

Part Three: Sustainable Development Implementation Plan

Suggested Objectives and Actions which will help achieve the Strategy

Contents

The **Implementation Plan** takes the primary and secondary priorities set out in the Sustainable Development Strategy and breaks them down further. It sets them out under five broad themes:

- Theme 1: Building and Maintaining an Inclusive Strong Economy
- Theme 2: Transforming Governance and the Public Sector
- Theme 3: Protecting and Enhancing our Environment and Natural Resources
- Theme 4: Sustaining our Communities
- Theme 5: Living within Bermuda's Limits

For each priority, the Implementation Plan

- offers some **background**, defining the particular issue in question;
- sets some **short- and medium-term objectives**, and where possible, targets;
- offers some **options for actions** to achieve those objectives;
- suggests **actors, both Governmental and non-Governmental**;
- suggests **timelines** for delivery; and
- sets out **what is already being undertaken** by Government.

Theme 1: Building and maintaining an inclusive strong economy

Imagine

- An island where we continue to have the resources to import the technology and goods we need, and to travel from the island to broaden our horizons and gather new ideas.
- An island where we achieve an economy which constantly improves the quality of peoples' lives; offering high quality employment, with internationally recognised labour rights and fair trade principles.
- An island where businesses which choose to locate here share responsibility for their impacts on the infrastructure, particularly transport and housing, and play a full role in training Bermudians; while Government and private sector work together to ensure that our education systems adapt quickly to changing needs
- An island where we reduce our reliance on imports, and sustain our economic growth by looking for new opportunities and achieve diversification, working in partnership with our current businesses, forming joint ventures with overseas partners and reassess our protectionist model.
- An island where we redevelop our waterfronts and pedestrianising parts of Hamilton, installing sidewalks along the major roads, and phasing major construction such as the causeway, the hospital, the police station and the courts.
- An island society where through constructive dialogue, access to education, careers advice and support of good business ideas, we have levelled the playing field from its current imbalance, and freed residents from their racial prejudices. Where everyone has the skills and opportunities to progress to a suitable job and we are welcoming to all visitors – both workers and tourists.

Where are we now?

Bermuda's economic position is almost unique. With one of the highest Gross Domestic Products per capita in the world yet with very few natural resources, the population is dependent on imports for most basic commodities and consumer goods. Bermuda imports merchandise and exports services. Foreign currency generated by international businesses, from tourism and from overseas investments, makes Bermuda a wealthy island which sustains many, varied, local businesses.

In 2004 Bermuda earned over \$1.7 billion from tourism, the financial sector and international business and spent \$964 million on imported goods (including \$64 million on cars and vehicles), and \$275 million on over 155,000 overseas trips (including \$66 million on resident purchases of goods brought back to Bermuda).

Yet Bermuda's current economic success is, like any other economy, vulnerable. The economic mainstays are subject to many influences beyond Bermuda's control, including increased

competition from other jurisdictions. However, the lack of economic diversity and the difficulty in identifying alternative economic sectors to earn foreign currency which will not impact negatively on Bermuda's infrastructure and limited workforce means that Bermuda has to be more nimble and watchful than other, larger jurisdictions in protecting its current economic situation.

This has always been the case and Bermuda has been successful in identifying and embracing new opportunities throughout its history. This chapter seeks to explore some of the issues associated with maintaining the economy, as well as, ensuring that all Bermudians have the opportunity to share in Bermuda's prosperity.

One area which is very difficult to address is the cost of living and doing business in Bermuda. Bermuda's small size presents issues of scale throughout the market, which in a number of cases prevents effective competition that could bring down prices. Equally, the high cost of living is simply an indicator of the sustained success of the economy and an increase in disposable incomes.

Issue 1.1: Is everyone sharing Bermuda's economic success?

Employment levels and average incomes are high. Yet some Bermudians are not sharing in Bermuda's economic success, because they do not have the skills, the desire or the perceived opportunities to enter the mainstream economy.

A more equitable distribution of wealth and opportunity is desirable and will do much to overcome prejudices and resentment. The majority population in terms of race still holds minority economic status. This was one of the key issues arising from the report of the 1978 Pitt Commission which looked into the social disturbances of that decade and those issues remain true today.

Failure to address the fundamental issue of inequality risks further social stratification and unrest in the future. Anti-social behaviour has been cited both as a cause and an effect of economic inequalities. It is one of a number of outcomes of some Bermudians feeling marginalised from the mainstream of the economy.

As a society, Bermuda needs to invest more effectively in its social capital.

- Currently, 750 households are receiving financial assistance and 236 are receiving housing subsidies from the Government.
- Thirty-eight per cent of children attended private school in 2000, with 58% in public school. Eighty per cent of public school students were black, 78% of private school students were white.
- In 1950, black men in Bermuda had the lowest life expectancy. This was also true in 2000.
- In 2002, nearly 7 in 10 executive positions were filled by white employees, while nearly 7 in 10 non-professional posts were filled by black employees.
- Last year, the average black-led household earned \$1,676 per week, over \$800 less than the average white-led household. The average non-Bermudian household earned \$600 a week more than the average Bermudian household. This is however an

improvement on previous figures and shows an unavoidable, although slow, positive trend towards equality of economic opportunity.

Bermuda needs a wide range of specialists for jobs, from water engineers to planners. If Bermudians do not train for these areas, guest workers will need to be employed. While non-Bermudians account for one-fifth of the island's overall population, they represent one-third of the 20–44-year-old population, a considerable portion of the Bermuda's potential human resource capacity.

Immigration is needed not only for the continued influx of necessary skills, but also for new ideas. Equally, home-grown skills are essential because of the uniqueness of Bermuda and the issues it confronts – for example, the skills necessary to repair and maintain a Bermudian roof are not found elsewhere in the world.

- In 2002, Bermuda had 37,768 workers. In 2000, 24% of the workforce was non-Bermudian.
- In 2000, unemployment was 3%, but among 16–24-year-olds not in school, it was as high as 10%.
- Work permit holders have grown from 5,813 at the end of 1994 to 9,467 at the end of 2004, but numbers are still not as high as in 1989, which saw 10,100 permit holders.
- Median household income was \$84,350 in 2004 – up 61% since 1993.
- Between 1980 and 2000, the number of foreign-born persons increased by 25%, while the number of Bermuda-born persons rose by 11%.
- Non-Bermudians hail mainly from the United Kingdom (27%), the United States of America (19%), Canada (14%), the Caribbean (12%), Azores/Portugal (10%).
- Non-Bermudians continue to have a heavy concentration in the professional, technical and related positions such as accountant, physician, senior secondary school teacher, underwriter, pharmacist and architect.
- Non-Bermudians also account for 60% or more of housekeepers, chefs and waiters.

We cannot be assured of current high levels of employment in the future. At the moment, a buoyant economy provides employment regardless of education levels. As a result, unrealistically high expectations among graduates and school leavers have been cited as being of significant concern by a number of employers. During the 1990s the growth sectors of the Bermudian economy were characterised by staffing structures heavily weighted toward professional and technical employment. Employment growth in these areas was extraordinary – 42% between 1991 and 2000.

With 63% of Bermudians of working age reporting having not attained any more than secondary level qualifications, it is hardly surprising that many Bermudians feel marginalised from the current economy which is heavily weighted toward professional and highly technical fields, yet Bermuda relies on these sectors to continue the influx of foreign currency and keep the economy running.

Periodically during the recruitment process, problems arise in cases of defining what 'qualified', 'suitable' and 'experienced' actually mean. The problem is complicated because a proportion of

the population do not believe that the procedures employed by the Immigration Department are fair. Bermudians and their non-Bermudian spouses turned down for jobs believe that employers sometimes have inflated the qualifications and experience required.

Conversely, employers who have applications to hire non-Bermudians refused by the Immigration Department believe that officials do not understand their requirements and that they are being forced to take on someone who does not meet their requirements.ⁱⁱⁱ Managing these conflicting interests and viewpoints is a very sensitive topic because of the close ties between job opportunities and social exclusion.

In a recent survey, residents believe succession planning and training should be in place to link Bermudian employment to the issuance of work permits. In addition, there was strong support for increasing efforts to train Bermudians for 'required positions', as well as, to track Bermudians studying abroad and advise them on job opportunities.^{iv}

Box 1.1

What other information do we have?

The role of Bermudians in supplying labour to employers varies sharply by industry sector. The findings below reveal that Bermudians fill just three-quarters of the nation's workforce needs. A closer look at the table indicates that the most rapidly growing sectors of the nation's economy are least likely to rely on Bermudians as a source of labour supply. The Business Services industry staff is much more heavily reliant on non-Bermudians as a source of labour supply with 37 per cent of all workers in that sector of the economy reporting that they were non-Bermudians, while overall non-Bermudians accounted for 24 per cent of all the employed in the nation. Thus workers employed in the Business Service sector were 1.54 times more likely to be non-Bermudian than the average of all industries. International Companies were even more dependent on non-Bermudians to meet the skill needs with 42 per cent of the staff employed in this sector reporting that they were non-Bermudian.

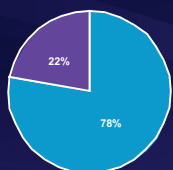
The changing industrial and occupations structure of labour demand in Bermuda over the past four years has altered the nature of access for employment for Bermudians. Strong growth for workers in the college labour market coupled with declines in clerical, low-end sales and service jobs has meant that demand for workers with higher levels of educational attainment has risen rapidly, while the demand for workers with fewer years of schooling has declined. We observed large gaps in the level of educational attainment between the Bermudian and non-Bermudian working-age populations. Lower levels of educational attainment among Bermudians diminish their employment prospects in an economy that is demanding workers with higher levels of educational attainment.

The findings paint a difficult picture of employment developments in Bermuda. Total employment in the nation rose from 38,363 in 2000 to 39,017 by 2004. Over the same period of time the number of Bermudians who were employed declined from 28,881 to 27,443, a net loss of more than 1,400 jobs for Bermudians, representing a decline of 5% in the number of working Bermudians in just four years. Over the same time the number of employed non-Bermudian employment increased by 1,232, representing an increase of 16% over the 2000 to 2004 period. ^v

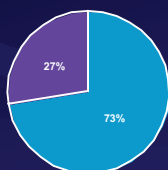
The Numbers

Bermudians are under-represented in the best jobs

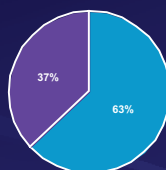
Resident Population



Filled Jobs



Professional & Technical Jobs



Legend:
■ Bermudian
■ Non-Bermudian

Source: Bermuda Department of Statistics, June 2004 Employment Briefs

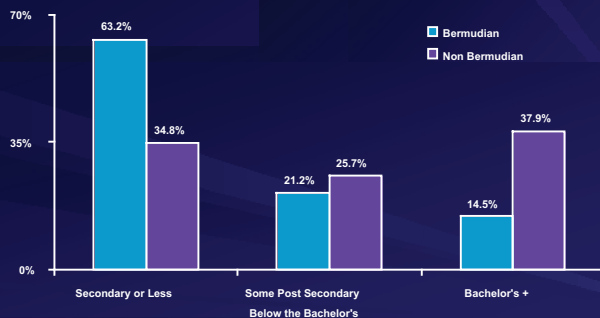


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Working Age Population by Educational Qualification and Citizenship

Note: The best jobs tend to go to those with the most education



Source: Northeastern University, Chart 5, 2000

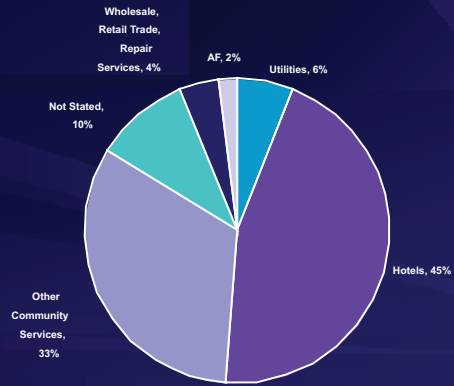


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Sources of Employment Losses in Bermuda, 1991 to 2000

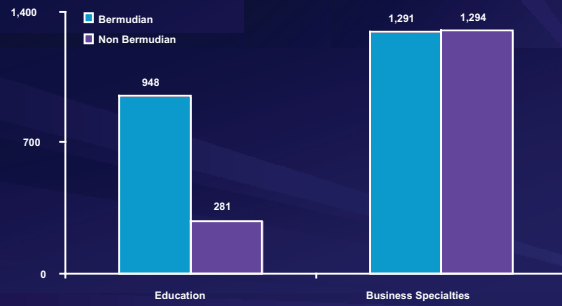
"The major sources of new job creation in Bermuda have all employed large proportions of workers in college labor market occupations" Source: Northeastern University



Source: Northeastern University, Chart 12

Employment in Education Professional and Private Business Professional Specialties by Citizenship

"Bermudians working in a professional field were more likely employed in education"



Source: Northeastern University, Chart 20

Employment Change in Bermuda by Citizenship, 2000 to 2004



Source: Northeastern University, Chart 23

Objective 1.1.A (Primary): Achieve an equitable distribution of wealth and opportunity, build the social capital needed to maintain Bermuda’s infrastructure and quality of life and achieve a better representation of all Bermudians in the higher positions of the labour market – with a focus on traditionally under-represented groups such as black Bermudians and women.

Options for Action

Option 1.1.A.1: Improved investment in skills and human resources

What: Develop and implement a National Workforce Development Strategy – to address the link between education and the economy, covering career development, training, learning and mentoring, with strong links to the business community. An initial report, *Doing Better in Bermuda*, was prepared for the National Training Board by the Arnold Group LLC. This report and the accompanying labour market analysis are attached at Annex B and Annex C and identify four areas where improvement is needed. These four cornerstones of the Workforce Development Strategy are:

- Public Education
- Employment Transition Services and Work Preparation
- Training
- Industry and Commerce Engagement

The report contains both broad and specific recommendations for action and states that

“the need for change is undeniable if Bermuda is to sustain its prosperity in an international economy, and find a way for all Bermudians to have the opportunity to be part of this growth. The Bermudian Government can level the playing field for its citizens by addressing the issues in this report and providing the guidance and resources to implement change”.

Therefore, key stakeholders have been invited to form a Workforce and Employment Taskforce. This Taskforce will be led by the Department of Labour.

The role of the Taskforce will be to:

- discuss the recommendations of the Arnold Group and those contained in Text Box 1.2 and advise which recommendations should and can be taken forward
- develop a catalogue of all workforce development activities in Bermuda
- assign specific roles and responsibilities to action the recommendations
- assess the cost implications of this work
- continue to share information and act as a co-ordinating body for workforce related activities.

Why: Currently there is no formal structure for co-operation between the employers and training/ learning institutions. The Workforce Development Strategy and the Workforce and Employment Taskforce are essential to maximise the potential of all Bermudians in all sectors and at all levels of the workforce while simultaneously meeting the needs of the citizenry and the employers.

Who: The Ministry of Labour, Home Affairs and Public Safety, the Ministry of Finance, the Ministry of Telecommunications and E-Commerce, the Ministry of Education and Development, the Department of Human Resources, the National Training Board, the Bermuda College, the Bermuda Employers Council, the Commission for Unity and Racial Equality (CURE), the Chamber of Commerce, the Bermuda Careers Centre, the Donor Forum, the Bermuda Technology Education Collaborative (BTEC), the Bermuda Small Business Development Corporation, and the Bermuda International Business Association (BIBA).

When:

Anticipated outcomes: A Bermudian workforce system which meets the needs of the economy and ensures equal opportunities for all Bermudians.

Possible difficulties: Government can lead, but cannot achieve this alone. Students' success requires the input and support of the wider society and business, as well as, engaged parents. While the workforce development system must help all Bermudians fulfil their maximum potential, unrealistic expectations that every person, whether Bermudian or not can become the CEO of a major corporation, a lawyer or doctor, must be managed.

Box 1.2

'The Four Cornerstones'

These are starting points only, but some of the main elements of the 'four cornerstones' contained in the Arnold Group report, *Doing Better in Bermuda* are:

a) **Public Education**

- Increased student academic assessments beginning in middle school and conducted annually.
- continued top-up teacher training including externships and industry secondments to augment classroom skills
- A formalised school-to-career system for students
- A structured adult mentoring programme, with programmes for guidance counsellors to improve understanding of the economy and employer expectations
- Strengthened technical education opportunities with day-release programmes

b) **Employment Transition Services and Work Preparation**

- Bringing stakeholders together to establish a one-stop career centre to provide job-seeker and employer services.
- A Bermudian job bank, detailing available opportunities
- An electronic job-matching system so that those seeking work can be informed of

relevant vacancies

- Job preparation workshops

c) **Training**

- Restructuring and expansion of the NTB
- Offer subsidies, tax incentives or grants to employers training Bermudians, to enable employers to invest in their employees, improve productivity, bring skills up-to-date and remain competitive in the global economy.
- Establish a Bermuda Public Administration Institute to further education and promote improvements in public administration

d) **Industry/Commerce**

- Identifying career ladders
- Management training by industry or occupational groups
- Address the perceived 'glass-ceiling' for Bermudians through increased and systematised career awareness activities and financial assistance to Bermudians for tertiary education.

Box 1.3

Additional options for consideration by the Workforce and Employment Taskforce

The recommendations of the Arnold Group are summarised in Text Box 1.2 above.

The Taskforce should also cover the following options not picked up in the Arnold Group Report, but raised through the Sustainable Development Project Consultation:

- **A review of scholarships** for tertiary-level education available in Bermuda – to assess and if necessary encourage those organisations which disburse scholarships to work together to address:
- **User friendliness.** Much money is available for scholarships offered by many different organisations. However, this entails students making numerous applications in different formats asking for different criteria. With several hundred different scholarships available, the task of completing numerous applications presents a real barrier to access tertiary education and subsequent career advancement. Clearly, Government cannot require donors to do this, but donors themselves can co-ordinate to help make the process more user-friendly by developing a standardised application form, which meets everyone's needs.
- **Equality issues.** Scholarships are disbursed to a variety of criteria. Applicants are successful based on both ability to achieve and inability to pay. Again, this is the nature of philanthropy and cannot be easily regulated. Standard guidelines for scholarships could be developed to help donors ensure a greater diversity of applications is received.

- **More rigorous standards for educational institutions.** There appears to be a need to develop a list of acceptable, high standard universities for which Government and business will offer loans or grants. This will ensure that students are not being supported to attend tertiary education institutions which are not offering quality courses.
- **Broaden scholarships.** To ensure that all students, including those in the professional and technical disciplines which are necessary for Bermuda's development, have access to funding also.
- **Update list of available scholarships.** Several lists exist, none of them up-to-date. The one-stop Careers Centre suggested by the Arnold Group report could act as a clearinghouse, holding a definitive list.
- **Inform Bermudian students of job trends and vacancies.** Ensure that the Job Bank to be developed as part of the Workforce Development Strategy holds contact information on Bermudian students (available through the Department of Immigration), informs them of job trends, and publicises in advance the fortnightly list of work permits which are due to expire.
- **Improve standards of public education.** The Arnold Group report contains a number of key recommendations on improving public education. This is an area of significant concern to the Bermudian public. Much work is already being undertaken by the Ministry of Education and Development to improve pupils' success rates. These initiatives are set out in Text Box 1.4. They include:
 - incorporating into current activities a focus on core skills at early ages, with targeted assistance for those students who have been identified as having poor reading and writing; and
 - improving standards of teaching
- **Invest in Information Technology skills.** Develop a joint initiative, as a pilot programme between the Bermuda College and business, to offer training in the IT software and hardware skills which are an essential foundation to any modern economy.
- **Graduated work permit fees.** Significantly increase work permit costs, on a graduated scale linked to the permit holder's salary and type of employment. The current flat fee does not encourage employers to develop Bermudians for key posts. See proposals at Option 1.4.A.1 and Text Box 1.6.
- **Continue to track employment trends** and measure the extent to which Bermudians are being utilised in the economy, broken down by race, age and role. This is currently carried out effectively by both the Department of Statistics and CURE. Business may feel burdened by these information requirements, but they are essential for an effective Workforce Development Strategy.
- **Utilise spouses of non-Bermudians.** Spouses of work permit holders often have relevant skills and knowledge that could be of benefit to Bermuda but are often not

utilised. Developing a clear policy statement from the Department of Immigration that these spouses can seek forms of unpaid service, for example in the voluntary sector, might encourage their engagement in the economy.

