upgrade central residential areas in order to stabilise the level of the central residential population;
- (iii) to create and rehabilitate parks and open spaces as recreational areas; and
- (iv) to ensure improved accessibility by upgrading all transportation facilities.

Priority is to be given to the enhancement of the unique traditional character of the centre. In this respect, a number of valuable buildings need to be renovated and new buildings as replacements need to be designed in accordance with the traditional architectural image of the centre. Buildings of architectural/historic importance have been placed on the Official List of protected buildings. Consequently, new buildings and any major alterations need to be planned in the context of a comprehensive urban design which incorporates such aspects as location, massing and character of buildings, street, pedestrian and parking space, parks, open space and waterfront, street furniture and landscaping. Priority central place activities need to be determined and in this context limited decentralization of activities may be required. The already identified central housing projects are proposed for early implementation.

The already formulated housing policies are proposed to be implemented for the improvement of the older housing areas of Greater Bridgetown. These residential areas are rationally located close to employment and services and therefore the continued viability of the areas needs to be sustained as a matter of priority.

The specific measures for implementing the regeneration policies for Central Bridgetown have been identified in the Greater Bridgetown Physical Development Plan and further detailed in the Bridgetown Urban Rehabilitation Study and the Carlisle Bay Redevelopment studies:

Among the strategy elements are

- identifying and put in place an agency for coordination of redevelopment efforts;
- the identification and institution of a package of fiscal incentives for developers;
- the formation of partnerships between Government and the private sector for implementation of redevelopment projects;
- the use of government properties within the town centre as equity or for direct sale for redevelopment efforts;
- integration of vending and other small business activities into the economic life of the centre at select locations, in a manner which allows them to function without creating negative external consequences for the centre as a functioning and aesthetically pleasing entity;
- encourage and promote the rehabilitation and adaptive reuse and maintenance of "listed buildings" within the town centre;
- implement the "Conservation Area" strategies proposed in the Greater Bridgetown Physical Development Plan;
- continue and expand the programme for the greening of the town centre and the creating of attractive public open spaces;
- provide a structured programme for improvement of street lighting, street furniture and removal of overhead wires;
- implement the strategies and programmes identified in the Waterfront Redevelopment Plan;
- implement the housing redevelopment programmes at Pondsides and the other identified inner city housing areas;

- implement the traffic management and road improvement proposals for Central Bridgetown;
- implement the proposed pedestrianisation schemes for the central area.

### Redevelopment Of Speightstown

In the redevelopment of this the second most important town on the island and the hub of growth in the northern region the following priority objectives have been identified. The upgrading of buildings, traffic management and the improvement of pedestrian movement, accessibility, drainage improvements, enhancement of open spaces, encouragement of private sector investment and employment opportunities, improvement of community, cultural, social, administrative facilities, and housing standards. The importance of the special historic and architectural character of the town should be exploited as the organising concept around which all redevelopment efforts will revolve.

The strategy elements are:

- the enhancement of buildings and their environs
  - redevelopment of the existing site for coastal cruise facilities including construction of a jetty
  - major development at the Fort Denmark site for either fishing or cruise tourism
  - the creation of a civic centre
  - the attraction of duty free shopping facilities
- provision of a boardwalk and intensified use of the shoreline
  - improved traffic management pedestrian schemes and proper sidewalk provision
  - reengineering and improvement of existing drainage structures particularly at Salt Pond
- major landscaping proposals for the town centre with new tree planting and a linear park to the Whim
- upgrading of the existing housing areas to improve housing conditions amenity and accessibility.



- the designation of Speighstown as a Special Development Area and the provision of a package of incentives
- the formal designation of Speighstown as an Urban Conservation Area.
- the creation of an agency to manage and coordinate the development of the town.

### **SUSTAINABLE HUMAN SETTLEMENTS AND GENDER**

Settlement planning affects the way people live their lives. The goal of planning policy in this area is to ensure that in our layout, structure and location of town and villages, the needs and concerns of women are met.