- **Workforce Empowerment Strategy.** As a significant part of the Workforce Development Strategy, CURE has developed a Workforce Empowerment Strategy (attached at Annex B) to set out the actions necessary to address current racial imbalances in the workforce. A significant number of the actions suggested fall outside of CURE's remit, and overlap with the wider proposal for a Workforce Development Strategy for Bermuda. Hence CURE and the Empowerment Strategy should be included in the work of the Workforce Development Taskforce.

Box 1.4

Improving Bermuda's Public Education System

In its December 2005 *Mid-Year Financial Review* Government published details of current spending and investment on education and its school building programme. Set out below is the detail from that report.

Currently Government spends over \$138m a year on services exclusively for the youth. This sum has risen by \$6.89m over 2004/05 and represents the highest per capita expenditure on young people in the island's history. There are currently over 15,000 young people domiciled on the island from birth to age 19 years. Approximately half that number are in Government-funded schools while the rest are in the eight privately-funded schools on the island) either on the island or in other private schools abroad.

Pre-school and Primary

Government provides 18 primary schools and 12 pre-schools for the residents on the island. Currently the annual running costs are \$32,843,000 a year. This represents an increase of \$2,391,000 over the previous year, a significant investment in the future of Bermuda's youngest children, ensuring they have a good start in their school careers. This has been further bolstered by improving staff/pupil ratios.

Middle school

There are five publicly funded middle schools on the island with 1,300 pupils. Current running costs are \$14,250,000 a year, an increase on 2004/05. At entry-to-middle school, children's attainment levels have risen as measured by the recent 2004/05 Terra Nova results. These show that there has been an improvement in overall standards for middle school pupils in the four categories measured so that during the time spent at middle school most pupils improve their reading and mathematical skills.

Senior school

1,500 pupils attend the two public senior schools at CedarBridge Academy and The Berkeley Institute. Pupils now attend until they reach their seventeenth birthday and this has led to a number of changes in the way these schools operate. In particular, the senior schools now offer

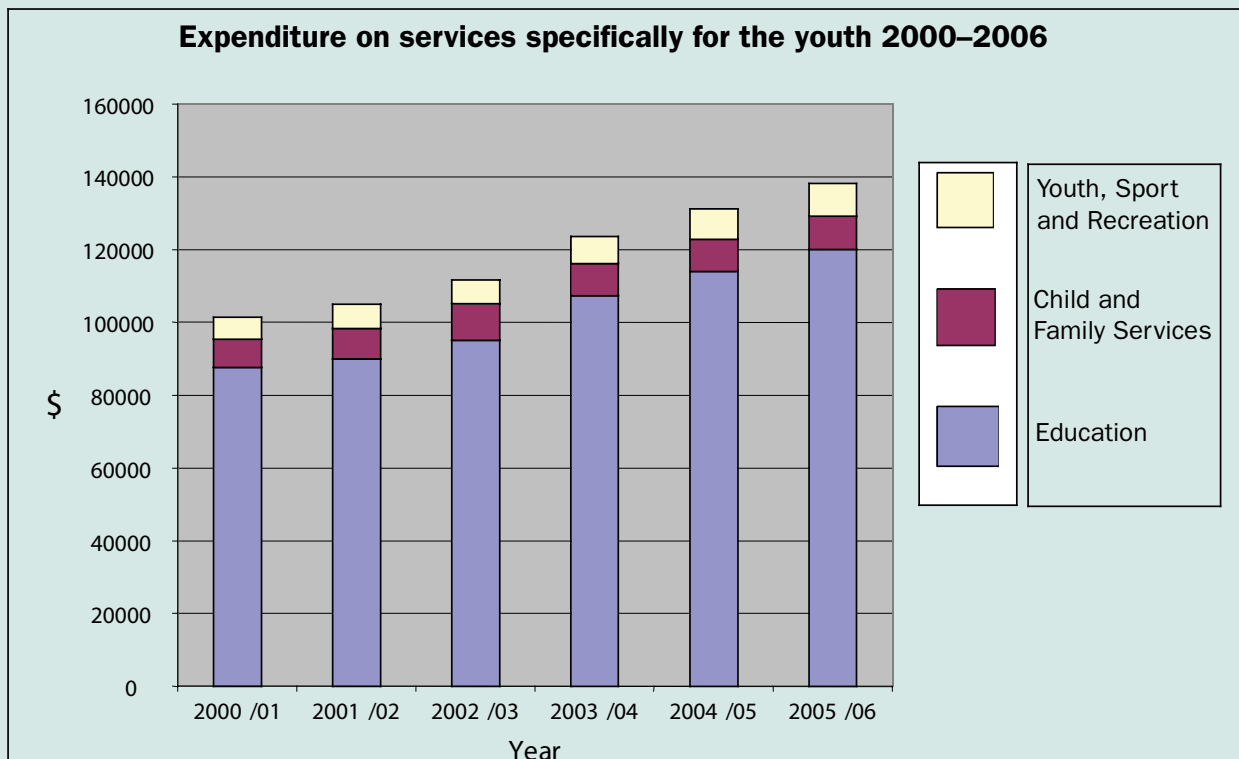
an opportunity for pupils to study for the UK's GCSE (General Certificate in Secondary Education) examinations in addition to the Bermuda Secondary School Certificate examinations. For some students, the GCSE facilitates applications to overseas tertiary education as the qualifications are readily recognised abroad. Senior school pupils also have the opportunity to undertake work experience through the co-operative work release programme and, as announced in the Throne Speech, Government will be building on the success of this to expand the offer.

Current running costs for these two schools are \$22 million and Government planned on spending an additional \$1.2m during 2005/06. Staff/student ratios at these schools have also been improved.

School building programme

No matter how good the teaching, if the physical surroundings are unsuitable and unsafe it is difficult for children to reach their full potential. In its 2005/06 Budget Statement Government reported that the total authorised figure for capital expenditure on schools was \$172 million. This has been one of the biggest waves of construction projects on school facilities in recent years and has drawn on the skills of workmen from many different disciplines to produce the best possible environment for Bermuda's children.

The refurbishment and rebuilding programme has meant that the majority of the 36 Government-funded schools on the island have now been completed. The biggest element of the programme has been the provision of the new senior school. Although there have been some delays with this project it will result in a superb new facility that will provide pupils and staff with an environment conducive to excellence.



Scholarships and Awards

Government currently sponsors 30 young people a year through the Institute for the Gifted and Talented. A further 333 are sponsored through the National Training Board, including a number receiving training and apprenticeships in Canada. Government also provides overseas college and university scholarships which in 2003 were increased to \$25,000 each. Full financial grants will be provided to members of the Bermuda Regiment attending Bermuda College, as well as, free travel on buses and ferries. Government also provides sponsorship to 36 elite athletes, at both senior (24 are sponsored) and junior (12 are sponsored) levels through grants that average \$7,750 for seniors and \$4,167 for juniors. The National Youth Choir receives a grant of \$5,000. There will also be additional public funding for the Raleigh International Expedition in 2006.

Play facilities

As well as school facilities, it is important for children to have access to good quality, safe play facilities to improve their fitness and develop their social skills. Summer Camp has been running many years, and has an excellent reputation, providing an opportunity to access a wide range of sports and other activities. Investment has increased from \$668,000 in 2003/04 to \$808,000 in 2005/06. In addition 12 fun camps providing a total of 800 places for preschool and primary school children are run in December, February, April and November. There is also a comprehensive after-school programme that provides a wide range of activities and is an important diversion from otherwise risky activity.

Objective 1.1.B: Increase opportunities for entrepreneurship

Small businesses and entrepreneurs in any country employ significant numbers of people, encourage economic diversity, the creation of new markets and can generate new wealth in previously disadvantaged communities. The same is likely to be highly true in Bermuda, despite no tracking of this kind of data. Bermuda has a long history of entrepreneurship, which explains its current high position in global GDP tables. However, start-up costs are high, the marketplace small, and access to capital limited. The proposals below have been developed by the Bermuda Small Business Development Corporation (BSBDC) and are already being actioned, in parallel with continued support in business and financial planning, as currently offered by BSBDC.

Options for Action

Option 1.1.B.1: Continually reassess regulatory framework and fiscal burden

What: Where business proposals can be shown to produce long-term economic, environmental and social benefits to Bermuda, Government should assist in encouraging the removal of regulatory barriers. The impact on small businesses should be an integral part of the Sustainability Impact Assessment outlined at Option 2.1.A.4. in Theme 2: Transforming Governance and the Public Sector.

Why: Existing and future regulation can have unintended consequences on the viability of all businesses, particularly smaller ones.

Who: BSBDC

When: Ongoing

Anticipated outcomes: Increased business start-ups which lead to successful long-term enterprises.

Possible difficulties: Government bureaucracy and a lack of co-ordination.

Option 1.1.B.2: Establish a North Hamilton Economic Empowerment Zone

What: An economic empowerment zone in North Hamilton is currently being developed. The intention is to create an area where small businesses are actively supported and incubated by Government. This could be coupled with land tax breaks and infrastructure investment, with protection for locally-owned businesses and supported through flexible planning policies.

Why: North Hamilton has traditionally been a home for small businesses. With commercial rents increasing across the City, smaller retail operations are under increased pressure. For the most part North Hamilton retains a traditional Bermudian look and atmosphere, which can be protected and capitalised upon for the benefit of tourists and Bermudians alike.

Who: BSBDC, Ministry of Finance, Ministry of the Environment, Department of Planning, Land Valuation Department, and the Ministry of Works and Engineering and Housing.

When:

Anticipated outcomes: A rejuvenated North Hamilton
Possible difficulties: Effective co-ordination between different Government agencies and ensuring effective stakeholder engagement so that proposals are rooted in the real needs of North Hamilton's current residents.

Option 1.1.B.3: Establish an Enterprise Capital Fund

What: Develop an Enterprise Capital Fund to help provide capital support for small businesses in conjunction with the banking sector. This is already underway but work on the detailed apparatus needs to continue. Particularly with regard to the fund's focus and ensuring that proposals are step-wise, with clear mechanisms to review the success of such a fund, and scale-up as necessary, once a successful model is identified.
Why: Access to venture capital can be limited for small businesses.
Who: Ministry of Finance, BSBDC, banking and financial sectors.
When:
Anticipated outcomes: Increased business start-ups which lead to successful long-term enterprises.
Possible difficulties: Developing clear criteria for support and repayment systems, as well as regular assessment of success.

Option 1.1.B.4: Create a Small Construction Contractor Incubation and Expansion Service

What: This project is already underway. It bundles together a package of services, such as book-keeping, social insurance and legal advice, for small, medium and large construction businesses which meet specific criteria (such as number of employees and size of turnover). This could also be linked with a pilot scheme to upgrade derelict houses, and training programmes being developed by the NTB and the Construction Association of Bermuda (COAB).
Why: The construction sector offers significant employment opportunities for unskilled workers. Such a service would help tradesmen develop from employees into employers, especially given current growth in the construction sector.
Who: BSBDC, NTB, COAB, Ministry of Finance and the Ministry of Works and Engineering and Housing.
When:
Anticipated outcomes: Increased competition and opportunities for a broader range of Bermudians in the construction sector.
Possible difficulties: Ensuring an exit strategy for businesses on this programme, so that they are not continually reliant on external support from BSBDC.

Option 1.1.B.5: Establish free market vendor space for start-up businesses

What: Identify sites on Government land for market vendors which could be provided at zero or low rent for start-up retail businesses.
Why: High business rents often deter start-up vendors. The Government's intention is to facilitate the development of start-ups to mid-size businesses. In addition, providing free sites would be a first step for entrepreneurs to test their ideas and products and build a market niche before taking the next step of renting retail space.
Who: Ministry of Finance, BSBDC, Ministry of Works and Engineering and Housing, Ministry of Community Affairs and Sport, Ministry of Tourism and Transport.
When:
Anticipated outcomes: A more vibrant and diverse retail sector, with increased opportunities for Bermudians to enter the retail trade.
Possible difficulties: Keeping a regular turnover of new businesses by working with vendors to scale-up their operations and ensuring that sites do not stagnate.

Option 1.1.B.6: Create a mentor pairing system

What: Assess the scope for a mentor pairing system, which would see experienced businesses and business people offering advice to start-up companies.
Why: Running a small business requires a wide range of skills, often developed over time and through hard experience.
Who: BSBDC, possibly linked with the Chamber of Commerce.
When:
Anticipated outcomes: Increased numbers of start-up businesses remaining viable in the long-term.
Possible difficulties: Identifying suitable partners and developing a low-cost, low maintenance system which does not rely too heavily on bureaucracy. Additionally, maintaining commercial confidentiality could present challenges.

Option 1.1.B.7: Legally define 'social enterprise' companies

What: Build a definition of 'social enterprise' into a revised Charities Act (see Options 4.2.A.7 and 4.2.A.8. in Theme 5: Sustaining Our Communities). These are not-for-profit businesses which provide significant social and environmental benefits through their actions, for example training and re-skilling marginalised youths, or working with prisoners to refit and refurbish electrical goods, houses, cars, etc. This needs to be further explored with other jurisdictions' legislation reviewed.

Why: Such enterprises do not operate in the same way as ‘for-profit’ businesses, and as such should benefit from differentiated treatment in terms of taxation and regulation. Before doing so, it is necessary to define them in legal terms.
Who: Ministry of Health and Family Services, BSBDC, Ministry of Labour, Home Affairs and Public Safety, Registrar General.
When:
Anticipated outcomes: Growth in numbers of not-for-profit enterprises.
Possible difficulties: Developing a definition which suits Bermuda’s circumstances and avoiding misuse of the status.

Option 1.1.B.8: Lower duty on goods imported in kit form

What: Assess the scope to redesign the duty system to enable pre-manufactured goods in kit form (or component parts) to be imported at lower cost.
Why: This would stimulate the light-manufacturing industry and add another employment opportunity to graduates from technical training courses.
Who: Ministry of Finance, HM Customs.
When:
Anticipated outcomes: In the long-term, the establishment of a broader employment base for unskilled workers.
Possible difficulties: Current limitations on this proposal include high labour costs which could prevent take-up, but it would not cost significant amounts to enshrine in legislation and could provide benefits in the future. At the same time, the new island Development Plan would need to ensure there are adequate spaces zoned for this type of land-use.

Option 1.1.B.9: Small business support through Government procurement

What: Develop criteria for Government procurement which appropriately encourages and supports small and emerging businesses.
Why: Government is a major purchaser of goods and services. Its procurement policies can help diversify a number of sectors of the economy.
Who: Accountant General, Ministry of Works and Engineering and Housing, Procurement Unit; Ministry of Finance, Accountant General’s Department, Sustainable Development Unit, BSBDC (see Option 2.1.A.11 in Theme 2: Transforming Governance and the Public Sector).
When:
Anticipated outcomes: Increased business start-ups which lead to successful long-term enterprises.
Possible difficulties: Ensuring transparency in selection criteria.

Option 1.1.B.10: Consider short-term tax breaks

What: Payroll tax-breaks could be given in the first year or two of small start-up businesses.
Why: Start-up costs are high, representing a significant barrier to success. Initial tax-breaks during the early stages of start-up would help lower costs.
Who: Ministry of Finance, BSBDC.
When:
Anticipated outcomes: Increased business start-ups which lead to successful long-term enterprises. Increased economic opportunity
Possible difficulties: Clear criteria to prevent businesses constantly redefining themselves as 'start-up companies' to benefit from this provision.

Option 1.1.B.11: Develop a Business Registry

What: Develop a Register of Businesses in Bermuda, which would be publicly available and show the sector in which a business was operating and the Directors. This could be developed from existing tax records and need not require additional bureaucracy.
Why: It is not currently possible to access this kind of information about businesses in Bermuda, leading to concerns about transparency and making it difficult to track trends in the local economy.
Who: Ministry of Finance, Registrar General
When:
Anticipated outcomes: More transparency about the types and sizes of businesses in Bermuda leading to more informed policy-making.
Possible difficulties: Resistance to such transparency as a result of a historical culture of privacy.

Issue 1.2: How do we strengthen the existing economic sectors which earn foreign currency?

The high cost of living, rising healthcare costs, increases in oil price rises, the fact that most goods are imported, all impact on wages and the cost of doing business in Bermuda. These factors ultimately creating an expensive destination for both tourists and businesses. These factors also impact on international business but to a lesser extent, since while it makes financial sense to have headquarters here, it may not be as profitable to base backroom staff here as opposed to cheaper jurisdictions.

Many consultees have suggested an income tax to ensure a more progressive tax base. The main argument against income tax is that the costs of the infrastructure needed to police and gather data might outweigh any benefits. The current system is simple. As set out in the *Report on Bermuda Tax System*, 4 August 1999, Gutman and Toder, "Costs of compliance and administration would rise substantially if Bermuda adopted a broad-based income tax, a retail sales tax, or a value-added tax."

Objective 1.2.A: Plan for the future with the best information available.

Options for Action

Option 1.2.A.1: Undertake regular long-range economic, population and manpower forecasting

What: The Ministry of Finance is currently undertaking, through consultants, a long-range economic forecast for Bermuda through to 2015, including projections of real gross domestic product (GDP) for different sectors and related labour force needs. Additionally, the Department of Statistics has currently completed long-range population forecast for the island through to 2030, including projections of the non-Bermudian population.
Why: This is necessary for economic planning, labour force projections, coupled with skills development to reduce or avoid reliance on guest workers, and to project Government taxation revenues over the coming years.
Who: Ministry of Finance, Ministry of Labour, Home Affairs and Public Safety, Ministry of Telecommunications and E-Commerce, Department of Statistics and the Sustainable Development Unit.
When:
Anticipated outcomes: More accurate growth forecasts, increased adaptability to coming changes and, hence, increased economic stability.
Possible difficulties: These forecasts are highly dependent on the quality of data and analysis and there is some doubt about the methodologies adopted for data collection within Bermuda.

Objective 1.2.B: Maintain Bermuda’s status as a quality destination for reputable international business.

- \$967.3 million was spent in Bermuda by international companies during 2000, including \$405 million in salaries and benefits and \$45.2 million in business fees. On average 56.6% of employees were Bermudian.
- These companies directly accounted for 3,470 jobs in 2000 (up 65% from 1991), helped maintain 9,450 jobs and severely influenced a further 4,670 jobs.
- There is a constant and natural turnover of companies registered in Bermuda. Many registered companies do not have actual office space here – Bermuda simply receives fees, rather than employment. Even if a company is headquartered here, the back-office may be elsewhere. This means less impact in terms of office space, housing and cars.

Options for Action

Option 1.2.B.1: Continued dialogue and brainstorming

<p>What: Continued dialogue between Government and International Business is essential. This Sustainable Development Strategy is intended to address many of the quality-of-life issues which would discourage international business from locating here and ensure that Bermuda remains a high-quality location, with a stable democratic basis. Ensuring a well-educated adaptable workforce (Theme 1), addressing open-space (Theme 3) and traffic issues (Theme 5), ensuring Government systems can deliver, with stakeholder engagement in decision-making, and transparency through public access to information (Theme 2) as part of the solution.</p>
<p>Why: Even with the best economic forecasting, it is difficult to know how markets and global conditions for international business will change, given the wide range of factors at play. Continual brainstorming, ‘horizon scanning’ and dialogue will ensure rapid reaction by Government and business alike. A good example here is the work that BIBA is doing to position Bermuda as a centre of excellence for fund administration, thereby increasing opportunities for Bermudians in both clerical and management positions.</p>
<p>Who: Ministry of Finance, Ministry of Labour, Home Affairs and Public Safety, the International Business Forum (IBF, the Association of Bermuda International Companies (ABIC), the Bermuda International Business Association (BIBA), the Bermuda Monetary Authority (BMA), the Association of Bermuda Insurers and Reinsurers (ABIR)</p>
<p>When: Ongoing</p>
<p>Anticipated outcomes: A strong international business sector.</p>
<p>Possible difficulties: Ensuring that Government reacts quickly to market changes while maintaining a regulatory environment which is competitive when compared to other jurisdictions but also retains high standards.</p>

Objective 1.2.C: Maintain and improve Bermuda's tourism industry.

Tourism has been and continues to be an integral component of Bermuda's economy. In 2004 there were 477,750 visitors to the island: 271,617 by air and 206,133 by cruise ship. Combined totals in 1980 were 558,874. In 1980 there were 109 guest properties and 9,000 beds. Today there are 55 guest properties and 4,412 beds. However, Bermuda will see an increase in the bed stock when properties like Tucker's Point and Belmont Hills fully come on-line. Air travellers alone are estimated to contribute between \$293.6 and \$336.5 million to the Bermuda economy.

Bermuda tends to attract, older, reasonably affluent, well educated visitors with a disposable income. These visitors appear to enjoy active vacations with emphasis on soft adventure activities and life-long learning experiences. Bermuda has continued to serve this type of visitor very well. In fact, the most recent exit surveys indicate that visitors generally continue to be completely satisfied with their Bermuda vacation experience and upon departure express a desire to return to Bermuda in the future.

Visitors say they come to Bermuda because of its proximity to the United States, the hospitality of its people, its temperate climate, its safety, its beautiful beaches and natural, scenic beauty, and the seclusion it offers. Popular attractions include the Royal Naval Dockyard, Town of St. George and Horseshoe Bay. To remain a global player, Bermuda must provide visitors the best services at competitive rates.

Currently, it is necessary to bring in workers to meet the demands of the tourism industry. In 2000, over 30% of those working in hotels were non-Bermudian, as were 44% of those working in restaurants and bars. Between 1991 and 2000 the number of hotel jobs fell by 758, to 2,738. Jobs in restaurants rose 29%.

Tourism has both positive and negative impacts and it is important to look at both. Visitors contribute to the vast amounts of waste produced on the island. Their presence places additional strain on Bermudian infrastructure and on Bermuda's natural environment. The height of the tourist season often coincides with periods of scant rain, and therefore puts additional stress on already scarce water resources. This problem is heightened by the fact that visitors are not as accustomed as Bermudians to conservative water use. Visitors staying in hotel use approximately 110 gallons of water per person per day, while Bermudian residents typically use 30.

Options for Action

Option 1.2.C.1: Publish a Tourism Strategy annually

What: Publish and publicise a summary of the Tourism Strategy – articulating clearly the current strategic direction for Bermuda’s tourism industry, building on the Strategy published in January 2005, underpinned by detailed action planning. Suggestions for dealing with the cruise ship industry have been made in Issue 5.8 in Theme 5: Living within Bermuda’s Limits. The proposed Tourism Strategy needs to set out how Bermuda intends to develop the product and positioning as a high-end niche destination for air arrivals. The focus should be on increasing visitor spending rather than visitor numbers.
Why: Given the strength of the economy, high wages and the high cost of living, Bermuda is finding it difficult to compete with other destinations in price terms. Unless stakeholders pull together to set a clear direction and achieve commonly agreed goals, it will be difficult to maintain a competitive industry.
Who: Department of Tourism in consultation with stakeholders
When:
Anticipated outcomes: A stable tourist industry.
Possible difficulties: As set out in the Bermuda Commission on Competitiveness report, 1994, “We have been told over and over again by our visitors that the current prices we charge are incompatible with the value they are receiving for the services. Value for money will be one of the key challenges for the industry in the next decade. . . .” This remains the case today, though much activity is taking place to address these issues.

Box 1.5

Elements for Consideration in a Tourism Strategy

- Redevelopment of Hamilton waterfront and port facilities as part of the Ports Infrastructure Masterplan.
- Revitalising Hamilton, including the suggestion to pedestrianise Reid Street, and encouraging more urban living patterns by increasing residential accommodation.
- Continued upgrading of hotel infrastructure with a maximum target on bed numbers.
- Exploring the options for tourist transport, including late-night and weekend buses and three-wheeled bikes.
- Continued push for cheaper airfares.
- The development of a PGA standard golf course to augment the ‘off-season’. Bermuda has lost its status as a premier golf destination, partly because of increased competition, and the lack of exposure as a PGA destination. Current courses are too short and cannot be expanded to meet the PGA standard. Any siting of a new golf course should be on a previously developed or brownfield site such as Morgan’s Point, rather than utilising a greenfield site.
- Develop specific measures and funding to enhance St. George’s as a UNESCO World

Heritage Site, bearing in mind its current carrying capacity (6,000), limited by the numbers of restaurants, museums, street size and parking.

- Link tourism development with planning and environmental protection measures to protect Bermuda's built heritage, open spaces, parkland, and marine environments.
- Revitalise Hamilton through provisions in the City of Hamilton Plan, and other suggestions in Theme 3.

Issue 1.3: How do we diversify the economy?

Central economic planning is extremely difficult, especially in a global system which operates on market-based principles, and a predisposition in Bermuda against Government intervention. The market-based economic system has served Bermuda well. Fundamentally, a well-educated, globally-minded population with high entrepreneurial skills (for which Bermuda is famous) are the basis of a flourishing and adaptable economy.

However, the current pillars of the economy, Tourism and International Business, did not become so strong without significant help from Government in ensuring an effective regulatory environment, coupled with communication and partnership with private sector stakeholders.

There is potential in other aspects of international business, for example communications and jurisdictional forums, which might offer significant opportunities for Bermuda to develop new streams of revenue.

Objective 1.3.A: Develop, over time, a more diverse economic base.

Options for Action

Option 1.3.A.1: Continued dialogue and rapid Government reaction

What: In the sustainable development consultation process, offshore fishing, aquaculture, international conferences, and sporting events have been raised as possible future foreign currency earners. International business, through BIBA and other bodies, has been constantly exploring the scope for diversification within the international business sector, to broaden the base from reinsurance. Any suggestions need to be taken up with respective Ministries, who should be encouraged to actively review and engage with any proposals for economic diversification.

Why: As with the suggestion at Option 1.1.B.1 for continual monitoring of effects of the fiscal burden and regulatory framework on small businesses, and at Option 1.2.B.1 for continued dialogue with international business to maintain its viability, the only real answer to diversify the economic base is to maintain a watchful eye for opportunities and react quickly when they arise.

Who: All Ministries.

When: Ongoing.
Anticipated outcomes: Rapid reaction to new economic opportunities.
Possible difficulties: Maintaining open and frank channels of discourse and debate.

Option 1.3.A.2: Expand Bermuda’s Exclusive Economic Zone (EEZ)

What: Through the UK, engage in current international discussions with the International Maritime Organisation (IMO), on the size of the Exclusive Economic Zone (EEZ). Bermuda has 21 square miles of land, but has jurisdiction over several thousand square miles of ocean and ocean floor. There should be active monitoring of the legislative developments in the US and the UK, which would provide Bermuda with the opportunity to be proactive to any potential economic implications of legislative initiatives originating in those countries.
Why: While there may not currently be scope to capitalise on this marine resource, it seems sensible to participate in any discussions which might impact on the ability to exploit this in the future.
Who: Ministry of Environment, Ministry of Finance, Ministry of Tourism and Transport.
When: Ongoing.
Anticipated outcomes: Increased natural resource base.
Possible difficulties: Enforcement of rights over the EEZ.

Option 1.3.A.3: Loosen foreign exchange controls

What: Consider options for further relaxing foreign exchange controls.
Why: Earnings from overseas investments are now the third largest revenue source for foreign currency. Exploring options for further increasing this allows Bermuda’s current wealth to earn more foreign currency. It may also have a knock-on positive effect on the housing market, by giving Bermudians increased opportunities to invest their money elsewhere, rather than in the housing market.
Who: Ministry of Finance, Bermuda Monetary Authority (BMA)
When:
Anticipated outcomes: Increased foreign currency earnings.
Possible difficulties: Ensuring that this does not lead to an outflow of capital from Bermuda, potentially devaluing the currency.

Issue 1.4: How do we ensure that businesses in Bermuda contribute positively to the island's social and environmental needs?

Bermuda is known for its local entrepreneurship, secure business environment, sound reputation and democratic stable governance. The presence of international business on the island brings an abundance of intellectual capital, which needs to be harnessed for the benefit of Bermuda. Taking a full role in achieving a more sustainable path is of equal and fundamental benefit to those local and international business domiciled here. As one consultee put it, it is in any business' enlightened self-interest to help sustain the jurisdiction in which its head office is based. Yet consultation has brought to light some significant strains placed on Bermuda by recent economic growth.

Business in Bermuda operates in a relatively low-tax environment, certainly in terms of tax on profits. This is in some sense offset by high labour costs and the high cost of living. However, there have been many calls for increased taxation on business to reflect the benefits they gain from being domiciled here and the burdens placed on Bermuda's infrastructure and society. At the moment, increased taxation directly on profits would be unlikely to send the right message as this might precipitate a leakage of business to other jurisdictions and an increase in the costs of local services as the taxation is passed on to the consumer.

Some consultees expressed concern that overburdening international business will make other jurisdictions more attractive as place to do business. Bermuda needs to be careful that the sustainable development project does not send the message that the island is closed to new business. However, Bermuda should expect high voluntary standards of corporate responsibility. Many companies in Bermuda already invest millions of dollars in the Bermudian community in terms of charitable donations, sponsorship of cultural and sporting events, sports clubs and education initiatives. However, there are few mechanisms to ensure that these acts are effective, based on society's needs, and mutually reinforcing. It is difficult to force philanthropic gestures to meet certain criteria, but there is scope for collaboration within the private sector, the third (volunteer) sector, and with Government, as set out in Option 4.2.A.6 in Theme 4: Sustaining our Communities.

Objective 1.4.A: Strengthen the partnership with the private sector in developing a more sustainable Bermuda.

Option 1.4.A.1: Redesign and expand the current Corporate Responsibility programme

What: In consultation with stakeholders, develop a flexible checklist of specific actions (with a range of options) which could be considered to constitute good corporate citizenship. See below for suggested checklist contents. Each action would garner an agreed number of 'Corporate Responsibility Points'. Work permit fees would be related to the number of points a company scored, on a sliding scale, with a high scoring business seeing no increase in fees. In this way good corporate citizens would be recognised and rewarded, average performers given an economic incentive to improve and poor performers penalised. Such expectations should be made of local and international businesses as well as Government itself.
Why: Currently the Department of Immigration runs a pilot Corporate Responsibility programme linked to the fast-tracking of work permits. Take-up of this scheme is low with limited resources for enforcement. This may change as the six-year term-limits start to have effect in 2007. Business has complained that the scheme assumes that all businesses are automatically irresponsible, which is not the case. Many businesses undertake significant philanthropy, offering wider environmental and social benefits. These acts would be recognised under this proposal.
Who: Ministry of Labour, Home Affairs and Public Safety, Department of Immigration, Ministry of Finance. In consultation with businesses (including the Chamber of Commerce, Bermuda Employers Council, International Business Forum, the Association of Bermuda International Companies and the Association of Bermuda Insurers and Re-insurers).
When:
Anticipated outcomes: Improved corporate social responsibility.
Possible difficulties: Developing effective bureaucratic oversight to avoid delays in work permit processing or precipitating lengthy appeals processes.

BOX 1.6

Good Corporate Citizen Checklist

With a lengthy list of options, weighted appropriately, businesses would be able to choose the most appropriate options for their circumstances, ensuring maximum flexibility. If a maximum number of points available is 100, then 50 points could be considered to be good, 25 – average, and 10 – poor.

Compliance with the checklist would be devolved to relevant Government departments and agencies with, for example, CURE giving assurance to the Department of Immigration that a business was adhering to the CURE Code of Practice. Different criteria could be set for smaller businesses and start-up companies.

The first step would be to develop the checklist and necessary Government apparatus, then

disseminate the new scheme to all businesses with a suitable lead-in time. The increase in fees could also be phased in on a scaled basis, with a 25% increase after one year, 50% after two years, etc. to give businesses time to react as necessary to the changed conditions.

Other incentives, which could be implemented alongside increased work permit fees, could include being denied membership to appropriate bodies such as the Chamber of Commerce, although this would have to be negotiated with the relevant trade bodies.

Suggested items to include on this checklist would be:

- Encouraging mentoring or voluntary work in the workplace by linking these activities to performance bonuses for employees, including them in forward job plans, or allowing time off for these activities.
- Developing clear standards for corporate giving, including giving only to third-sector organisations certified under the proposals at Options 4.2.A.7 and 4.2.A.8 (Theme 4: Sustaining our Communities) as well as, harmonisation with other donors. This could be further strengthened into proposing that businesses donate a standard percentage (to be decided) of their annual profits or give 'in kind' support to philanthropic causes in Bermuda, such as affordable housing, youth schemes or environmental clean-up.
- Having in place sustainable transport plans to encourage workers to car-share or use public transport (see Issue 5.5 in Theme 5: Living within Bermuda's Limits).
- Succession planning and work-shadowing for Bermudians, in addition to effective training and mentoring schemes to increase diversity in the workplace, including, in the case of global businesses, sending staff overseas to sister organisations for training and development.
- Being up to date with taxes.
- Having an employee wellness programme, such as gym membership or changing facilities and showers at work, to encourage exercise, walking and cycling.
- Conducting environmental audits for energy and water usage and waste production, and developing programmes for reducing energy and water use, using renewable energy sources and minimising waste. This not only offers small business opportunities in this field, but could be used to raise awareness amongst employees through the creation of 'green teams'. Additionally schoolchildren could be invited to undertake such audits as a school project.
- Taking part in small business mentoring schemes, as suggested at Option 1.1.B.6.

Theme 2: Transforming Governance and the Public Sector

Imagine

- A Bermuda where we really do all work together to achieve this shared vision.
- An island where we put sustainable development at the heart of what we do, making these goals the driving force for policy-making and action in Bermuda.
- A Bermuda where we take holistic decisions, evaluating and incorporating the social, economic and environmental costs and benefits of our choices.
- An island where we adopt a precautionary approach, ensuring that there is full evaluation of potentially damaging activities to avoid or minimise risks of serious or irreversible damage to the environment or human health.
- A Bermuda where we encourage broad participation in decision-making, continuing to develop partnerships between Government, business and the island's people and institutions.

Where are we now?

The success of this Strategy and Implementation Plan, and ultimately the future viability of Bermuda, lies in an effective and accountable Government and Civil Service.

For example, Government manages:

- Education;
- Social services provision;
- Numbers of people through the work permit system;
- Land through a planning system; and
- Infrastructure, such as roads.

Government must plan its activities and deliver effectively in partnership with other actors (see section on Partnership in Issue 2.2). Without clear business planning, staff turnover means that there is often no consistent strategic approach to any specific issue and often no effective handover when posts fall vacant or change.

Many of the proposals in this Implementation Plan are not new and have not been generated by off-island expertise. Yet the lack of action on these proposals might suggest that there is an issue with the process of policy formulation and development, as well as utilisation of current human and financial resources.

From discussions with Ministries, it is clear that where the public has raised concern over an issue, the necessary remedial action and solution:

- can be found in existing legislation which is being un-utilised or not properly enforced;
- is already contained in reports previously written either by consultants, the Department of Management Services, or other civil servants, but remains unimplemented;

- is already taking place, but needs to be accelerated, re-prioritised, scaled up, or properly resourced; or
- is taking place in a silo, without utilising the partners necessary for effective delivery, such as other Ministries, voluntary agencies, charities, or the private sector.

This suggests a weakness in cross-departmental collaboration and co-ordination, coupled with unclear roles and responsibilities for departments and civil servants, leading to

- the risk of duplication of services and activities and/or poor identification of gaps;
- poor sharing of information, relying on personal, rather than institutional co-ordination; and
- poor accountability for delivery and effectiveness.

Consultees have raised the need for

- transparency in the workings of Government;
- an effective and accountable Civil Service, where underperformance is rapidly addressed through either further professional development or dismissal; and
- the ability for the Civil Service to recruit the best candidates in the face of more competitive financial rewards from the business sector and falling morale in the Civil Service;
- improved trust between Ministers and senior civil servants; and
- better consultation with stakeholders and utilisation of the Government boards in policy making.

To be sustainable, the Government and the Civil Service must strive to improve the quality of service focusing on the results expected by the public. This will require strong leadership in order to

- build integration of service planning and delivery;
- improve information collection and sharing;
- invest in the skills and capacity of the organisation to perform;
- set and monitor service standards to define expectations; and
- ensure remedial action is taken if standards are not met.

This means transforming the machinery of Government and decision-making processes in order to embed sustainable development principles into the daily work of the public sector. It will involve training and development for all, but in particular the policy creators to understand how the broad concepts of sustainable development translate to a specific proposal.

Issue 2.1: Can the Government and Civil Service deliver Sustainable Development?

Policies and actions across Government should underpin progress towards sustainable development objectives, otherwise, by definition they will be supporting un-sustainable development. This Strategy and Implementation Plan is intended to become the overarching framework within which to make balanced policy decisions. This will avoid addressing long-term problems through short-term 'quick-fixes'; instead identifying win-win scenarios which meet environmental, social and economic needs, and where this is not possible, setting out the means to reach a trade-off between different goals.

The section on Monitoring and Follow-up in the Sustainable Development Strategy (see section 8) covers much of the Government apparatus needed to achieve this objective. The following options supplement that section.

Objective 2.1.A: Improve the co-ordination, collaboration and effectiveness of Ministries and Departments.

Options for Action

Embedding sustainable development objectives in the Government decision-making process.

Option 2.1.A.1: Set up a Sustainable Development Unit

What: The formation of a Sustainable Development Unit (SDU) within the Central Policy Unit (CPU) of the Cabinet Office. The SDU would:

- Monitor delivery of Government's Sustainable Development Strategy and Implementation Plan (SDSIP), review its content every five years, and publish an annual progress report.
- Appraise the impact on Bermuda's sustainable development of proposed major Government initiatives.
- Maintain an awareness of best practice in sustainable development strategies and the use of sustainability indicators.
- Attend and represent Bermuda at the United Nations Commission on Sustainable Development and relevant meetings on Small Island Developing States (SIDS).
- Develop, in conjunction with Ministries, potential Sustainable Development solutions for new initiatives and projects or where sustainability indicators show unsustainable trends in existing projects.
- Communicate and facilitate sustainable development across Government, embedding principles and actions in Ministry strategic and operational planning.
- Act as Secretariat to the Sustainable Development Roundtable to assist them in meeting their mandate.

This unit would require a Director, reporting to the Assistant Cabinet Secretary (Policy) and at least two dedicated staff. These staff members could be appointed on a permanent basis or could be seconded on a temporary basis from other departments, as is currently the practice within the Central Policy Unit (CPU). If the latter, care would be needed to ensure continuity and institutional memory was maintained, though it would provide a useful training opportunity for secondees and be an integral part of spreading sustainable development best practice across the Civil Service.

Why: The overall responsibility for delivery of this SDSIP must rest somewhere within the Civil Service, with dedicated staff. The location of the CPU at the centre of Government directly under the Cabinet Secretary and reporting to the Premier and Cabinet will reinforce the cross-Ministry nature of sustainable development.

Who: Cabinet Office.

When:

Anticipated outcomes: More effective delivery of the SDSIP.

Possible difficulties: Ensuring that the SDU has enough backing from the Premier, Cabinet and the senior Civil Service.

Option 2.1.A.2: Continue the Cross-Ministerial Steering Group

What: Maintain the current Cross-Ministerial Steering Group, made up of representatives of all Ministries, to act as an internal advisory group for the SDU. The group, acting on behalf of the Civil Service Executive (CSE), would assist to:

- Create links between departments and with external organisations;
- Audit existing activity in each sector;
- Identify key issues and barriers to action;
- Identify scope for streamlining and systematising existing activity;
- Offer expertise and advice on possible solutions and actions;
- Prioritise issues for action;
- Allocate tasks and responsibilities between different bodies/departments;
- Identify resources, both human and financial;
- Act as champions for dissemination and delivery of proposed actions; and
- Engage non-Governmental actors in the decision-making process.

Why: Sustainable development impacts on the work of all Ministries. As such, strong working relationships and information exchange between Ministries will be necessary.

Who: Led by SDU in collaboration with all Ministries.

When: Ongoing.

Anticipated outcomes: Knowledge sharing and more effective delivery of the SDSIP.

Possible difficulties: Identifying civil servant members with the necessary reach within Ministries.