In many ways, Barbados is fortunate, Women do not suffer from problems of unequal access to land, financing opportunities and services and generally play a full and dynamic role in settlements development, planning and management. Consequently, in Barbados, women's needs in the area of settlement and land use must be assessed within the context of their triple roles as - (a) the main group with the responsibilities caring of children and the home generally; (b) productive work as wage or income earners; (c) an important role in community management, particularly at the level of neighbourhoods. In other works, women spend much more time in the home and immediate neighbourhood. This suggests strongly that the important issue is therefore one of "accessibility" defined as the spatial distribution and relationships between work, home, shopping, health, recreation and leisure and community activities. It is also to be noted that women are one of the groups most vulnerable to violence and most concerned over issues of personal and family safety and security.

In order to take these concerns and needs fully into account, the government will implement or encourage new strategies and continue to put in place the following:

- continue to plan and develop settlements in a manner which encourages mixed uses in residential areas through integrated community planning. This will allow for reasonable proximity to shopping, education, health facilities, compatible employment opportunities and leisure facilities (playgrounds and open spaces);
- continue and expand current planning guidelines for the integration of commercial and community elements into new significant residential developments;

- provide open space in residential developments of over thirty-five (35) lots at the rate of 200 square feet per lot;
- design new residential areas, particularly for low income groups in areas where adequate public transport can be provided;
- allow for small scale home based employment options for those activities which do not detract from the residential character and amenity of areas;
- construct pedestrian-ways and footpaths in areas which minimise personal dangers for persons using them;
- design the layout of residential and community areas with concepts of defensible space in mind.
- ensure and promote adequate lighting of parking areas, pedestrian routes, communal areas and residential roads;
- encourage and ensure the location at appropriate intervals of bus stops and shelters with seating.
- ensure adequate provision of toilet facilities for all public buildings;
- encourage and ensure the provision of canteen and day care facilities within industrial estates;
- foster and encourage the expansion of existing neighbourhood watches and community policing efforts.

## **SUSTAINABLE SETTLEMENTS PLANNING AND DISASTER PLANNING AND PREPAREDNESS**

For reasons of size and location, Barbados is vulnerable to a number of natural events, particularly hurricanes. The passage of these systems can leave in their wake, very severe damage and loss to businesses, houses, services and infrastructure and even loss of life.

Planning for the avoidance of the worst effects of these systems must therefore assume very great importance in the planning and development of settlements. It is also important to note that vulnerability represents a relationship between hazards and national capability to deal with their consequences. In order to fully integrate planning for natural hazards into our national settlements policies, the following actions are necessary:

- conduct vulnerability and risk assessment studies as part of settlements planning, policies and strategies;
- ensure that settlements are not built in high risk areas which can be avoided;
- adopt and enforce design and building standards which are appropriate through the legislative adoption, and the creation of an administrative structure to fully implement the Barbados Building Code;
- conduct detailed studies of the cost implications of enforcing required standards and identify how they might affect segments of the population in satisfying their basic housing needs;
- encourage and foster total national participation in disaster preparedness and relief efforts;
- develop in conjunction with Insurance Companies, the financial capacity for rehabilitation and reconstruction efforts;
- adopt and enforce appropriate planning and infrastructure standards;
- improve the existing institutional capacity and legislative basis for the conduct and review of Environmental Impact Assessments and Strategic Environmental Assessments as part of Development Control and Physical Development Plan preparation respectively;
- strengthen the capability of the Central Emergency Relief Organisation, as the national coordinating body for disaster relief and planning efforts.