Option 2.1.A.3: Regular review of the Sustainable Development Strategy and Implementation Plan (SDSIP)

<p>What: Draft legislation to require that each administration, within two years of being elected, table a revised and updated Sustainable Development Strategy and Implementation Plan, including updated sustainable development indicators. Most countries update their SDSIPs on average every five years.</p>
<p>Why: Since a five-yearly review coincides with the general election cycle under Bermuda’s Westminster system, the proposal above should ensure both a regular review and continued Government ownership of the SDSIP regardless of changes in administrations. A five-yearly review is required of the land use and spatial development strategy, so this is not a novel concept in Bermudian legislation.</p>
<p>Who: Cabinet Office, Attorney-General’s Chambers, Central Policy Unit, Sustainable Development Unit.</p>
<p>When:</p>
<p>Anticipated outcomes: Ensuring that successive administrations continue to place sustainable development at the heart of their decision-making processes.</p>
<p>Possible difficulties: Without legislative authority there would be no requirement for continued review and update of the SDSIP.</p>

Option 2.1.A.4: Implement Sustainability Impact Assessments

<p>What: Undertake Sustainability Impact Assessments (SIA) of all future policies, initially by the SDU in consultation with Ministries, eventually leading to ministries themselves developing this capacity. A ‘sustainability checklist’ will need to be developed to enable rapid assessment of the broad impacts of a policy, and point to areas where further, more detailed investigation may be needed. The outcomes of each SIA will be shared with all Ministries and Ministers and accompany the relevant Cabinet memoranda. Training in sustainable development and the use of this impact assessment checklist for civil servants will need to be built into HR’s training schedule, especially for senior managers and policy makers.</p>
<p>Why: This will aid co-ordinated policy making in the future and ensure that future policies reinforce rather than undermine sustainability.</p>
<p>Who: SDU, all Ministries.</p>
<p>When:</p>
<p>Anticipated outcomes: Ensuring that future policy decisions have been made taking into consideration sustainable development principles and the impacts of those policies on the economy, the society and the environment.</p>
<p>Possible difficulties: Consideration of the SIAs in the decision-making process, as well as ensuring the Civil Service is trained in order to implement effectively.</p>

Option 2.1.A.5: Keep abreast of international best practice

What: Keep abreast of international best practice in sustainable development by: <ul style="list-style-type: none">• joining the Association of Small Island States (AOSIS);• arranging observer status at the UN through associate membership of the UN Economic Commission for Latin America and the Caribbean (ECLAC); and• attending the Small Island Developing States (SIDS) and Commission on Sustainable Development (CSD) processes of the UN.
Why: Bermuda is not alone in facing issues of sustainability. There is much activity on a global level from which Bermuda has already benefited, and should continue to do so.
Who: SDU, Cabinet Office.
When:
Anticipated outcomes: An improved SDSIP and sustainable development process tailored to Bermuda's needs based on the experiences and best practice from around the world.
Possible difficulties: Due to conflicting priorities, resources and Bermuda's isolation, a lack of continued engagement on the international sustainable development arena.

Option 2.1.A.6: Engage in peer review of sustainable development strategies

What: This is a voluntary learning process where countries share good and bad experiences in formulating, elaborating and implementing their strategies. This would involve opening up Bermuda's approach to external scrutiny and offering our insights to other jurisdictions. Bermuda should continue to follow international proposals for a peer review process, and offer to take part in other countries' peer reviews in order to stay abreast of good practices and maintain links with the international community on sustainable development.
Why: Bermuda is not alone in facing issues of sustainability. There is much activity on a global level from which Bermuda has already benefited, and should continue to do so.
Who: SDU.
When:
Anticipated outcomes: A continuous sustainable development process that is tailored to Bermuda's needs but based on international best practice.
Possible difficulties: Due to conflicting priorities, resources and Bermuda's isolation, a lack of continued engagement on the international sustainable development arena. Also, possible unwillingness to external scrutiny.

Option 2.1.A.7: Ensuring clear goals, business planning, and budgetary rigour

<p>Sustainable development cannot be delivered solely by the Sustainable Development Unit. Ministries must be able to deliver, individually and collectively, on the specific initiatives contained in this Plan. Over time, the principles of sustainability should percolate into the entire machinery of Government, including existing cross-Governmental planning processes. Ideally, the SDU would become redundant, since other parts of Government would take over its various roles – for example CPU and CSE would link up sectoral policies, Department of Statistics would take over the sustainability indicators, and Ministries themselves would perform Sustainability Impact Assessments. Many of the proposals outlined below are underway but need to be prioritised by Cabinet and the CSE.</p>
<p>Why: To ensure that sustainable development is delivered throughout all aspects of Government, resulting in policy decisions and subsequent actions that holistically consider environmental, social and economic impacts.</p>
<p>Who: All Ministries.</p>
<p>When:</p>
<p>Anticipated outcomes: Improved delivery.</p>
<p>Possible difficulties: A silo-based culture and a lack of collaboration from Ministries and Departments.</p>

Option 2.1.A.8: Business Plans for each Ministry and Department linked to Forward Job Plans

<p>What: Ensure that each Ministry, through building on its zero-based budgeting (ZBB) process, publishes a Ministry business plan, which articulates a clear vision for each Department, sets priorities and the activities needed to achieve them, which correlates with spending plans set out in the ZBB process, and forward job plans for Permanent Secretaries and Department Heads.</p>
<p>Why: This would not only vastly improve the efficiency of Government, but help to build trust between policy-makers and politicians, as there would be a clear, agreed set of goals and actions against which to judge delivery and performance. Business plans also ensure continuity when staff change.</p>
<p>Who: Management Services, Ministry of Finance, CPU, HR and Civil Service Executive.</p>
<p>When:</p>
<p>Anticipated outcomes: Improved delivery.</p>
<p>Possible difficulties: Ensuring business planning is done annually, that Ministries and departments are held accountable, and that yearly goals and actions stick to what has been agreed in the plans with some flexibility when pressing issues arise.</p>

Option 2.1.A.9: Peer review of business plans

What: Ministries' business plans should be audited by the Civil Service Executive, with presentation by each Permanent Secretary to colleagues setting out the main objectives and priorities for the year. These should then be signed off by Cabinet following similar presentations. This may appear time-consuming but is likely to be time well spent.
Why: It cannot be over-stressed that it is impossible to manage the affairs of Government without a system to ensure that Departments and individuals know what priority outcomes and actions they are working towards, and how they are expected to achieve them.
Who: Civil Service Executive.
When:
Anticipated outcomes: Improved delivery and a better understanding by senior Civil Service of other Ministries' priorities.
Possible difficulties: Ensuring plans are completed annually and are shared between Ministries.

Option 2.1.A.10: Develop and respond to indicators of sustainable development

What: Develop a set of headline indicators of sustainable development, linked to key policies and actions in this document, and reported on annually, to act as a barometer of progress. These would need to be supported by more systematised data collection across the board to track trends and patterns and inform policy-making. These indicators would contain a basket of measurements – from GDP to education attainment, to crime, to environment. This will enable us to track progress on our goal to achieve a better quality of life for all and take timely action if trends are going in the wrong direction. The results shown by SD Indicators and progress reports against the Implementation Plan should drive Government's agenda, Ministry business plans and SDU's work for the following year.
Why: Unless progress is measured, the effectiveness of policies cannot be measured, corrective or additional action cannot be taken and worrying trends noted and addressed.
Who: SDU, Department of Statistics, all Ministries, CSE, Cabinet.
When:
Anticipated outcomes: Better targeted, more timely policy-making and action.
Possible difficulties: Lack of timely collection of data resulting in uninformed policy-making and delays in action.

Option 2.1.A.11: Set up a Procurement Unit

What: Set up a Procurement Unit in the Accountant General's Department. Government procurement involves significant funds, and can be used to lead and create markets. Currently, General Financial Instructions exists for procurement with three tenders required for contracts exceeding a certain amount, however other factors than cost are not included. Procurement standards could include sustainability criteria, such as requiring suppliers and contractors to have best environmental standards and Bermudian involvement. At the same time, procurement should be linked to small business support. A Procurement Unit could explore the options available and publish guidelines. It could also find cost efficiencies through bulk-purchasing which has already generated significant savings on paper supplies, with other immediate wins available on electronic goods such as photocopiers and office furniture.
Why: Better utilisation of Government funds to support sustainable development objectives.
Who: Accountant General's Department, SDU, BSBDC.
When:
Anticipated outcomes: Government leading the way in practising sustainable development principles.
Possible difficulties: Costs for better sustainable products and practices could be higher initially, but the result over time should see savings to Government and Bermuda.

Options for Action

Accountability within and outside of Government and improved investment in civil servants.

Option 2.1.A.12: Regular public reporting of progress

What: Publish an annual report of progress against the contents and commitments in this Strategy and Implementation Plan coupled with a report on the headline indicators. A more focused quarterly report should be prepared for the Premier, Cabinet and the SDRT. Government Departments should also issue an annual report of key achievements.
Why: To enable Cabinet, the CSE, the SD Round Table and the public to track progress against the agreed actions.
Who: Civil Service Executive (CSE) and the SDU.
When:
Anticipated outcomes: Increased accountability.
Possible Difficulties: Extracting timely information from Ministries.

Option 2.1.A.13: Improved Civil Service training

<p>What: Current management development programmes, focused on the senior levels within the Civil Service, need to provide intensive and regular training in the following areas:</p> <ul style="list-style-type: none">• Developing effective business management systems including the design of targets, objectives and outcomes. A fundamental part of the role of managers at all levels should be the requirement to understand and implement these processes, with mandatory training if unable to do this.• Developing effective performance management systems. This involves learning and practising the skill of managing individuals' performance; especially taking action to correct poor performance. 2004/5 performance appraisals showed that all civil servants who received a mark were rated as "satisfactory" or better. This would not appear to be a true reflection of current performance.• Improving interpersonal skills, such as conflict resolution and anger management.• All senior civil servants should be offered secondments to relevant bodies overseas as an essential part of their continued training, to ensure that first-hand experiences of best practices are maintained within the Civil Service.
<p>Why: Government and the citizenry cannot expect improved performance and accountability within the Civil Service unless they are given the requisite skills and support.</p>
<p>Who: Department of Human Resources.</p>
<p>When:</p>
<p>Anticipated outcomes: Improved delivery.</p>
<p>Possible difficulties: Ensuring that senior civil servants have time to undertake continuous training.</p>

Option 2.1.A.14: Increased mandate for the Department of Management Services

<p>What: The Department of Management Services performs essential operational reviews aimed at improving the efficiency of Government services, based on best practice. However this is usually undertaken on a request basis with little follow-up support for the implementation of recommendations. The Department should develop a programme of reviews, in consultation with the Civil Service Executive, with regular review of follow-up and an increased mandate to support implementation of review outcomes.</p>
<p>Why: To enable a more pro-active rather than reactive approach and to improve implementation of recommendations.</p>
<p>Who: Department of Management Services, CSE.</p>
<p>When:</p>
<p>Anticipated outcomes: Government services are continually provided in the most efficient manner possible, based on the most up-to-date best practice techniques and standards.</p>
<p>Possible difficulties: Potential resource constraints with a mandate for continual and regular reviews.</p>

Option 2.1.A.15: Performance related pay and promotion

What: Senior Civil Service pay and promotion should be based on performance against agreed objectives and standards, set out in Forward Job Plans. A significant part of a Forward Job Plan should be based on the Departmental Business Plan, with weak business and job planning penalised. Currently, timely returns of Forward Job Plans are low – in 2004 and 2005 the return rate for performance appraisals and job plans was 62%. The example must be set at the highest levels of the Civil Service before being rolled out to lower levels. Poor performance should result in further training and development, with continued weakness being followed by demotion or dismissal.
Why: If this is not prioritised, it will be difficult to deliver many Government commitments on-time and on-budget, difficult to reward and encourage good performers while removing weak ones, and difficult to recruit quality staff if they feel good work will not be properly recognised and they are not joining an efficient and effective organisation.
Who: Department of Human Resources.
When:
Anticipated outcomes: Greater motivation of staff based on agreed criteria and rewards for achievement against the criteria.
Possible difficulties: Acceptance by unions.

Option 2.1.A.16: Human Resources and succession planning

What: Effective training, performance and business management systems will go a long way towards improving delivery. However, it has also been noted that it is becoming increasingly difficult to attract and retain persons with the knowledge, skills and abilities to fulfill senior positions. The Department of Human Resources has been mandated to develop a system of succession planning, including a High Potential Scheme.
Why: Succession planning ensures a level of continuity and ensures a smooth transition and minimum loss of efficiency when vacancies occur. Whenever a position remains open for a few weeks or months, the disruption that can result can lead to confusion and loss of efficiency as the search for a replacement is conducted.
Who: Department of Human Resources, CSE, Heads of Departments.
When:
Anticipated outcomes: Minimum loss of efficiency and a level of continuity within departments.
Possible difficulties: Effectively identifying those employees that have the particular skills and competencies required to assume higher positions or fill future vacancies, as well as, proactively anticipating what talents will be required in the future.

Issue 2.2: Can Bermuda work together more effectively?

Sustainable development embodies the principle that unresolved conflicts of interest do not breed sustainability. At the national level a number of countries, following experiences with Local Agenda 21 agreed at the UN Earth Summit in Rio in 1992, recognised that progress towards sustainability was often best achieved through business, civil society and Government working in partnerships to identify and address common aims. This requires clarity on the aims of the partnership, and roles and responsibilities of various actors.

Government can and is leading in the Sustainable Development Project but it has neither the assets nor attributes to deliver on its own. Sustaining Bermuda's future requires strong and effective links and co-operation between Government, the private sector and civil society. The small population of Bermuda and small absolute numbers of civil servants means that knowledge and expertise on any particular issue does not reside solely in Government, nor could it be expected to. Working together to a common agenda, and having effective opportunities for debate and discussion where those agendas do not match, is essential.

Objective 2.2.A: Promote opportunities for working together in partnership.

Options for Action

Option 2.2.A.1: Retain the Sustainable Development Round Table

What: Continued stakeholder engagement and scrutiny of policy-making through the Sustainable Development Round Table (SDRT). Following publication of the SDSIP, the Sustainable Development Round Table will:

- Identify umbrella bodies and stakeholder groups in Bermuda and develop clear consultation mechanisms for policy-making;
- Help independently monitor Government's performance against the provisions of the Sustainable Development Strategy and Implementation Plan; and
- Increase public awareness of sustainable development issues.

The SDRT should be comprised of no more than 20 members, including representatives from:

- Business: local (Bermuda Employers Council), the Chamber of Commerce, tourism (Bermuda Hotel Association) and international business (BIBA).
- Civil society groups: the Bermuda National Trust, the churches, the unions, fishermen, farmers, educators, scientists, economists, and the media.
- Government: ex-officio members would include the Director of Sustainable Development and a member of the Civil Service Executive.

Consideration needs to be given to how the Round Table interacts with Government boards such as the Development Applications Board. Membership of the Round Table, in the case of institutions, should be by invitation. However, to ensure transparency, individual members should be invited to apply. Applications would be considered on the basis of relevant experience taking into account the existing membership of the SDRT to ensure a broad range of views and experience. A small stipend should be offered to recognise the time given by members.

Why: The SDRT can play a strong role in catalysing debate and bringing new ideas to the table. Government boards can also be utilised to play a stronger role in policy-making as currently the advisory mandate and role of a number of boards is limited.

Who: Premier, SDU.

When:

Anticipated outcomes: More robust progress towards sustainability.

Possible difficulties: Ensuring that the Round Table does not become a 'talking shop', but instead offers insightful comments on pressing issues while bringing together major stakeholders.

Option 2.2.A.2: Implement Public Access to Information (PATI)

What: PATI legislation gives people a statutory right to access Government-held information. Historically, secrecy has characterised governments around the world, and Government in Bermuda has been no exception. The Government is proposing a regime of openness that would contribute to more transparent and accountable government. The intention is to create a number of benefits for both the people and the Government of Bermuda and to achieve the following objectives:

- Inform the public, including organisations, companies and the media, about the Government's activities and operations, including how decisions are made;
- Encourage people to participate actively in the political process and decision-making in Bermudian society;
- Give the community confidence that public funds are being spent as intended and effectively;
- Help improve Government efficiency;
- Increase fairness in decision-making; and
- Eliminate unnecessary secrecy in Government.

The current CPU discussion paper on PATI offers more details. Copies can be found on the Government web site at www.gov.bm.

Why: A modern democracy relies on accurate information and analysis to be shared publicly in order to inform policy making, public debate and help build consensus between different groups.

Who: Cross-Governmental, CPU.

When:

Anticipated outcomes: Increased transparency and accountability.

Possible difficulties: Developing internal Government systems which can accurately record and disseminate documents and information, as well as, concerns about personal and commercially-confidential data protection.

Option 2.2.A.3: Review the role of Parish Councils

What: Make maximum use of Parish Councils as forums for community action and debate. The Department of Management Services is currently undertaking a review of Parish Councils to ascertain what role they might play in the future. Possibilities include responsibilities for community environmental and social regeneration, community spaces, and planning issues.

Why: Currently there is no common focus for communities within Bermuda. Partly, this role is fulfilled by churches, social and sports clubs, and the new 'Communities that Care' initiative.

Who: Ministry of Community Affairs and Sport, Ministry of Health and Family Services, Department of Management Services,

When:

Anticipated outcomes: Greater focus for local communities and their specific issues.

Possible difficulties: Limited human and financial resources. Finding the right balance between the responsibilities of national and local governance structures.

Option 2.2.A.4: Review the roles of all Government boards

What: The roles of the boards in policy-making and advice, as well as how members are appointed, would benefit from a thorough review. In addition, publish board members names and require an annual report of what they have done to be submitted.

Why: The numerous Government boards which currently exist have developed ad-hoc over time and in some cases their roles and procedures may be outdated.

Who: Department of Management Services, Central Policy Unit.

When:

Anticipated outcomes: Improved stakeholder engagement in policy-making leading to better policies and decisions.

Possible difficulties: Potential resistance from members to change the current way the boards' business is conducted.

Option 2.2.A.5: Develop a 'Personal Sustainability Pledge'

What: Develop a list of actions that individuals can take to support sustainability and encourage citizens to make public personal pledges, via the Sustainable Development website, on such actions as recycling, using energy efficient light bulbs or community volunteering.

Why: Throughout the Sustainable Development Project many individuals have asked what they can do to help. This proposal gives them the tools to effect personal change and public recognition for doing so.
Who: Sustainable Development Unit
When:
Anticipated outcomes: Greater individual action towards sustainability.
Possible difficulties: It would be difficult to verify whether these pledges had been fulfilled, though an honour system would be sufficient and the public nature of a pledge would help hold individuals to account.

Objective 2.2.B: To safeguard human rights and foster a culture of understanding

The United Nations, in reference to promoting a culture of peace states that,

“for peace and non-violence to prevail, we need to promote sustainable economic and social development by reducing economic and social inequities and by eradicating poverty and assuring sustainable food security, social justice, durable solutions to debt problems, empowerment of women [or designated interest groups], implementing special measures for groups with special needs, and environmental sustainability.”

Inequality poses great risks. National stability is an outcome of how rights are balanced, inequalities are reduced, information is shared and decision-making is transparent and accountable.

The Department of Human Affairs’ programmes, in part, respond to these commitments. The Commission for Unity and Racial Equality has as its primary focus racial equality, awareness and empowerment. The Human Rights Commission is responsible for protecting the human rights of residents, some of which have implications for employment, housing and services. Consumer Affairs protects the rights of community members, as consumers and as major actors in the work of creating a sustainable community.

Box 2.1

Bridging Bermuda’s divides – class, race, history and the future

Incomes, access to education and economic opportunity have differed between ethnic groups in Bermuda, as a result of slavery, segregation, and indentured servitude and their supporting legislation and cultural attitudes. Thus, socio-economic status, in other words class, has historically been predicated to a great extent by race. This legacy still exists despite great strides in social mobility and the creation of legal equality over the past 50 years. For example, the incomes of black households in Bermuda on average are still only two-thirds of white household incomes, though the gap is closing slowly.

In essence, class, race and individuals' personal perspective of the island's history and heritage have been, and are still, closely linked. What are perceived in other countries as class-based issues, are often perceived in Bermuda as race issues.

In the same way that the histories and perceived heritage of various socio-economic groups (i.e., classes) differ in other countries, despite being closely tied, the histories and perceived heritage of ethnic groups (i.e., races) differ in Bermuda, despite being closely tied. Put more bluntly, Bermudians do not have a shared sense or common understanding of the island's heritage and their ancestors' intertwined roles in that history. This is because the oral histories and cultural understandings passed on from generation to generation differ between races.

This issue of how to interpret a country's history can be a thorny one in many countries, but is particularly complicated in Bermuda because of the racial element and the fact that Bermuda's size makes history so much more personal. For example, one Bermudian's freedom fighter is another Bermudian's terrorist – the perspective is in the eye of the beholder.

The controversial nature of reconciling these numerous interpretations of Bermuda's past and its legacy, and the difficulty of drawing them together into a collective national understanding of the past, constrains the ability of professionals working in the heritage arena to provide the services which Bermuda needs. More broadly, it prevents Bermudians from working together in partnership for the good of the island.

Bermuda cannot achieve a mature and sensible collective perspective on its heritage and history until we address those imbalances of opportunity, and the economic and political power which result from Bermuda's past. These remaining imbalances mean that there is still too much emotional heat to have an island-wide, open and frank discussion about who Bermudians are as people and where they came from.

Equally, developing a common understanding and acceptance of the collective history, heritage and culture between the different sectors of Bermuda's population is part of the solution to overcoming those imbalances.

Ultimately, all Bermudians must be prepared come to the table with an open mind and a desire to understand and discuss, rather than argue and dismiss.

Options for Action

Option 2.2.B.1: Modernise and expand heritage outreach activities

What: Bermuda's cultural heritage institutions must modernise the way they operate so that they are providing a service that bridges the past, with the present and the future. This will expand Bermudian's understanding of where we come from and how we've gotten to where we are today, which will help us collectively to chart our future.

Why: Exposure to and an understanding of the collective history, heritage and culture between the different sectors of Bermuda's population is part of the solution to overcoming current imbalances.

Who: Ministry of Community Affairs and Sport, Ministry of Education and Development, Ministry of Tourism and Transport, Department of Communication and Information, Bermuda National Trust, Bermuda Historical Society, St. George's Historical Society, Historic Buildings Advisory Committee and St. David's Historical Society.

When:

Anticipated outcomes: A collective perspective on our history.

Possible difficulties: Until the imbalances of opportunity, economic and political power are resolved, there will be an inability to have an island-wide, open and frank discussion to agree a collective perspective.

Option 2.2.B.2: Include more Bermudian culture, identity and history in school curriculum

What: Greater emphasis should be placed on Bermudian culture, identity and history. This would not detract from exploring world, American, African or European history and culture, instead it would provide an excellent opportunity to understand these, since Bermuda's past is intertwined with all of them. The education kit prepared as a result of Bermuda's participation in the 2001 Smithsonian Folklife Festival should be utilised more broadly in schools. This kit helps to define Bermuda's folklife through various genres, highlight the exemplary tradition bearers and, through class projects, instill in students an awareness of Bermudian culture and identity.

Why: Until all Bermudians understand who we are as a people, where we come from and how we've gotten to where we are today, we will not be able to move forward collectively.

Who: Ministry of Community Affairs and Sport, Ministry of Education and Development.

When:

Anticipated outcomes: Collective national pride.

Possible difficulties: Agreement on what should be included in the curriculum. In addition, the ability to have the culture and history in a user-friendly form.

Theme 3: Protecting and Enhancing our Environment and Natural Resources

Imagine

- An island where open space and natural habitats are preserved for current and future generations to enjoy by building in different ways and concentrating on building in a few key areas; redeveloping previously developed sites rather than encroaching on green space; slowly restoring habitats to pristine condition; using landscaping to help with shading and screening; encouraging organic agriculture; and making maximum use of our marine environment without exploiting and damaging it.

Issue 3.1: Increasing overdevelopment and associated loss of open space.

We need to find a balance between the spatial development needs of the population such as housing, a new hospital, business, light industry, boating, fishing, etc., and spaces for recreation and nature.

Objective 3.1.A (Primary): The protection of, rehabilitation of and access to open spaces.

Target: Maintain between 30–45% of Bermuda’s land mass as open space for future generations.

Options for Action

Option 3.1.A.1: Implement a temporary limit on planning applications

What: In order to protect Bermuda’s remaining open space and agricultural land, implement an immediate, temporary moratorium on planning applications, except applications for certain types of development we want to promote. Such a moratorium would not include developments in the City of Hamilton, redevelopment of brownfield (previously developed) sites, and applications where the construction is for:

- Affordable housing;
- Office space which includes residential units;
- Energy and water efficient building, built to a recognised ‘green’ standard, such as the Leadership in Environmentally Efficient Design (LEED) system;
- Light industrial space;

<ul style="list-style-type: none"> • A householder wishing to undertake a minor addition/change to an existing unit; or • Tourism-related infrastructure.
<p>Why: Most open space is held in private hands and is being lost through small-scale infill developments and large-scale developments on 'greenfield sites'. Bermuda's economy is to a significant degree dependent upon a beautiful landscape with open spaces. Visitors and businesses come to the island for this beauty and residents relish the recreational options that open space provides. However, Bermuda's economic success and continuing demand for housing has resulted in increasing development pressure on its limited land resources, particularly on those areas that are not yet developed. If the current rate of development continues, there will be very little open space left, leaving a suburban Bermuda with poorly planned and distributed open spaces. The current land use plan, Bermuda Plan 1992, is 14 years old and no longer meets Bermuda's needs. However, increasing numbers of planning applications, coupled with a 14% staff vacancy rate, mean that the Department of Planning will find it difficult to develop a new plan without some breathing space. In addition, there is concern that by the time a new, comprehensive policy is developed, significantly more open space will have been lost.</p>
<p>Who: Ministry of the Environment, Department of Planning, Ministry of Justice, Attorney-General's Chambers, Ministry of Works and Engineering and Housing.</p>
<p>When:</p>
<p>Anticipated outcomes: This proposal would direct that development be appropriate to meet Bermuda's needs. It would also take the heat out of the construction market and encourage the types of development set out above. Though there are exceptions, developers tend to be profit-driven, rather than concerned with what Bermuda as a society needs. This would lead to a more balanced approach and enable the Department of Planning to more rapidly develop a new, comprehensive Planning Statement to meet the needs of 21st Century Bermuda.</p>
<p>Possible difficulties: Resistance to the removal of 'development rights' from specific parcels of land. Through consultation it has become clear that while many are concerned about the wider societal impact of overdevelopment, landowners still feel that whatever land they own should be free of any development limits, since it significantly affects the value of the land. The temporary nature of this moratorium should help calm these fears. Any permanent changes would be enacted through a new development plan and Planning Statement, which has a formal legal process for appeals and further consultation.</p>

Option 3.1.A.2: Develop Marsh Folly into a public park

<p>What: Move composting process from Marsh Folly and begin development of Marsh Folly Park. The park would be designed and developed in consultation with local stakeholders.</p>
<p>Why: Provide much-needed open space in a densely populated area.</p>
<p>Who: Ministry of Works and Engineering and Housing, Ministry of the Environment, Parks Department, Department of Planning.</p>
<p>When:</p>
<p>Anticipated outcomes: Improved quality of life for North Hamilton residents with inward investment attracted to the area.</p>

Possible difficulties: The current issue stalling this development is that work cannot start until the current composting facility is relocated (See Option 5.3.A.2 in Theme 5: Living Within Bermuda's Limits). Subsidence and drainage issues resulting from the marshy nature of the site will need to be borne in mind. The resultant possible 'gentrification' of the neighbourhood should be balanced by a strong link to the provision of affordable housing in this area.

Option 3.1.A.3: Develop the Railway Trail and Tribe Roads, linking up areas of public space

What: Improve signage and information boards on the Railway Trail, identify areas of public open space which could be linked to it by public footpaths, enter into agreement with private landowners to allow public access to land and purchase additional open space. Additionally, re-open closed Tribe Roads to link with this public park system.

Why: To create a green corridor along the length of the island, linking existing and additional green spaces, allowing running, walking and cycling, without needing to use major public highways. Significant areas already exist, such as Scaur Hill Park, Ferry Reach, Shelly Bay and Warwick Pond, but signage could be greatly improved, along with information boards.

Who: Ministry of the Environment, Department of Parks, Ministry of Works Engineering and Housing, Ministry of Tourism and Transport, Bermuda National Trust.

When:

Anticipated outcomes: An improved tourism product, increased access to open space for the public, and a green corridor for flora and fauna of Bermuda, while linking different habitats.

Possible difficulties: Cross-Ministerial co-ordination and labour resources.

Option 3.1.A.4: Create additional community areas in densely populated neighbourhoods

What: Seek opportunities to create community areas in parishes with high density populations. This can be achieved through a revised Planning Statement, utilising Government land and compulsory purchase of derelict properties.

Why: Open space resources are not distributed evenly throughout Bermuda. The central parishes have only half of the open space resources enjoyed by the eastern and western parishes. The parish having the largest proportion of open space is Warwick where the expanse of a golf course and national park add up to nearly 30% of the parish.^{vi}

Who: Ministry of the Environment, Department of Planning, Ministry of Works and Engineering and Housing, Ministry for National Drug Control, Ministry of Justice.

When:

Anticipated outcomes: Improved quality of environment for residents of densely populated areas and a slight relief in traffic due to recreational spaces closer to home.

Possible difficulties: Identifying sites and funding for redevelopment. (See Options 3.1.A.6 and 3.1.A.7 below)

Option 3.1.A.5: Encourage the creation of sidewalks

What: Incorporate into planning policy the requirement for all future developments which border a major road to include a public sidewalk. The staff of the Department of Works and Engineering could be tasked to carry out the work.

Why: Throughout the developed world, the lack of exercise, is being linked to rising obesity and other health issues, which in turn is leading to increased healthcare costs. Increased traffic and Bermuda's narrow roads discourage walking, even short distances. This is less of an issue on minor roads, but major thoroughfares can be dangerous. It also adds to the urban, pressurised feel of Bermuda, making the island a less attractive place. Large-scale compulsory purchase of land bordering the major roads would be difficult, however this piecemeal approach will lead to the creation of substantial lengths of sidewalk over time.

Who: Ministry of the Environment, Department of Planning, Ministry of Works and Engineering and Housing.

When:

Anticipated outcomes: Improved access and mobility for pedestrians and runners. Improved opportunities for exercise.

Possible difficulties: This policy by itself will not lead to a continuous sidewalk system, but is a first step. In the future it may be necessary to develop a sidewalk strategy to link up various stretches of sidewalk.

Option 3.1.A.6: Assess options for compensation to protect open space

What: Undertake a study on options for and viability of financial incentives to protect open space held in private hands. This will involve revisiting existing land-use zonings in the new Development Plan.

Why: To offer incentives for participation in open space protection, while addressing potential loss of land value or amenity through rezoning.

Who: Ministry of the Environment, Attorney-General's Chambers, Ministry of Finance, Ministry of Works and Engineering and Housing.

When:

Anticipated outcomes: Greater community and private sector commitment to open space protection.

Possible difficulties: In the past the issue of compensation has been resisted. Often achieving the wider public good can conflict with private rights of ownership. However, financial compensation may need to be linked to public access to those privately-owned open spaces and the removal of invasive species.

Option 3.1.A.7: Increase Government funding for the protection and creation of open space

<p>What: Increased resources for the Government purchase, protection and remediation of open space, funded through one (or a mix) of the following:</p> <ul style="list-style-type: none">• Enacting the provisions of Section 33 of the Development and Planning Act 1974, which currently allows for the creation of a fund for community areas (which includes parks, open spaces, etc.) into which developers must pay when they build in a way which is outside the provisions of the current Development Plan. This would not require additional legislation. An independent board should oversee the utilisation of these monies.• Increasing planning application costs on a sliding scale dependent on the size and value of the development.
<p>Why: With an average annual budget within the Ministry of Environment of only \$1.2 million to purchase open space,^{vii} the resources allocated for development far outstrip the resources allocated for retention of open space. Currently the costs to Government of processing planning applications, which are becoming more complex, are not reflected in the fees charged. Furthermore, planning applications which are outside the provisions of the current development plan are not subject to ‘planning gain’ whereby additional public benefit is required as a result of the development.</p>
<p>Who: Ministry of the Environment, Ministry of Finance, Ministry of Works and Engineering and Housing.</p>
<p>When:</p>
<p>Anticipated outcomes: Additional community spaces, fewer speculative planning applications, and greater cost recovery for Government.</p>
<p>Possible difficulties: Pressure on Government’s budget and competition for limited resources.</p>

Practice Example 3.1

Buy Back Bermuda

‘Buy Back Bermuda’ was a public campaign aimed at raising funds to purchase approximately three acres of land at Long Bay, Sandys. This was a joint initiative launched in 2004 by the Bermuda National Trust and the Bermuda Audubon Society.

Over \$1.7 million was raised within an 18-month period, enough to acquire the land. The Trust and the Audubon Society contributed more than \$300,000 of their own money towards the project and the Bermuda Government matched with a generous donation of a \$300,000. The remaining funds were raised through a public appeal resulting in over 400 people, including school children, politicians, local companies, international businesses, and foundations, all making a contribution. This collective effort is what contributed to the success of the ‘Buy Back Bermuda’ campaign.

Why ‘Buy Back Bermuda’ is a good example

In Bermuda open space is disappearing. For example, an area the size of Ferry Reach Park is lost to development every three years. With this rate of development the island’s delicate ecosystem and biodiversity is increasingly under threat, resulting in fewer places for Bermuda’s residents and

visitors to go and enjoy the island’s natural beauty. This is particularly worrisome, as Bermuda’s economy is largely dependent on this natural beauty.

The ‘Buy Back Bermuda’ campaign involved the purchase and protection of a particularly important piece of land; a critical habitat. The site lies adjacent to an existing national park and Audubon reserve and was effectively the missing third of Long Bay that was not previously protected. In fact, the site was under threat of residential development as late as April 2004. With the protection of this additional land, which includes the full length of Long Bay and its surrounding woodland and pond, a total of 10 acres of natural Bermuda is protected. This land will serve as a haven for generations to come, both for residents and tourists alike. It will also provide an incubator for the island’s biodiversity and a refuge for local and migratory birds.

Sustainable development requires that unsustainable trends are identified and addressed. In this case, Bermudians recognised the pressing need to protect open space for the benefit of future generations and the community took positive action. Everyone joined together. Government, charities, individuals, school children, local businesses, international companies – everyone contributed to the project. ‘Buy Back Bermuda’ is a good example of a successful partnership in action to address unsustainable issues.

Option 3.1.A.8: Government commitment to protect Government-owned green-field sites

What: A commitment to not develop on Government-owned open space prior to the publication of the new Development Plan. The exception would be existing planning applications and development plans, and redevelopment of brownfield sites, for example Morgan’s Point.
Why: Government must lead by example.
Who: Ministry of Works and Engineering and Housing, Lands, Building and Survey Division; Ministry of the Environment, Department of Planning, Parks Department.
When:
Anticipated outcomes: More open space protected.
Possible difficulties: Conflicting priorities for use of Government land and a lack of skilled professionals and resources in land stewardship.

Consultation outcomes

Bermudians do not aspire to a concrete jungle. The consultation has highlighted serious concerns about:

- over-development and the piecemeal destruction of open space that will leave an ugly legacy for future generations;
- maintaining access to open space, to fulfil a basic human need for contact with nature, especially as housing densities are likely to increase in some areas;
- inappropriate development and loss of traditional Bermudian architectural character;
- poor enforcement of environmental and planning legislation;
- an ad-hoc, unstructured approach to tourism-related development, including overuse of Special Development Orders;
- loss of Bermuda's native biodiversity leading to ecosystems that are less adaptable to change and hurricanes;
- pressure on the marine environment from boating and foreshore encroachment;
- impact of sewage on water quality and the wider environment; and
- difficulty moving around and exercising in Bermuda on foot or bicycle, as car numbers, sizes and speeds increase.

What other information do we have?

Bermuda is densely populated and extensively developed. Only Macau, Monaco, Hong Kong, Singapore, Gibraltar, the Gaza Strip and the Vatican are more crowded than Bermuda. But none of these places is as isolated.

Bermuda's total land resources amount to over 13,200 acres (5,370 ha). Over 30% of the island is owned by Government with the former military land amounting to almost 10% of the island's landmass. Forty-three per cent of this military land was created from land reclamation.^{viii}

Two-thirds of Bermuda is covered by land uses that involve built development. Residential development consumes almost 45% (6,000 acres) of the island and is by far the most extensive use.^{ix}

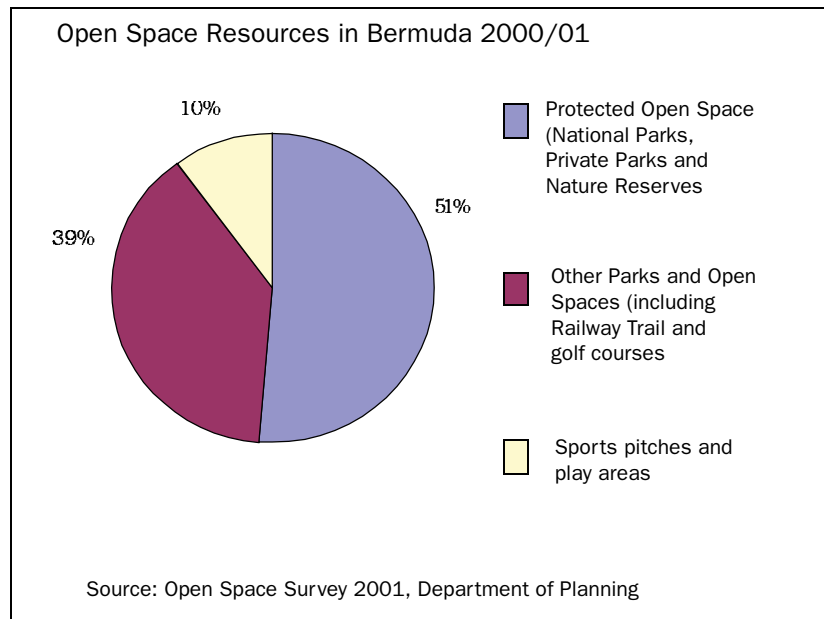
Over 33% (4,400 acres) of Bermuda has been zoned as open space. Fifty per cent of this open space is protected as national park or through ownership by a protective agency or an agreement. Other parks and open space amount to 40% of the open space resources (1,000 acres), most of which is golf course whereas sports pitches and play spaces comprise less than 10% of open space (250 acres).^x

Concrete covers an area the size of Devonshire. An area the size of Ferry Reach Park is lost to development every three years.

There are currently 119 Section 34 (Development and Planning Act 1974) agreements comprising 189.7 acres of the island. These planning agreements between the Minister of the Environment and landowners have typically been used to protect important environmental tracks of land, such

as woodland or agricultural land, whilst allowing built development on the remainder of the lot.^{xi}

Set against this trend is the desire to retain sufficient open space to provide for the psychological well-being of residents, to preserve the amenity of the island and to conserve biodiversity. With an average annual budget within the Ministry of Environment of only \$1.2 million to purchase open space, the resources allocated for development far outstrip the resources allocated for retention of open space.



As the supply of land available for new development continues to dwindle, there is a need to decide whether to (a) focus on promoting higher density forms of residential development and building on previously developed sites in order to retain our open spaces^{xii}, or (b) continue to build on existing open spaces in order to offer everyone the Bermudian ideal of a family homestead on its own plot of land.

Over 700 acres of vacant/derelict land has been identified throughout the island, which could be available for redevelopment and re-use. Much of this land exists on sites that were previously occupied as foreign military bases.^{xiii} But a significant amount of open space is still held by private owners.

Issue 3.2: Is Bermuda rural, urban, or both, and how do we preserve its heritage and unique character without compromising its ability to adapt to residents' needs?

“At the turn of the millennium, nearly half of the world’s population was urban and by the quarter century in the new millennium, urbanisation is projected to account for nearly two-thirds of the total population”

United Nations Centre for Human Settlements, Habitat Debate article June 2001, Vol. 7, No.2

This is a question facing much of the world. Bermuda has a strong history of spatial planning upon which to build, and a substantial legislative framework.

Objective 3.2.A (Primary): Better managed spatial development in the future.

Target: Develop a clear, island-wide, comprehensive land-use and planning policy, with associated guidelines.

Options for Action

Option 3.2.A.1: Revise the existing Bermuda Development Plan and Planning Statement as a matter of urgency

What: A new Development Plan to replace the 1992 Development Plan and Planning Statement. The plan should be underpinned with clear policy interpretation guidelines to support implementation.
Why: The current Development Plan and Planning Statement is 14 years old. Bermuda’s needs have changed in the intervening period.
Who: Ministry of the Environment, Department of Planning, Broad public consultation.
When:
Anticipated outcomes: Improved decision-making on planning applications and land use.
Possible difficulties: Changes to land-use zones may be controversial in some cases, however, this process is not new to Bermuda, and legislative provisions are already in place. In addition, ensuring the necessary human resources are available within the Department of Planning.