#### **THE ALLOCATION OF LAND AMONG COMPETING USES AND THE BALANCE BETWEEN URBAN AND RURAL DEVELOPMENT**

The present settlement policy defines an updated natural settlement and land use policy which is geared to create an orderly and adequate allocation of lands for various identified development needs, the efficient use of these land resources and the reconciliation of existing or potential land use conflicts. This is achieved through the following:

- identification of a boundary to the urban zone within which the major urban development activities will be concentrated. This boundary extends for Checker Hall in the north along the west, south and south-east coasts to Ragged Point;
- within the urban zone, development will be concentrated within three axes of growth at Oistins, Warrens/Cave Hill, and Speightstown/Checker Hall. These areas contain the locations for the growth of significant urban economic activities and services and also have adequate lands for residential developments

The principle rural land use policies are related to agricultural development, rural settlements, recreation, and conservation of fragile natural features and resources, and ground water protection. Among the main elements are:

- concentrate development efforts in those settlements identified as having potential for growth;
- continue the efforts at revitalising the agricultural sector and in particular, the sugar industry;

Continue improvement of the fishing industry through upgrading of landing areas and the fishing fleet.

- continue the protection of those areas which are irrigable from all non-agricultural uses;
- carry out the agreed studies on the establishment of a Protected Landscape (National Park) for the north-east of the island and implement the recommendations. This will allow for the maintenance of significant landscapes which reflect a harmonious inter-action of man and the land, while allowing for public enjoyment through tourism and recreation within the normal lifestyle and economic activities of the designated area;
- limit the extraction of sand and clay to those areas already identified as appropriate;

- extend and facilitate the work of the Rural Development Commission, as a coordinating agency for integrated rural development efforts.

## **ALLEVIATION OF TRAFFIC CONGESTION WITHIN THE BRIDGETOWN TOWN CENTRE**

Transport activities are among the important factors which determine the level of efficiency at which the city centre functions. At present, problems of congestion, inadequate public transport services particularly during peak periods and insufficient pedestrian facilities, create a significant negative impact on the economy, convenience, and amenity of the central area. It is therefore imperative that a combination of transport improvement measures be implemented speedily within the main centre Bridgetown.

The strategies for relieving traffic congestion in the central area of Bridgetown is based on the following elements:

- develop new corridors and improve critical areas of the existing corridors to channel through traffic around the congested centre on a priority basis as follows:
  - (i) the Adams-Barrow-Cummins (ABC) Highway to create a by pass system for the Bridgetown centre and create a high priority north, south arterial route;
  - (ii) the completion of the outer ring road;
  - (iii) completion of the inner ring road;
  - (iv) implementation of the Central Area ring road.
- rearrange traffic circulation patterns in Central Bridgetown, including long term pedestriantation of Broad Street, Swan Street and Shepherd Street, as already agreed;
- implement the already agreed on-street (kerb side) parking programme;
- encourage the further development of multi-storey parking facilities by the private sector at agreed locations, (Chapel Street, St.

Michael's Row and Lower Bay Street);

- manage the supply of parking spaces as a means of altering the present modal split in favour of public transport and of improving the priority status of public transport;
- use land use controls to restrict new activities in the centre which generate very high private car usage or other specialised traffic types (large offices, warehousing);
- improve and widen the network of existing sidewalks and footpaths within the down-town areas;
- provide for all forms of public transportation quality terminal facilities;
- ensure strict enforcement of traffic management regulations and other controls for both public service and private vehicles;
- improve the regulatory framework for the functioning of all public service vehicles;
- reserve kerbside parking areas for goods loading/unloading at prescribed hours;
- restrict parking of containers within the central Bridgetown area and construct a container park facility at an appropriate location, outside the town centre.

## **THE GOALS AND INSTRUMENTS FOR COASTAL MANAGEMENT**

Six goals have been identified for coastal management, providing a comprehensive framework for a range of day-to-day regulatory, monitoring and research instruments. Other key elements include provision of a comprehensive educational programme and shoreline enhancement and protection works. The second group of instruments are capital-intensive and will be implemented under an Investment Project. Investment phase activities will also be undertaken to enhance Government capacity in day-to-day management functions.