Option 3.2.A.2: Issue Interim Planning Policy

What: Draft and enact a statement of policy to guide the formulation of the new Development Plan, based on outcomes of the sustainable development consultation. This would inform developers and the design and construction industry of impending changes and ensure that planning applications which are received prior to the new Development Plan are in keeping with its likely contents. This would also act as an overlay to existing legislative provisions, temporarily filtering out undesirable development pending the completion of the new Planning Statement.
Why: In the intervening period between now and the new Development Plan clear direction is needed.
Who: Ministry of the Environment, Department of Planning, Sustainable Development Unit.
When:
Anticipated outcomes: Broad direction clarified for policy-makers and the development industry.
Possible difficulties: Timely legislative drafting and the availability of legislative time.

Option 3.2.A.3: Develop a Tourism Development Strategy

What: Draft a Tourism Development Strategy which prioritises the sites currently suitable for tourism development and draw up development briefs for each site. This would provide a 'shop window' of options for future tourism investors and enable more rapid progress through the planning process.
Why: The current tourism infrastructure is in many cases outdated and is not being developed in accordance with the modern market. Investors are not clear on which sites are available or appropriate for development, discouraging interest in investing in Bermuda. Speculative enquiries find it difficult to proceed to a successful conclusion because of complex procedures and a need for more transparency.
Who: Ministry of Tourism and Transport, Ministry of the Environment, Department of Planning.
When:
Anticipated outcomes: A streamlined process for tourism industry investors, facilitating inward investment.
Possible difficulties: Cross-Ministerial co-ordination and identifying and recruiting necessary professional expertise.

Option 3.2.A.4: Review the Department of Planning

What: Review the organisation and operations of the Department of Planning.
Why: The current organisational structure and procedures no longer meet requirements.
Who: Ministry of the Environment, Department of Planning, Department of Management Services.

When: Ongoing.
Anticipated outcomes: A strengthened planning process.
Possible difficulties: Organisational inertia and resistance to change.

Option 3.2.A.5: Implement Land Title Registration

What: Complete the Land Registry. This would entail gathering and recording extensive information about land ownership in Bermuda, which should allow for more effective implementation of policies relating to land development and housing.
Why: With a limited land mass, information about land tenure and ownership is essential for informed policy and decision-making.
Who: Ministry of Works Engineering and Housing, Lands, Building and Survey Division; Ministry of the Environment, Department of Planning, Department of Land Valuation, Registrar General.
When:
Anticipated outcomes: Greater transparency and improved decision-making on land-use and development issues.
Possible difficulties: Organisational inertia, creating a user-friendly publicly-accessible database, overcoming resistance to this information being public. The England and Wales Land registry has recently addressed these issues.

Issue 3.3: Is enforcement of environmental and planning legislation effective?

Throughout the Bermudian community there seems to be little respect for environmental legislation. Crimes against the environment are generally not taken seriously.

Objective 3.3.A: To improve enforcement of planning and environmental legislation

Target: Increase successful prosecutions of environmental and planning violations by 20% by 2007.

Options for Action

Option 3.3.A.1: Create an environmental enforcement agency

What: Bring together existing enforcement resources (planning, marine, parks, etc.) and increase the number of officers to form one environmental enforcement agency. Currently there are several units that are charged with specific areas of environmental enforcement – Planning, Fisheries, Animal Control, Parks Wardens. This agency should be supported by prioritisation of the Summary Offences Bill to allow for on-the-spot ticketing of environmental infractions by enforcement officers.

Why: The creation of such an agency would be a significant statement of commitment to action and would strengthen environmental enforcement action. There appears to be a lack of appreciation about the value of the environment and the need to preserve natural systems for the economic and social well-being of Bermuda. There is inadequate commitment to the enforcement of existing environmental legislation, apparent in the actions and lack of action by politicians, the judiciary, enforcement personnel and the general public. There is also a lack of resources dedicated to the enforcement of environmental legislation.

Who: Cabinet, Ministry of the Environment, Ministry of Justice.

When:

Anticipated outcomes: Reduction of illegal activity and decrease in lawlessness. In addition, better co-ordination of the activities of existing environmental enforcement sections creating one unit with broader jurisdiction.

Possible difficulties: This could result in significant revenue generation, much like parking and speeding enforcement. However, there is a risk that the public would see this as a cynical attempt to increase revenue rather than a genuine concern for enforcing legislation. Ensuring cross-departmental co-ordination.

Option 3.3.A.2: Train Police and Judiciary

What: Develop and deliver training courses in expeditious enforcement of environmental and planning legislation for the police and judiciary.
Why: There is a lack of integration of enforcement of environmental legislation into the activities of the Bermuda Police Service and judiciary. Resource managers and enforcement officers are not held accountable for increasing levels of infractions. There is little or no sense of urgency regarding the need to provide effective enforcement. There is a lack of expertise among prosecutors.
Who: Ministry of the Environment, Environmental Enforcement Agency, Bermuda Police Service, Ministry of Justice, the Judiciary, Department of Public Prosecutions.
When:
Anticipated outcomes: More cases brought to successful prosecution and a reduction in illegal activity.
Possible difficulties: Conflicting priorities and resistance to an expanded mandate.

Option 3.3.A.3: Increase deterrents, modernise legislation and revise procedures

What: Update legislation to increase fines and deterrents for breaches of planning and environmental legislation. One example could be updated planning legislation that penalises sub-contractors, as well as land-owners, for unauthorised development. Another could be requiring that bonds are paid with building permit applications which can be refunded once landscaping and environmental conditions of planning approvals have been met.
Why: Current enforcement procedures are cumbersome, requiring court appearances for minor infractions. This promotes a lack of prosecution for most crimes. In many cases the legislation is weak and not a high priority for redrafting. The standard of proof is sometimes excessive in proving environmental crimes. For instance, a fisherman who lacked the required lobster licence recently effectively argued that the lobsters he had in clear view at his roadside market were not being exhibited for sale. It is now a common practice with respect to environmental controls that it is far easier to get forgiveness for infractions than permission for variances. As such, it often makes business sense to break the law. The 'build now, apply later' approach to development often is justified economically as retroactive permission is usually received. Low fines create economic opportunity for those willing to violate controls such as in the case of the fisherman who was fined only \$500 for illegally catching fish worth \$1,500. Additionally, destruction of valuable habitats is seen as a way to invalidate conservation zoning and hence facilitate future development. The lack of obvious support and respect for environmental legislation makes it very difficult to retain motivated enforcement personnel, which further erodes respect for environmental enforcement.
Who: Ministry of the Environment, Ministry of Justice, Attorney-General's Chambers.
When:
Anticipated outcomes: A significant decrease in environmental infractions.

Possible difficulties: Increased public resistance to enforcement unless the system is operated with fairness and transparency.

Issue 3.4: What should be done with Morgan's Point?

Objective 3.4.A: Redevelop Morgan's Point to meet the current economic, environmental and social needs of Bermuda, and thereby save other open spaces from redevelopment.

Target: Issue a Request For Proposals (RFP), assess proposals and undertake public consultation on the proposals.

Options for Action

Option 3.4.A.1: Issue a Request for Proposals (RFP) for Morgan's Point

What: Bidders would need to be informed that favoured proposals should include the following:

- Provision for environmental remediation.
- At least 35% of all housing provided should be affordable (as defined by BHC), as well as, mixed in size and type.
- Maximised open space provisions.
- Native and endemic species in landscaping and vegetation schemes.
- Focus on creating jobs and business opportunities for Bermudians.
- Design, construction and development phase leads should liaise with NTB on training and apprenticeships.
- The entire site should be accessible to the public.
- Inclusion of sports facilities such as a public PGA standard golf course and other active recreation spaces.
- Public docking facilities included in any marina provision.

Why: As the largest piece of unutilised land in Bermuda, Morgan's Point will need to be used wisely. There are some fundamental questions which Bermuda and the Cabinet will have to consider, before any RFP is issued.

Question: What is the best use of the land?

Currently, there are a range of options.

Option 1. The site could be retained, as it is, as a land bank for future generations, with ongoing monitoring of the environmental contamination to ensure no further leakage. The sentiment is that Bermuda has no needs pressing enough to warrant development of the site. As such, we should preserve the site for future generations to meet their future needs, whatever they may be. However, it could also be argued that the land is not providing any benefits to Bermuda at the moment, and that the continuing pressure for development on open space elsewhere on the island could be relieved by using Morgan's Point. The trade-off is protecting greenfield sites across Bermuda from development, by utilising Morgan's Point which is a 'brownfield' site due to its previous development and resultant contamination. Further, while retaining the site as is would give future generations more choices, they would also be left with remediation costs.

Option 2. Alternatively Government could remediate the land by removing dangerous structures and environmental contamination and then maintain the land as open space with public access. This would mean that future generations would still be able to make choices for the use of the land, but that long-term damage would be repaired and some public benefit gained by access to open space. The question then arises of how this remediation would be funded, given the high costs involved. One suggestion has been to phase the work and spread the expenditure over a number of years.

Option 3. Finally, Government could decide to develop all or part of the site now. If this option is taken we need to consider how to extract maximum benefit for Bermuda from the site socially, environmentally and economically.

Question: If we develop it now, what does Bermuda need?

There is little value developing the site if there is no clear picture of what is needed. The following list sets out the infrastructure which Bermuda currently needs and which could be accommodated in the redevelopment of Morgan's Point, were Cabinet so minded:

- Affordable and seniors' housing.
- Increased open spaces with public access.
- Affordable incubator sites for small businesses, including light industrial uses, whose rents are rising and available sites are shrinking.
- A decentralisation of economic activity out of Hamilton which would ease congestion in the city.
- An alternative site for cruise ships or the commercial docks. (Assessing options is part of the Ports Infrastructure Master Planning process closely linked with the work of the Waterfront Development Task Force. Since Morgan's Point has a deep dock, Government will need to ensure that it has been discounted as an option before developing the site for other uses – See Issue 5.8 in Theme 5: Living Within Bermuda's Limits.)
- Improved tourism infrastructure, in the form of hotel beds, international standard conference venues, and possibly a PGA standard golf course to attract off-season visitors.
- Public marina space.

Question: Can Bermuda build this?

To develop Morgan's Point effectively is a multi-million dollar project, which requires significant project management and a wide range of expertise over several years. By putting the process out to tender we can ensure that we get quality submissions from those with the right skills. This is similar to the creation of WEDCo and BLDC where corporations were formed with clear guidance as to the possible uses for the sites they control.

Who: Cabinet, Ministry of Works and Engineering and Housing, Ministry of Tourism and Transport, Ministry of the Environment, Department of Planning.

When:

Anticipated outcomes: A publicised clear decision on the future of the site.

Possible difficulties: Developing consensus in order to arrive at a decision.

Box 3.1

Sustainable Development Round Table comments on Morgan's Point

At a meeting on Tuesday, 22 November 2005 the Sustainable Development Round Table (SDRT) discussed the Morgan's Point property.

The debate focused on:

- the Harvard group redevelopment plan; and
- future use of the property.

Safety first

The Sustainable Development Round Table (SDRT) believes that the extent and cost of the environmental rehabilitation required to make the Morgan's Point property useable needs to be revisited by the Bermuda Government. They recommended that the Government employ the services of an independent assessor (i.e., one not hired by a would-be developer) to determine the real cost of the clean-up today. They acknowledged that there would be different standards of rehabilitation required depending on future use of the property and recommended this be taken into consideration in the costing scenario.

Once this has been established, the SDRT recommends that the Government consider funding the rehabilitation of the site. The Morgan's Point property has remained vacant for 10 years and they believe that this is in large part because the site has not been cleaned up. The longer we leave it, the more costly, and perhaps more extensive, the clean-up will become.

The SDRT feels strongly that highest priority for the Morgan's Point property is to clean it up so that it becomes useable.

Public access

The SDRT would like to recommend that public access be considered – in the form of such activity as walking/cycling trails. This would obviously need to take into account the safety factors regarding pollution and contamination of the site. But if some areas could be used by the public, then it would be preferable to the current situation.

The SDRT is mindful of the potential problems inherent in opening up such a site to the public – once people become used to having access to a property they can become resentful if they are later barred from the area. We need to keep this in mind in any planning for access provision.

Future Use

The options for the site are to:

- (a) leave it as it is,
- (b) remediate it and leave it undeveloped,
- (c) remediate it and use it in the future as a balance against development proposed on sites throughout the island that should be protected; or
- (d) develop it in full or in part now.

- Option (a) leave it as it is

The SDRT does not believe this is an acceptable option, due to the contamination and pollution of the site. The cost and possibly the extent of remediation increases the longer we leave it, and the impact on Bermuda's ecology by essentially ignoring a contaminated site cannot be good.

- Option (b) remediate it and leave it undeveloped

This is only partly acceptable – yes, the site needs to be remediated, but it need not necessarily be declared undevelopable in perpetuity.

- Option (c) remediate it and use it in the future as a balance against development proposed on sites throughout the island that should be protected

This is the option favoured by the SDRT. The intrinsic value of the Morgan's Point property is the fact that it is a large piece of property – not that it is an unspoiled piece of property, as in greenfield or nature reserve. It should be considered holistically as part of the land use for all of Bermuda. For example, if a piece of property elsewhere on the island is deemed worthy of protection, this protection could in effect be exchanged for the right to develop on the Morgan's Point property, clearly a brownfield site. It is a piece of land that could enable us to save high quality land elsewhere, and protect open space in densely populated areas. The SDRT believes that Morgan's Point offers Bermuda the opportunity to think broadly and creatively about future land use, and we should make the most of this opportunity.

- Option (d) develop in full or in part now

The SDRT does not believe that now is the right time for us to direct resources at the Morgan's Point site – and it should certainly not be done in isolation of considering land use throughout Bermuda.

The Harvard plan

SDRT considered that this plan had insufficient merit to warrant its adoption. It is very similar to previous plans for the property created over the past 10 years, and is not reflective of today's needs, especially with regard to the emphasis on luxury homes. Discussion took place on past plans, and what had worked and not worked with them – including such issues as the lack of a beach for a top quality hotel to be located there.

Summary

- The Harvard group redevelopment plan
The SDRT could not accept the Harvard plan for various reasons, but, most important, because we believe that the development of this site needs to be done in conjunction with planning for the whole island, not in isolation. In this respect it is an opportunity that should not be lost.
- Future use of the property
The SDRT recommends that the Government obtain a full independent report on the clean-up requirements for the site, and carry out the rehabilitation to an agreed standard. We also believe that public access where possible and with appropriate monitoring and security could be permitted and that in future, the property should be used in balance with plans for the development and protection of land throughout Bermuda.

Chairman: Malcolm L. Butterfield

Dated: 14 December 2005

Issue 3.5: How do we protect the marine and terrestrial environment and our natural resources?

Objective 3.5.A: The protection of and rehabilitation of Bermuda's natural ecosystems.

Options for Action

Option 3.5.A.1: Implement proposals set out in the June 2005 "White Paper on the Marine Environment and the Fishing Industry in Bermuda"

What: To ensure the future protection of our surrounding marine environment, implement the proposals set out in the June 2005 "White Paper on the Marine Environment and the Fishing Industry in Bermuda".

Why: Bermuda's marine environment and the harvestable marine resources are amongst our most valuable natural resources. The ocean around us is a key tourism attraction and recreational opportunity for residents. It also provides an economical living for many, plays a lead role in our culture, and is core to the emotional well-being of most Bermudians. However, despite the clear importance of these resources to our health, our modern life-style poses severe threats to the stability of the system.

Who: Ministry of the Environment, Department of Environmental Protection.

When:

Anticipated outcomes: Better management of our marine resources based on the principles of sustainable development, as well as, further protection of the marine environment through new legislation, increased fines, improved enforcement and increased public education.

Possible difficulties: Conflicting priorities and inadequate resources to implement proposals.

Option 3.5.A.2: Continue to implement the 2003 Biodiversity Strategy and Action Plan (BSAP)

What: The Biodiversity Strategy and Action Plan is the blueprint for conservation in Bermuda. The plan, which has been developed by people from all sectors of the community, describes the active role that each of us can take to conserve the island's rich natural heritage. It identifies the main threats to Bermuda's biodiversity such as invasive species, development, pollution, habitat destruction, and lack of awareness. It also identifies actions, lead agencies, time-frames, estimates costs and outputs to manage and protect Bermuda's biodiversity.

Why: Biodiversity refers quite literally to 'the variety of life'. It encompasses all the millions of animal, plant and microbial species on earth, and includes the diversity found between individuals of each species (their genetic diversity), as well as the diversity of habitats and larger eco-systems of which they are all a part. Biodiversity is vital for our quality of life; it is the intricate network of ecosystems, habitats and species which serves as a life-support system for the planet, sustaining our needs. Over 8,300 species have now been recorded in Bermuda comprising plants, birds, fish, insects, arthropods, fungi, lichens, algae, single-celled organisms, molluscs, invertebrates, mammals, reptiles and amphibians. About 3% of all Bermuda's species are unique to the island.

Who: Ministry of the Environment, Department of Conservation Services.

When:

Anticipated outcomes: Better management of and further protection of Bermuda's biodiversity.

Possible difficulties: Conflicting priorities and inadequate resources to implement proposed actions.

Option 3.5.A.3: Control imports of invasive plant species

What: Develop a list of species for an import ban, drawing on examples from e.g., Florida. Currently, animal species are limited for import, yet invasive species such as Mexican pepper can still be imported by businesses and residents.

Why: There does not appear to be a comprehensive list of plant species that are limited for import. As such, plants are imported which have a negative impact on the island's ecosystems.

Who: Ministry of the Environment, Department of Environmental Protection, Department of Conservation Services.

When:

Anticipated outcomes: A comprehensive list available to the public indicating which plants are prohibited, as well as the prevention of any further invasive plants to the island.
Possible difficulties: Resistance to change on the part of the public and the private sector nurseries and retail outlets.

Option 3.5.A.4: Require the planting of native and endemic species as part of new developments' landscaping schemes

What: Through the Building Code and Planning Policy, new developments can be required to include native and endemic species in their landscaping schemes.
Why: Bermuda's landscape is covered by invasive species which compete with native and endemics and compromise natural ecosystems. This has led to compromised ecological systems that are less adaptable to change and hurricanes.
Who: Ministry of the Environment, Department of Planning, Department of Parks.
When:
Anticipated outcomes: The elimination of invasive species and an increase in native and endemic vegetation island-wide.
Possible difficulties: Possible insufficient stock levels to meet the need.

Option 3.5.A.5: Government nurseries to increase stock levels of native and endemic species

What: If Bermuda is aiming to rehabilitate some of its native habitats and increase levels of endemic and native species, Government nurseries will need to increase stock levels of these plants.
Why: Bermuda's landscape is affected by the proliferation of invasive species and non-native or endemic plants. This has led to compromised ecological systems that are less adaptable to change and hurricanes.
Who: Ministry of the Environment, Department of Parks, Department of Conservation Services.
When:
Anticipated outcomes: The elimination of invasive species and an increase in native and endemic vegetation island-wide.
Possible difficulties: Considerable time is needed to grow plants and the quantity available is limited by space constraints and resources.

Issue 3.6: Do we have the environmental data we need?

Objective 3.6.A: A strategic approach to environmental data gathering to inform future policy-making.

Options for Action

Option 3.6.A.1: Develop an environmental data gathering strategy

What: Develop a strategy setting out the baseline environmental data needed to enable essential trends to be monitored, both to inform policy decisions and act as a set of environmental indicators.

Why: Human activity impacts on Bermuda's environment in myriad ways. Better data will help us to understand these impacts and mitigate against environmental degradation.

Who: Ministry of the Environment, Department of Statistics.

When:

Anticipated outcomes: Better policy and decision-making.

Possible difficulties: Human and financial resources, effective prioritisation, and the challenge of identifying the correct measures and benchmarks.

Theme 4: Sustaining our Communities

Imagine

- An island society where we celebrate Bermuda's diversity, promote social cohesion, provide equal rights for all, and care for the vulnerable who cannot care for themselves.
- An island where everyone can afford to put a roof over their head without having to work two jobs, where we invest in our youth as an asset, and have adequate systems to help and rehabilitate those that find themselves in trouble.
- An island where our growing numbers of seniors have security and our healthcare system ensures high quality treatment for everyone, no matter what their income.

Bermuda's greatest resource is its people. As such, a cohesive and fair society is essential to Bermuda's quality of life. Meeting residents' social needs and helping the vulnerable should drive current and future social policies.

Issue 4.1: Affordable Housing.

High accommodation prices and rents risk further entrenching inequalities in Bermuda. Families struggle to get their 'piece of the rock' or even put a roof over their heads. In 2000 48% of Bermudians did not own their own home, while rental costs are currently rising faster than incomes. A 2005 study found that 22% of Bermudian households on lower incomes spend 60% or more of their income on housing needs.