The six goals and key strategies to achieve them are summarised as follows:-

**GOAL 1** The application of Best Management Practice to Development in the Coastal Planning Area. This goal includes strategies and regulations for coastal development including:

- revised set-backs;
- a clear definition of conditions for measurement of the high water mark which defines the baseline for property boundary measurement;
- specifications for different levels of impact assessment on development projects;
- provision for improving beach access and the numbers of 'windows to the sea,' and
- proposals for Government to reconsider broader land-use planning policies which have tended to concentrate development in the coastal fringe. There are clear implications for this policy where the moderately developed east and south-east coasts of the island are concerned.

**GOAL 2** Rehabilitation and Maintenance of Coastal Water Quality. Strategies under this goal include:

- specifications for water quality levels through provision of thresholds for critical parameters including bacteria, nutrients and suspended particulate matter;
- permit requirements for discharges into coastal waters;
- declaration of Zone A Waters, where all existing piped discharges must be below the threshold levels at the point of discharge by the year 2005, and Zone B Waters, where all existing piped discharges must be below threshold levels before mixing with Zone A Waters, by the year 2005.

All new or proposed discharges in Zone A and Zone B Waters as of January 1, 1995 are required to be below the threshold levels before mixing with Zone A Waters.

- requirement for compliance with water quality threshold levels during coastal construction;
- provision for significantly enhanced Government capacity to measure and monitor water quality in coastal areas;
- provision for installation of aeration systems to prevent stagnation in coastal gullies and swamps; and
- provision for a watershed management pilot project which will investigate the impact and benefits of reduction and retention of sediments and chemicals in the upstream source area.

In addition, the Plan strongly endorses Government's activities in relation to the South Coast and West Coasts Sewerage Projects.

**GOAL 3**      Rehabilitation and Maintenance of Coastal Marine Habitats. Improvement in water quality under the provisions of Goal 2 is central to the potential for rehabilitation of degraded marine ecosystems. Other strategies and regulations which support this Goal include:

- prohibition of harvesting, importing, exporting, and sale of corals and coral curios under the CZM Act;
- control of physical damage to reef systems by enforcement of the ban on dynamiting for fish and installation of a permanent mooring buoy system, and
- provision for the declaration of a number of additional Specially Protected Areas under the CZM Act, which have particular importance for coastal ecology; sediment supply, or as cultural or wreck dive sites.

**GOAL 4**      **Shoreline Stabilisation, Maintenance and Enhancement.** Strategies here, which are largely infrastructural, include:



- design of protective works for threatened infrastructure at Cashel on the south coast and Sixmens/ Shermans on the west coast;
- shoreline enhancement at Asta/Sierra on the south coast and Batts Rock on the west;
- modification and removal of existing coastal structures where these are having a negative impact on beach dynamics;
- specifications for the ongoing inspection and maintenance of coastal structures, and
- non-structural shoreline enhancement including projects at Speightstown, Folkstone and Graeme Hall.

**GOAL 5**

Research, Measurement and Monitoring of Key Indicators for Environmental and Public Health and Development Control. Critical to the Plan is a programme of monitoring and research that can be used to (a) ensure compliance with regulations, (b) assist in evaluating the success of the Plan's strategies and (c) improve the understanding of the coastal environment of Barbados. Strategies include:

- expansion of the programme for monitoring of water quality for public health and environmental health, facilitated by the expanded capacity for this activity under Goal 2;
- implementation of a programme of toxicity monitoring in key marine organisms;
- provision for monitoring of water quality indicators during construction;
- a sustained programme of coral reef monitoring to detect changes in species diversity and abundance;
- an enhanced programme of beach change monitoring, building upon the significant historical database in this area;

- sustained oceanographic and meteorological measurements utilising skills and equipment now resident at the CZMA;
- monitoring of procedures adopted during coastal land surveying and construction in relation to high water mark and setbacks, and property transfer (to allow the Crown to assert its right to coastal land), and
- continued updating and interpretation of the coastal Geographical Information System established at the CZMA.

**GOAL 6**      Education and Training Leading to Improved Stewardship of Coastal Resources. Informing those responsible for plan implementation and the wider public is essential to achieving the Plan's goals and regulations, and to allow for compliance with the Plan's requirements. Two groups of audiences are targetted. These are 'primary targets' which include members of key Government coastal management agencies, educators, the media and community leaders. 'Secondary targets,' include private sector organisations, NGO's schoolchildren, coastal communities and the broader public. Primary targets will assist in developing and implementing education and awareness programmes for the secondary target groups.

In order to implement the goals and strategies, two other actions are necessary:

- enact the already prepared Coastal Zone Management Act and the Marine Pollution Act;
- formally adopt the prepared Coastal Zone Management Plan.

#### ALLEVIATING POVERTY IN URBAN AND RURAL AREAS

While the standard of living for Barbadians is generally quite good by world standards, there exists pockets of poverty in both urban and rural areas. Government is deeply concerned over this issue and has devised a series of policy and strategy elements to deal with the situation. The policy is centred around the enablement of persons within this group to have opportunities to provide livelihoods and improve their quality of life. This is supplemented by the provision of safety nets, through welfare services for the poorest of the poor. The main elements are:

- improve the existing system of markets to accommodate vendors at Eagle Hall, Fairchild Street and Cheapside;

- complete the vending facilities as proposed for Central Bridgetown and the selected areas off the ABC Highway and extend the network to the other major settlement areas;
- promote and ensure access to land and facilities for small business operations, through identification and development of appropriate sites on the periphery of established settlements, including villages in a manner which is not detrimental to the character and amenity of the area;
- extend the existing system of financing and technical assistance for small and micro businesses;
- modify the existing Spring Hall Land Lease Project and extend it to other areas utilising government owned lands;
- improve the lot of landless farmers through provision of land at appropriate locations for the management of their livestock;
- encourage persons to become involved in home based cottage and craft type activities which do not threaten the amenity of residential areas;

Government recognises that after creating effective means for the economic advancement of low income groups, there will still be the need to render direct assistance to some persons.

To this end, Government will:

- (i) continue its welfare programmes to the needy;
- (ii) encourage religious and other groups to continue their programmes of assistance to needy persons;

## **INSTITUTIONAL DEVELOPMENT FOR SETTLEMENTS PLANNING, DEVELOPMENT AND MANAGEMENT**

The efficient planning, development and management of settlements and land uses, requires the existence of a streamlined institutional framework, coupled with the internal capacity to formulate national strategies and implement them successfully. Government is committed to

the improvement of this system. While it is anticipated that the present system of planning and implementation will by and large continue as the basic framework, it is also expected that changes and improvements will be introduced. The main strategies for achieving this goal are:

- implement the agreed proposals for the early revision of the National Physical Development Plan, the strengthening of the office of the Chief Town Planner and the overall planning system, including the necessary legislation changes;
- implement the agreed recommendations which will emanate from the above studies;
- continue to use the Planning and Priorities Committee as the central coordinating agency for national development efforts, including its strong integration of physical planning into the macro-economic framework;
- develop and put in place, special administrative arrangements for the promotion, development and management of our main urban centres of Bridgetown and Speightstown;
- develop and put in place a more structured system for effective public participation and involvement in planning, decision making and implementation of settlement policies and strategies;
- identify and implement, a coordinating mechanism to facilitate, enhanced cooperation among all agencies and institutions, involved in settlements planning, development and management.

## **CONSERVATION OF ARCHEOLOGICAL HERITAGE**

### **Policy**

In seeking to conserve and interpret the history of human habitation in Barbados, the Barbados Museum, which has been de-facto the centre for archeological activity since its inception in 1933, has played a coordinating role following the establishment of the Barbados Archeological Survey in 1984.

In the absence of local expertise the Museum has initiated partnerships with established universities to ensure professional standards of conservation, analysis, documentation and interpretation of Barbadian archeological remains. Since 1982 the Museum has sought to encourage the enactment of legislation to protect the heritage of the island for future generations.