Objective 4.1 (Primary): Ensure that the housing provision meets Bermuda's needs by:

(A) Getting the Basics Right. This entails developing an effective organisational structure, gathering the right information, clearly defining what 'affordable' housing means, having an accurate Land Registry, and ensuring that information is regularly used to better define future and current housing needs.

(B) Developing and regularly reassessing a Comprehensive Housing Strategy.

Target 1: Hold a Housing Summit with all stakeholders to discuss the draft proposals for a housing strategy contained below, and begin implementing them as soon as possible.

Target 2: Increase Bermudian home ownership to 65% of the population by 2012.

Options for Action

Objective 4.1.A: Getting the Basics Right.

Option 4.1.A.1: Develop an effective organisational structure

What: Institutional arrangements should be thoroughly reviewed to establish an administrative structure with powers and resources adequate to respond to the scope of the current and future housing challenges facing Bermuda. These arrangements should allow for a more broad-based, integrated approach to managing Bermuda's housing stock in the interests of all residents of the island. Further discussion is needed on the role and status of the relevant Quangos – Bermuda Housing Corporation, West End Development Corporation, and Bermuda Land Development Company.

Why: To deal effectively with the wide spectrum of housing issues facing Bermuda it is critical that the organisational response is appropriate to the task. There is a need for a co-ordinated and comprehensive approach to housing policy and this is likely to require the establishment of new administrative arrangements.

Who: Ministry of Works and Engineering and Housing, Ministry of the Environment, Department of Planning, Department of Statistics, Ministry of Health and Family Services, Department of Financial Assistance, Ministry of Labour, Home Affairs and Public Safety, Department of Immigration.

When:

Anticipated outcomes: Improved management of the housing policy and operations, as well as, effective policy development.

Possible difficulties: Conflicting priorities within Ministries.

Option 4.1.A.2: Gather, monitor and regularly publish housing information

What: Review, with the goal of adopting, the recommendations of the report: *Monitoring Housing in Bermuda*. Massachusetts Institute of Technology, Center for Real Estate, December 2000. This includes:

- Expanding reporting on work permit holders to include a breakdown by number of dependants. This will allow the impact of employment changes on housing demand to be assessed rapidly.
- Publishing an annual report on the state of the housing market, both rental and purchase, by BHC and others.

<ul style="list-style-type: none"> • Undertaking an annual rental survey, to gather data on rent, household size, income and type, and number of bedrooms, building on the less regular survey currently done by the Department of Land Valuation.
<p>Why: The housing market is complex. Any Government intervention must be based on good data and analysis. Some initial work has been done thus far, but more is needed. The Sustainable Development Unit commissioned a review of previous and current housing policies in Bermuda with the Association of Bermuda International Companies graciously bearing the costs for the study. The resultant report entitled <i>Housing Policy in Bermuda</i> (see Annex D) seeks to identify the main housing issues in Bermuda and set them in a wider policy context. It provides an overview of housing stock in Bermuda and the changing socio-economic demands that exert pressure on the housing market.</p>
<p>Who: Ministry of Works and Engineering and Housing, Bermuda Housing Corporation, Ministry of the Environment, Department of Planning, Department of Land Valuation, Department of Statistics, Ministry of Labour, Home Affairs and Public Safety, Department of Immigration.</p>
<p>When:</p>
<p>Anticipated outcomes: Improved decision-making and policy-making on housing issues.</p>
<p>Possible difficulties: Human and financial resources, the robustness of data and the willingness of organisations and individuals to provide data.</p>

Option 4.1.A.3: Use the collected data to more effectively define affordability for Bermudians and track the impact of the Housing Strategy.

<p>What: Agree what we mean by affordable housing. Currently there is no one definition of affordability in Bermuda.</p>
<p>Why: A definition is required in order to correctly identify where and how Government should intervene in the market to meet social needs.</p>
<p>Who: Ministry of Works and Engineering and Housing, BHC, Rent Commission, Ministry of the Environment, Department of Planning, Department of Land Valuation, Ministry of Finance, Ministry of Health and Family Services, Department of Statistics.</p>
<p>When:</p>
<p>Anticipated outcomes: More effective policy development.</p>
<p>Possible difficulties: If the wrong measures are chosen, or the data not robust, resultant policies could have an undesirable distortionary effect on the housing market.</p>

Box 4.1

Affordable housing

The US Department of Urban Development defines affordable housing as being housing which costs 30% or less of total household income. As the costs of housing have increased so the definition of affordable housing has expanded. Originally, more or less confined to the social rented sector, the term is now applied much more broadly. For instance, in the UK Government's Department of the Environment, Transport and the Regions (DETR) Circular 6/98 it is defined as:

“. . .both low cost market housing, and subsidised housing (irrespective of tenure, ownership or financial arrangements) that will be available to people who cannot afford to occupy houses generally available on the local market.”

Other suggestions are contained within the report *Monitoring Housing in Bermuda*. In effect we need to use a definition which recognises that in high price jurisdictions, such as Bermuda, little new housing being provided through the open market caters to the needs of less well-off families, leaving them significantly disadvantaged. This will include not just those families on the lowest incomes who are traditionally the target group for housing assistance programmes, but will also include what has come to be called 'intermediate' housing needs. This group, often comprised of younger households, does not qualify for the social rented sector, but cannot afford a mortgage to purchase even modest homes.

The draft legislation contained in Annex E put forward by the American Planning Association provides detailed legal definitions of affordable housing which seem relevant to Bermuda.

Option 4.1.A.4: Finalise the Land Title Registry

What: Complete the Land Registry. This would entail gathering and recording extensive information about land ownership in Bermuda, which should allow for more effective implementation of policies relating to land development and housing. Having an accurate Land Registry and ensuring that information is regularly used will help to define future and current housing needs.

Why: With a limited land mass, information about land tenure and ownership is essential for informed policy and decision-making.

Who: Ministry of Works and Engineering and Housing, Lands, Building and Survey Division; Ministry of the Environment, Department of Planning, Department of Land Valuation, Registrar General.

When:

Anticipated outcomes: Greater transparency and improved decision-making on land-use, development and housing issues.

Possible difficulties: Organisational inertia, creating a user-friendly publicly-accessible database, overcoming resistance to this information being public. The England and Wales Land registry has recently addressed these issues.

Option 4.1.A.5: Build more sustainably

What: <ul style="list-style-type: none">• Environmentally efficient buildings. Ensure that all buildings meet good environmental standards, by using, for example, solar energy for electricity and water heating, and water efficient taps and toilets. This approach will minimise the added pressure on infrastructure and the environment.• Socially cohesive developments. Avoid socially segregated developments. Examples of best practice globally has shown us that future developments must contain both a mix of housing types and uses to create successful neighbourhoods and diverse communities.
Why: Built infrastructure dictates many other outcomes, such as energy and water use, as well as defining the nature of communities and social interaction.
Who: Ministry of the Environment, Department of Planning, Ministry of Works and Engineering and Housing, the design and construction industries.
When:
Anticipated outcomes: Buildings which support Bermuda's sustainability (see Text Box 4.2 below).
Possible difficulties: Increased costs of construction and a lack of professional and construction expertise.

Option 4.1.A.6: Work in partnership more effectively

What: Stakeholders need to work collaboratively and within a new policy framework.
Why: Despite troubles in recent years the BHC has had a reasonable success rate in providing housing at affordable levels of rent and price since its inception. However, it does not have the resources or capacity to service a growing sector of the market. Private developers have built market-rate housing and as these prices have increased this has resulted in a widening gap between the affordable and market price provision. This has encouraged other affordable housing entities, such as Habitat for Humanity, to enter the fray. Partnership arrangements with these organisations and with private developers may provide a productive way of increasing supply through a range of options such as rental, ownership, public, private, and voluntary co-operatives.
Who: Ministry of Works and Engineering and Housing, Ministry of the Environment, Department of Planning, industry and NGO stakeholders, Bermuda Housing Corporation, West End Development Corporation, Bermuda Land Development Company.
When:
Anticipated outcomes: Better policy development and implementation.
Possible difficulties: Inability to reach consensus and work together towards common goals.

Box 4.2

Making Bermuda's buildings more sustainable

The Sustainable Development Project Team convened a working group of key stakeholders in 2005 to review and update the Bermuda Building Code, with the aim of integrating sustainability principles. We expect to complete the work in late 2006. Issues which are being discussed are:

- Energy and water efficient design
- Use of renewable energy sources such as solar energy
- Disabled access
- Sealed cess pits on new buildings to prevent further nutrient loading on the freshwater lens
- Including sewage treatment facilities in large developments.
- Utilising native and endemic species in landscaping provisions
- Improved enforcement of the building code and planning legislation and policy.
- Getting new techniques to market as soon as possible.
- Offering a sustainable design award, or integrate sustainability criteria into current Bermuda design awards.

The revised Building Code and any associated guidance would need to be phased in to allow the design and construction industry time to adapt to changing approaches. The suggested way forward would be to make the new Code voluntary at first, to be backed up with legislative force after two years. Government should be expected to lead by example, implementing the new Code as standard practice once it is developed.

Objective 4.1.B: Develop and regularly reassess a Comprehensive Housing Strategy.

Options for Action

A draft **Housing Strategy** should consider the following proposals, set out in more detail in Annex F.

Option 4.1.B.1: Slow and/or brake the continued price increases in the market

What: This can be achieved without precipitating negative equity, creating geographically segregated housing, or taking significant rental income away from Bermudians. In some instances legislative changes would be needed to action the options below.

1.1 Curb property speculation by:

- 1.1.1 Taxing rental incomes.
- 1.1.2 Capping rents.
- 1.1.3 Progressively increasing land-tax on additional rental properties.
- 1.1.4 Placing an upper limit on residential housing ownership by individuals and corporations.
- 1.1.5 Increasing death tax on secondary properties to encourage selling.
- 1.1.6 Expanding opportunities for investment at home and overseas.
- 1.2 Reduce market distortions by:
 - 1.2.1 Taxing housing allowances and subsidies.
 - 1.2.2 Managing the type of housing built.
 - 1.2.3 Phasing large projects in the future.
- 1.3 Manage increases in the supply of housing stock by:
 - 1.3.1 Encouraging vacant properties into the rental market.
 - 1.3.2 Requiring all new office space developments to include residential accommodation.
 - 1.3.3 Encouraging high rise residential accommodation in Hamilton.
 - 1.3.4 Encouraging socially mixed developments such as housing co-operatives.
- 1.4 Manage demand for housing by:
 - 1.4.1 Reducing reliance on non-Bermudians in technical positions in the workforce through the Workforce Development Strategy.
 - 1.4.2 Limiting unsustainable growth in population through immigration.
 - 1.4.3 Requiring certain employers, in specific circumstances (such as specific construction projects), to provide adequate on-site temporary housing for temporary work permit holders.

Why: There is a limited supply of housing. Property speculators and those that own a number of houses are benefiting significantly from the windfall generated by rising rents and prices. Yet despite the ensuing social and economic problems associated with the current housing market, there is currently no incentive for those benefiting from this windfall to play a role in finding solutions, shouldering some of the financial burden imposed on wider society, or to put those houses on the market to ease the situation. It is in the individual landlord's economic interests to see increasing rents and house prices, while it is in wider society's interests to stabilise the current situation and generate funds for affordable housing. Ultimately, the social instability which may well ensue will lower the status of the island, and risks pushing both tourists and business investors away, leading to a overabundance of housing, empty tourist properties, and a significant devaluing in the market. Simply building more houses seems to be too simplistic a solution and has not worked in the past. There is already surplus stock which is not in the market, and further construction of the type which is normal in Bermuda will eat up precious and limited open space and further suburbanise Bermuda. A broad multi-faceted approach is needed.

Who: Ministry of Justice, Attorney-General's Chambers, Ministry of Health and Family Services, Department of Health, Ministry of Works and Engineering and Housing, BHC, Rent Commission, Ministry of the Environment, Department of Planning, Ministry of Finance.

When:

Anticipated outcomes: A housing market that serves the needs of all Bermudians.

Possible difficulties: Ensuring that the policy does not result in negative equity, does not create geographically segregated housing, and does not take significant rental income away from Bermudians.

Option 4.1.B.2: Develop specific measures aimed at providing low cost market housing, and subsidised housing

What: Develop specific measures aimed at providing low-cost market housing and subsidised housing that will be available to people who cannot afford to occupy houses generally available on the local market.

1.1 Increase stock of affordable housing by:

1.1.1 Getting derelict homes and uninhabitable homes into the marketplace.

1.1.2 Taxing derelict properties to provide a disincentive to keeping properties derelict.

1.1.3 Either forcing property owners to renovate their buildings or subjecting the property to compulsory purchase by Government, at a fair price.

1.1.4 Addressing the skills and labour shortage in the construction sector.

1.1.5 Using 'sweat equity' models, which allow residents to access subsidised mortgages in return for carrying out work on their homes.

1.1.6 Providing incentives for private developers to build affordable housing such as:

- awarding density bonuses;
- fast tracking affordable housing development applications; and
- offering tax-breaks on construction materials for affordable housing.

1.1.7 Institute a planning gain requiring that future developments of housing over four units contain 25% affordable housing.

1.1.8 Reducing construction costs through:

- planning regulations;
- the Building Materials Committee processing applications for building approaches and systems which are deemed to lower construction costs;
- the NTB ensuring that sufficient training is available in these new skills;
- discouraging the use of extensive floor-plans; and
- encouraging developers to utilise less expensive fittings.

1.1.9 Exploring the possibilities for developers with units currently under construction or planned to make these new units affordable.

1.1.10 Using Government land as a catalyst for providing affordable housing.

1.2 Ensure that affordable homes remain so by:

1.2.1 Preventing purchasers from selling affordable units at a significant profit.

1.2.2 The BHC to be offered first refusal to 'buy-back' a unit.

1.3 Create affordable rents by:

<p>1.3.1 Guaranteeing rents and offering to manage private properties, to encourage private landlords to bring more rental stock onto the market.</p> <p>1.3.2 Reviewing the housing subsidy component of financial assistance.</p> <p>1.3.3 Increasing human resources at the Rent Commission.</p> <p>1.3.4 Regularly assessing subsidised tenants' needs, to ensure that BHC's affordable rental units are occupied by those tenants truly in need.</p>
<p>Why: There must be specific measures focused on increasing the stock of lower cost housing for rent or purchase and having them remain as affordable. There seems to be no merit in getting affordable homes into the marketplace, for them to be sold later on the private market at market-rate prices. This simply leads to more building, loss of open space and a cyclical problem. Mechanisms are needed to ensure that affordable homes remain so especially if some form of government subsidy (e.g., tax-break, density bonus or subsidised land) has been offered. Specific measures are also aimed at enabling the provision of housing for those financially unable to enter the private rental housing market, through a range of housing measures.</p>
<p>Who: Ministry of Justice, Attorney-General's Chambers, Ministry of Health and Family Services, Department of Health, Ministry of Works and Engineering and Housing, BHC, Rent Commission, Ministry of the Environment, Department of Planning, private sector.</p>
<p>When:</p>
<p>Anticipated outcomes: A housing market that serves the needs of all Bermudians.</p>
<p>Possible difficulties: Ensuring the balance of housing types, sizes and prices is right.</p>

Option 4.1.B.3: Increase opportunities to own a home for first time buyers, young families, and key-workers

<p>What: Develop specific measures aimed at increasing opportunities for home ownership by:</p> <p>1.1 Providing shared equity for government homes.</p> <p>1.2 Providing shared equity for privately purchased homes.</p> <p>1.3 Providing housing for key-workers and those on moderate incomes.</p> <p>1.4 Providing subsidised mortgages.</p> <p>1.5 Creating a dedicated shared equity scheme.</p> <p>1.6 Lowering stamp duty.</p> <p>1.7 Providing land tax breaks.</p> <p>1.8 Providing breaks on building materials.</p>
<p>Why: Many young Bermudians do not see a future in Bermuda which involves home ownership. There is a risk of a middle class brain-drain to other jurisdictions, and a lack of young talented professionals entering comparatively less well-paid professions, such as the Civil Service, nursing, and teaching. These are sometimes called 'key-workers'. In a small, prosperous community like Bermuda, it seems reasonable for all households to be able to aspire to ownership even if they choose or prefer to rent.</p>

Who: Ministry of Justice, Attorney-General’s Chambers, Ministry of Health and Family Services, Department of Health, Ministry of Works and Engineering and Housing, BHC, Rent Commission, Ministry of the Environment, Department of Planning.
When:
Anticipated outcomes: A housing market that serves the needs of all Bermudians.
Possible difficulties: Agreement on the definition of ‘key-workers’.

Option 4.1.B.4: Improve the quality of housing stock

What: Revise minimum standards for private landlords, and unless these are met, utilise legal mechanisms for compliance. This will require an improved system for monitoring standards and ensuring compliance.
Why: It is well proven that the quality of housing impacts on the health and well-being of the community and it is unfair that those at the lower spectrum of the economic ladder should be relegated to less than satisfactory conditions.
Who: Ministry of Justice, Attorney-General’s Chambers, Ministry of Health and Family Services, Department of Health, Ministry of Works and Engineering and Housing, BHC, Rent Commission, Ministry of the Environment, Department of Planning.
When:
Anticipated outcomes: A housing market that serves the needs of all Bermudians.
Possible difficulties: Ensuring adequate resources for monitoring and compliance.

Option 4.1.B.5: Improve the behaviour of tenants

<p>What: This can be achieved by:</p> <ul style="list-style-type: none"> 1.1 Providing clear, standardised tenancy agreements; and 1.2 Revisiting the current landlord-tenant legislation. <p>Linking affordable housing with standards of behaviour and where necessary, on a case-by-case basis, to include mandatory enrolment in guidance programmes such as drug rehabilitation or financial management. In addition, modernise the landlord-tenant legislation to improve safeguards for both parties. This includes drafting and disseminating standard tenancy agreements, strengthening the mediation system, and ensuring swift legal redress to encourage landlords to put vacant properties onto the market.</p>
Why: Without these measures, landlords will continue to feel apprehensive about renting to certain segments of society which could result in further properties being taken out of the rental market.
Who: Ministry of Justice, Attorney-General’s Chambers, Ministry of Health and Family Services, Department of Health, Ministry of Works and Engineering and Housing, BHC, Rent Commission, Ministry of the Environment, Department of Planning.

When:
Anticipated outcomes: Clear guidelines for tenants that would ease the fear of landlords, resulting in more properties on the rental market.
Possible difficulties: Ensuring adequate resources for monitoring and compliance from both parties.

Option 4.1.B.6: Provide supported accommodation for persons with special needs, including older persons, young persons, persons with disabilities and ex-offenders

What: Provide reverse mortgages where seniors who own their own home can release the equity it contains to provide an income for their later years. In addition, address homelessness by fast-tracking the night shelter and rooming house facility and linking it with programmes to develop the skills required to adapt to independent living.
Why: Specific measures are needed to provide housing for those who have special needs and are unable to enter the private rental housing market.
Who: Ministry of Justice, Attorney-General’s Chambers, Ministry of Health and Family Services, Department of Health, Ministry of Works and Engineering and Housing, BHC, Rent Commission, Ministry of the Environment, Department of Planning.
When:
Anticipated outcomes: A diverse range of housing which meets the needs of all Bermuda’s residents.
Possible difficulties: Recognition of these special needs and agreement to address them.

Box 4.3

Housing in Bermuda

High accommodation prices and rents risk further entrenching inequalities in Bermuda. Families struggle to get their 'piece of the rock' or even put a roof over their heads. The social impact is huge. For example, as people feel excluded from their own island there is an increased link to anti-social behaviour. Additionally, there is an increase in the numbers of private cars as people invest in vehicles since property is out of their reach and there is poor educational achievement as parents work several jobs to put a roof over their heads.

Any intervention needs to target those who are struggling, without disadvantaging those who have striven and extended themselves to buy property. Impacts of the actions suggested below must be regularly monitored, as too much intervention or an economic downturn risks precipitating a fall in the market leaving many with negative equity (owing more than their home is now worth), while too little intervention would allow the current market failures to continue.

Housing Stock

- Housing supply appears to exceed the number of households. The Department of Land Valuation lists 28,833 habitable residential units while the 2000 Census lists 24,763 households and 2,217 properties as vacant.
- The high vacancy rate indicates many units do not reach the housing market. A high proportion of these are probably studio apartments, since completion rates during 1980–2004 show that 1,500 studios were built, while the 2000 census shows 1,188 occupied studios.
- Construction rates (2,269 units from 1990–2000) have significantly exceeded projected needs (1,600 units for that same period). An additional 1,014 dwellings have been constructed between 2001 and 2004.
- The rate of condominium construction has increased in recent years – 191 constructed between 1991 and 2000, 125 constructed during 2001–2004.
- The majority of houses constructed between 1980 and 2004 are either one or two bedroom.