The identification of over 60 prehistoric sites along the coastal areas of Barbados during the survey, has established the extensive nature of human habitation in Barbados prior to

European settlement. Inland sites have been virtually impossible to identify in the same way. Long term observation of construction sites and agricultural operations have so far been the only means for inland site location.

The Museum seeks to identify, research and recover artifactual remains for primary sites which may help to 'fill gaps' in our knowledge about the lives of early Barbadians. Access to sites prior to completion of construction is an essential part of this process. In the long term the Museum seeks to establish 2 or 3 interpretive centres at particularly important sites around the island, to make this aspect of our heritage accessible to all.

### Goals

The Museum seeks to implement its policy by pursuing the following goals:

- national protection for archeological sites and artifacts;
- upgrade and maintenance of professional standards for the excavation, recovery, storage, conservation, documentation and analysis of collections;
- training a cadre of cultural resource managers;
- monitoring and recording of construction sites, salvage archeology were necessary and feasible;
- accessibility of information relating to the cultural heritage of Barbados;
- creation of new cultural, educational and tourism resources for Barbados.

### Strategy

- enactment and implementation of preservation of antiquities legislation;
- establishment of a Caribbean Centre for Heritage, in conjunction with the University of the West Indies;
- development of suitably located site interpretation centres highlighting the prehistoric, slavery era, and post-emancipation eras of Barbados.

## **IMPLEMENTATION OF THE NATIONAL PLAN OF ACTION**

The National Plan of Action sets out an ambitious set of policies and general strategies to achieve the goal of sustainable human settlements development on the island. These strategies must be refined into specific programmes and projects and the necessary institutional legislative and funding arrangements developed and implemented. This is thus a long term process.

However Government has already taken a number of important steps which will allow implementation of the programmes by the year 2000. At the same time the longer term changes will be initiated. As a first phase implementation schedule the following programme areas have been agreed and in some instances started.

### **Water Resources Development**

A new comprehensive study of the national water resources started in June 1996 and will be completed in December 1996.

The results of this study will guide future water resources developments, and it is anticipated that the recommendations will be implemented as soon as possible afterwards. Feasibility studies for the establishment of desalination plants have been started and the final report will be available by April 1996.

### **Solid And Liquid Waste Management**

Solid waste - Phase one of the sanitary engineered landfill to be sited at Greenland St. Andrew will commence in August 1996 with a completion date of August 1997.

Sewerage Systems - Construction of the South coast sewerage system will commence September 1996 with a scheduled completion date of October 1998. At the same time studies for the West coast system will start in December 1996 and be completed by July 1997.

### **Improvements To The System Of Physical Planning**

Detailed studies of the present system will commence in October 1996 and be completed by the following year. The implementation of the new strategies procedures and legislative changes will occur immediately after the acceptance of the recommendations.

### **Improved Coastal Zone Management**

The Coastal Zone Management Plan for the south and west coasts has already been prepared along with the Coastal Zone Management Act and the Marine Pollution Act. It is expected that the legislation will be laid in Parliament and accepted by December 1996.

Approval will pave the way for the plan to come into operation. At the same time similar plans will be prepared for the rest of the island (South East , North) and should be ready for implementation by 1998. In the final phase a full investment programme of capital works will be carried out over a five to ten year period.

### **Private Public Partnerships**

A study aimed at identifying and putting in place an appropriate legislative and procedural framework for such partnerships has already started and will be completed in the next few months.

### **Implementation Of The Building Code**

The building code has already been written and is used unofficially. Appropriate legislation is now being drafted and an appropriate administrative framework is being considered for fully implementing the code.

### **Protection and Enhancement Of The Built Environment**

Some aspects of this work has already started (publication of a list of protected buildings establishment of a heritage fund). Further implementation is linked to tourism (heritage) promotion and the plans for the redevelopment of Bridgetown and Speightstown.

### **Redevelopment and Revitalisation of Main Town Centres**

Prefeasibility studies for Bridgetown and Speightstown are already completed. Full feasibility and design studies will commence in September 1996 and last for a year.

**MARCH 1996**