Household Data

- The rate of household formation (12% increase during 1991–2000) is rising much faster than population increase (6% increase during 1991–2000), particularly amongst the Bermudian population.
- The Bermudian population is aging and the average age of the non-Bermudian household head is also increasing.
- There has been a substantial increase in one-person and adult couple households, particularly amongst the Bermudian population.
- More Bermudian households are now headed by a female and there has been a significant increase in home ownership amongst these households.
- Black Bermudian females are more likely to head a low-income household and require rented accommodation.

- The growth in work permit holders (6,340 in 1995, 9,487 in 2004) indicates that immigration is increasing but data is lacking on household formation.

Housing Market

- All the information above points to increased competition for housing resources.
- Home-ownership is increasing in Bermuda (52% in 2000) and many Bermudians are purchasing property for investment purposes (23% of Bermudian homeowners in 2000).
- Until recent relaxations of currency laws, land and property were one of the main investment opportunities in Bermuda. Despite changes, this culture is still strong with significant property speculation driven by the ability to charge high rents to (generally) non-Bermudians.
- Recent increases in house prices (in 2005 the average house price was \$1.175 million, while the average condominium costs \$790,000) are likely to make it more difficult for young Bermudians to access the market. Housing costs are rising faster than incomes. A 2005 study found that 22% of Bermudian households on lower incomes spend 60% or more on housing.
- Costs of construction vary according to finish and rising standards of fittings have increased costs per square foot.
- Culturally, Bermudians expect and desire a cottage with a plot of land. This type of horizontal, low-rise development is now putting pressure on limited open spaces. Only 33% of Bermuda is classified as open space, though 40% of this is golf course. Preferences are shifting with Bermudians preferring smaller accommodation and non-Bermudians seeking larger units.
- The immigrant population puts a significant amount of money into the local economy through rents, as most cannot legally own property. A 2004 study by ABIC found that 40% of non-Bermudian renters paid over \$4,000 per month. Increased competition for similar-sized rental properties has raised rent levels. From 1991 to 2000 rents increased 28% (Census 2000), but jumped a further 40% between 2000 and 2004.
- 16,000 properties or about 55% of the dwellings on the 2004 valuation list are subject to rent control.
- The Rent Commissioner has few staff but deals with a considerable number of enquiries. In fact during 2004 the office received 6,256 enquiries from the public relating to rent control matters. During that year it also received 886 applications from landlords for rent increases.
- A decrease in the immigrant population would lead to significant oversupply of housing stock, lowering prices for both purchase and rental, but also cutting off the income streams of some landlords, and leaving those who have taken mortgages out in recent years at risk of negative equity.
- Housing allowances can distort the market.

Governance of Housing Policy

- A variety of Government Departments are involved in delivering housing policies and programmes. The Ministry of Works and Engineering and Housing is most directly involved at present but responsibilities for housing have shifted between Ministries over the years.
- The involvement of different Departments and Ministries makes policy coordination difficult. Housing related policies and programmes have been implemented in response to specific issues and have lacked a comprehensive overview.
- There has been little review of the effectiveness of existing policies and procedures. For instance, while the operation of the Rent Commissioner may suppress rents it may also act as a disincentive to properly maintain low-rent premises. This can lead to neglect and contribute to people living in substandard accommodations.
- Generally, housing policy in Bermuda appears to have developed in an ad hoc manner and in reaction to the crisis of the day. This has resulted in this critical area of Government policy being reliant on loosely connected units with different but overlapping objectives.

Issue 4.2: How do we care for, invest in and protect the more vulnerable members of our society?

Theme 4 addresses inequalities of opportunity. This section deals with the support services which can help keep people out of trouble or support them in getting out of trouble. Consultation has raised concerns about poor, duplicated and unstructured social support systems, wasteful spending, and ineffective delivery by Government, private sector and charities. Activities may be more focused on meeting the presentational needs of the donor rather than the real needs of the client. Many charities and Government Departments work in similar fields. For example, there are 23 charities and at least four Ministries involved in youth development in Bermuda. This has led to fragmented delivery of social support services, such as seniors care, drug rehabilitation, and youth support. We need to fill the gaps to provide a social service system which efficiently and effectively meets the needs of those vulnerable members of society who require such services by:

- intervening effectively during family and individual crisis;
- offering support to prevent crisis; and
- investing resources at the earliest stages to prevent spiralling costs of later intervention.

Objective 4.2.A (Primary): Systematise social service provision to increase effectiveness and efficiency.

Options for Action

Option 4.2.A.1: Improve tracking of trends in anti-social behaviour

What: Monitor and publish better information to help service providers more effectively target the needs of the population.
Why: Communities are complex and the social fabric is ever-changing. Any intervention by Government or the third sector must be based on good data and analysis if it is to be effective.
Who: Ministry of Health and Family Services, Ministry of Community Affairs and Sport, Ministry of Education and Development, Department of Statistics, Third-sector service providers.
When:
Anticipated outcomes: Improved decision- and policy-making.
Possible difficulties: Lack of collaboration between Ministries and stakeholders; data protection issues; and robust data gathering systems.

Option 4.2.A.2: Perform an audit of the social services provided in Bermuda

What: a) Review the social services <i>provided</i> by Departments and Ministries, and begin re-organisation as necessary to cut duplication and strengthen collaboration. The zero based budgeting (ZBB) process can support this and would result in major efficiency gains. b) Review the social services <i>commissioned</i> from other providers by Departments and Ministries with the aim of standardising the mechanisms by which commissioning occurs, including requiring performance monitoring.
Why: The Ministry of Health is currently working on a new grant management system, so that funding for the third sector is linked to performance standards. This database needs to be expanded to track how Government funds third-sector organisations and what it expects, with a standard template for commissioning and contracts varied to particular Ministries' needs. Private-sector donors should be encouraged to adopt a similar approach. At the same time the current provision is complex and overlapping. Duplication must be cut. Government needs to decide what services it will commission from other providers and what services it will provide itself.
Who: Ministry of Health and Family Services, Ministry of Finance, Ministry of Community Affairs and Sport, Department of Management Services, Third-sector service providers, charities, other external agencies.
When:
Anticipated outcomes: Increased value for money, better directed services, clearer support system for clients, and improved performance management.
Possible difficulties: A lack of consensus on definitions and standards.

Option 4.2.A.3: Complete a gap analysis to identify gaps in social service provision

What: Using the current <i>Directory of Services</i> as a basis and building on improved data-gathering, identify services which are needed but not currently available through either Government or the third sector.
Why: Current provision is complex, overlapping and has gaps.
Who: Ministry of Health and Family Services, third-sector service providers.
When:
Anticipated outcomes: Services which meet the full range of Bermuda's social needs.
Possible difficulties: A failure to reach consensus over what should be provided and by whom. In addition, proposals outstrip a realistic ability to resource them in terms of human resources rather than financial resources.

Option 4.2.A.4: Improve co-ordination between Ministries

What: Better co-ordinated case management within Government to ensure a continuum of care for clients. This is being piloted through the Cross-Ministry Initiative with a centralised case management system to ensure all Departments are informed and linked.
Why: The current provision offers a confusing disjointed set of services and service providers which can be difficult to access and once accessed, can be manipulated by clients.
Who: Ministry of Works and Engineering and Housing, Ministry of Health and Family Services.
When: Ongoing.
Anticipated outcomes: Services which meet the full range of Bermuda's social needs.
Possible difficulties: A failure to reach consensus over what should be provided and by whom. In addition, proposals outstrip a realistic ability to resource them in terms of human resources rather than financial resources.

Option 4.2.A.5: Improve project management skills within Government Ministries

What: Utilise project management disciplines more effectively to pilot new approaches, assess their effectiveness, and adapt, roll-out or cease pilot programmes as appropriate. New initiatives proposed within Government should be screened by a clearing house located within the Ministry of Health and Family Services. This clearing house would assess the added value of proposals, seek synergies with existing projects and require feedback on the effectiveness of projects.
Why: There is a lack of this expertise at present.
Who: Department of Management Services in collaboration with other Ministries
When:
Anticipated outcomes: Improved service delivery.
Possible difficulties: Identifying individuals to undertake the necessary training and retaining them.

Option 4.2.A.6: Government engagement with other stakeholders to identify services required and decide who will fund the different activities

What: Government needs to engage, fully and formally, at a strategic level with external players. This includes engaging the private and third sectors through such organisations as the Donor Forum and the Centre on Philanthropy, for example. It also will require setting out clear roles and responsibilities for service provision and funding. Donors should be aiming to create a 'managed market'.
Why: So that a common agenda is pursued by funders and competition between service providers encourages collaboration, improves standards and cuts duplication.

Who: Ministry of Education and Development, Ministry of Community Affairs and Sport, Ministry of Health and Family Services, the Donor Forum, the Centre on Philanthropy.
When:
Anticipated outcomes: Streamlined service delivery and an improved use of resources.
Possible difficulties: Achieving consensus and a lack of expertise in service providers.

Option 4.2.A.7: Set minimum standards for third-sector service providers and encourage collaboration

What: A Bermuda Council on Accreditation is required to certify and monitor standards in third-sector delivery agents. Improved standards can be achieved if third-sector delivery bodies are required to be accredited before funding can be received. Minimum performance and service standards should be included in contracts and grants. Accreditation would involve acceptable levels of governance and fiscal practice, as well as professional certification in specific service delivery fields (e.g., youth counselling or intervention in drug abuse). Such a body should issue clear guidance on what donors should expect or require with different levels of standards for different sizes of organisation. This will limit overly bureaucratic processes for smaller bodies. The Centre on Philanthropy is well-placed to help charities to develop the necessary systems to meet accreditation requirements. Organised dialogue between third-sector organisations around key themes is also required, aimed at sharing best-practice and encouraging collaboration. The Ministry for National Drug Control performs this function with regard to drugs treatment, but similar coordination is needed in areas such as youth, emergency housing/homelessness and helping the poor.
Why: Private donors and Government agree that they desire success and accountability from service providers, however there are currently no clear minimum standards.
Who: National Standards Committee, Ministry of Health and Family Services, Ministry of Education and Development, Ministry of Community Affairs and Sport, the Donor Forum, the Centre on Philanthropy.
When:
Anticipated outcomes: Better service provision.
Possible difficulties: Defining and achieving consensus on appropriate standards could be challenging.

Option 4.2.A.8: Review Charities Act to support improved standards and accountability

What: Legislate basic standards for charities and allow for a Bermuda Council on Accreditation (as above), with links to international accrediting agencies. Consideration should be given to the role for a Charities Auditor, as well as make legal provision for social enterprise businesses which operate on a not-for-profit basis with a mission to improve environmental and social welfare.
Why: The current legislation is out of date and does not reflect the full range of service providers or social enterprises nor the necessary transparency and accountability required.
Who: Ministry of Health and Family Services, Ministry of Justice, Attorney-General's Chambers, Charity Commission, Ministry of Community Affairs and Sport.
When:
Anticipated outcomes: Modernised and appropriate legislation.
Possible difficulties: Finding the appropriate legislative opportunity.

Option 4.2.A.9: Improve rehabilitative services provided in correctional facilities

What: Develop a full range of rehabilitative services to be delivered in correctional facilities and make these services available for all prisoners on a mandatory basis.
Why: Current policies result in a revolving door for many offenders leading to a significant loss of social potential and costing large sums of money.
Who: Ministry of Labour, Home Affairs and Public Safety, Department of Corrections, Ministry of Health and Family Services.
When:
Anticipated outcomes: Lower levels of recidivism.
Possible difficulties: Lack of professional skills on the island to offer such services.

Option 4.2.A.10: Complete and implement co-ordinated strategies for youth development, drugs and seniors

What: This work is ongoing but needs to be prioritised and broadened across Government and external stakeholders.
Youth – The National Youth Development Strategy will establish a comprehensive national approach to address issues associated with our young people. The four principal areas of focus will be the development of potential leaders, enhanced family involvement, the strengthening of those agencies that interact on a regular basis with young people and the provision of opportunities for information-sharing on strategies that work.

<p>Drugs – Drugs drive crime. Drug abuse and addiction crosses racial, gender and class boundaries; it is a plague on all of us. Therefore, a better co-ordinated approach to drug interdiction, intervention, education and prevention will be mounted to reduce the negative impact of drugs on individual users and to prevent drug related crimes that impact the community. The National Steering Committee on Drugs will serve as an umbrella coalition, drawing together all of the existing bodies that tackle different aspects of Bermuda’s drug problem.</p>
<p>Seniors – To improve the administration and support provided to Bermuda’s senior citizens and physically challenged persons, the reporting structure of the National Office of Seniors and Physically Challenged will be amended. This organisational change will be made to increase the autonomy, efficiency and flexibility of the Office to meet the needs of Bermuda’s seniors and physically challenged.</p>
<p>Why: Youth, seniors and drugs are issues facing Bermuda that need special attention and dedicated, but co-ordinated strategies. Issues such as how to deal with the increased costs of healthcare and pensions funding, especially the implications of an aging population, must be addressed. Especially since seniors represent the majority of those receiving financial assistance. Other issues such as anti-social behaviour can take many forms. Perceived increases in levels of anti-social behaviour suggest there is inadequate support for youth, and uncoordinated activities to address anti-social behaviour, both preventative and remedial.</p>
<p>Who: Ministry of Community Affairs and Sport, Ministry of Health and Family Services, Ministry for National Drug Control.</p>
<p>When: Ongoing.</p>
<p>Anticipated outcomes: Better policy- and decision-making with a focused and co-ordinated approach to providing services in these areas.</p>
<p>Possible difficulties: Lack of professional skills to offer such services and lack of resources to implement strategies.</p>

Box 4.4

Anti-social Behaviour

Anti-social behaviour has a wide definition. Among the forms it can take are graffiti; abusive and intimidating language often directed at minorities; excessive noise particularly late at night; littering the streets; public drunken behaviour; dealing drugs with all its associated problems; and blatant disregard for the law. Perceived increases in levels of anti-social behaviour suggest there is inadequate support for youth and uncoordinated activities to address anti-social behaviour, both preventative and remedial.

Part of the solution is through punitive measures which are well developed in Bermuda. Actions underway to tackle crime are set out in Box 4.5 below. However, with significant inequalities in opportunity and income, limited access to affordable housing and grandiose consumption habits being widespread, it is not surprising that some Bermudians feel excluded from the current success that Bermuda is enjoying.

Bermuda’s residents clearly have a philanthropic nature and care about the more vulnerable

members of society. Bermuda has 345 registered charities serving every sector of society. Half of these are small, with annual expenses of less than \$25,000. Most recent financial statements suggest that Bermuda's charities collectively spend \$53 million annually. The Bermuda Red Cross raised more than \$1.3 m in less than three months for Asian tsunami victims.

Box 4.5

Crime and Crime Trends

- **Crime problems in 2005** continue to centre on acquisition and property crime and violent crime. Crime reports are strongly influenced by drug-addicted offending and there are correlations between periods when certain offenders are on remand or serving periods of incarceration and crime rates decline.
- **Serious and violent crime** is prioritised by specialist officers working in the Serious Crimes Unit. Violent crime reports rose earlier in 2005 to a rate that one violent crime was being reported every 25 hours. In the quarter concluded as of 30 September 2005, reports of violent crime reduced to a rate of one being reported every 31 hours. This reduction coincided with tough new legislation introduced in July 2005 imposing a mandatory three year period of imprisonment for offenders found in possession of bladed weapons in public.
- **There is a very strong association** between drug users/addicts and property crime. Last year, there were elevated levels of breaking and entering offences and the Bermuda Police Service (BPS) developed a targeted list of 22 suspected offenders. Following the arrests of these men (many were remanded or are now serving periods of incarceration) the daily breaking and entering rate dropped by 70%.
- **Observation** – there is a very strong tendency for many of these repeat breaking and entering offenders, some of whom have a history of violence, to be chronic offenders and virtually beyond rehabilitation in many cases. Many are in their *third decade* of property crime with little or no ability to remove themselves from drugs.
- **Targeted efforts** in vehicle crime also continue. The BPS has concentrated much of their investigative efforts on repeat offenders. The result has seen vehicle crime figures 33% less in the past seven quarters than in the period 2001–2002. This has helped to stabilise the overall crime figures in this period. The private sector 'Datatag' vehicle identification initiative, supported by the BPS, was launched in Bermuda in August 2005.
- **Legislative reform** – Recent amendments to the Criminal Code have included increased penalties for offences involving violence and possession of bladed weapons. Major legislative reforms were enacted in the form of the Bermuda Police and Criminal Evidence (Bill) 2005.

Drugs

- **There have been over \$106 million dollars** worth of drugs seized since 2001 by law enforcement in Bermuda between the BPS and HM Customs. Between 350 and 500 arrests are made per year for drug related offences. There were over 950 separate

seizures in 2004 with the majority of these at street level in those neighbourhoods most adversely impacted by drugs.

- The **drug of choice** for users in Bermuda continues to be cannabis. Drug seizures continue to be made for all mainstream drugs such as heroin, cocaine, crack cocaine, cannabis, cannabis resin and ecstasy.
- **Over \$5 million dollars of assets** is at various stages in forfeiture/confiscation proceedings, most of which relate to drugs and to some of the key players involved in importation.

Public order

- The Police Support Unit (PSU) has made approximately 3,500 arrests since its inception in 2001.
- The PSU has been actively deployed in providing high-visibility patrols in many of the problem areas throughout Bermuda in 2005. Warrant checks, laser speed checks, field searches, liquor licence checks, drug seizures and arrests continue to feature highly in its operational activity.
- Proactive deployments of the PSU continue. The use of PSU at major events, concerts, during hours of darkness and at weekends continues.
- The CCTV expansion project is in its advanced stages. Cabinet has recently approved the expenditure of approximately \$125,000 to expand the fibre optic backbone of the CCTV system to north Hamilton and Pitts Bay Road, both areas which have been identified as high crime areas.

Gangs

- The BPS estimates there are **approximately 22 known gangs** or groups in Bermuda where there is a regular concentration of (mostly) young men. Intelligence developed over the past two years indicates that somewhere in the region of 550 (mostly) young men have been identified. Not all are gang members but many are associated with a gang or a particular neighbourhood/location.
- **The phenomenon is not new.** Twenty years ago there were organised, criminal and gang related attacks occurring, although not with the frequency they do now. There is a wide variation in the organisation and criminal conduct by the gangs.
- The BPS continues to prioritise gang-related investigations with the trained staff of the Serious Crimes Unit taking the lead in such investigations. Problems with complainants and witnesses in their refusal to provide statements and/or to testify during court proceedings are apparent. The Director of Public Prosecutions and the Commissioner of Police have provided recommendations to the Ministry of Labour, Home Affairs and Public Safety regarding amendments to legislation which can assist in reducing this problem. **The Police and Criminal Evidence Act 2005** contains a provision whereby a witness' evidence can be introduced into evidence without the witness having to appear in person.
- Gang problems are deeply embedded in a complex matrix of socio-economic, behavioural, dysfunctional family and other related risk factors. Current law enforcement action is dealing with only the symptoms and not the causes.
- The BPS is increasing the numbers of presentations on gangs to community groups

and is actively involved in cross-Ministry consultation, tied with the National Youth Strategy to address gang behaviours.

Good Practice Example 4.1

Youth Net

Youth Net aims to provide Bermuda's young people with positive role models in a school setting. Since 1996, Youth Net has provided mentors to 550 students and today there are over 375 students in 15 schools enrolled in Youth Net mentoring programmes.

Youth Net offers a variety of mentoring programmes – traditional one-on-one mentoring in a school setting, worksite mentoring, where students learn in the mentors' place of work, group mentoring where mentors work in a team with a small group of students, peer mentoring where older students provide advice and act as role models for younger children, and a pilot e-mentoring programme where students from the Bermuda College and senior schools learn from mentors who are industry professionals.

Why Youth Net is a good example

Youth are the future of Bermuda and therefore are essential to the island's sustainability. One of the most important factors for healthy, youth development is for Bermuda's young people to feel their community cares about them. Today, young people's value systems are often shaped externally by technology, media, hand-held games, peer pressure, etc. With so many influences, many youth struggle to make healthy decisions. Mentoring has been proven to provide youth with positive support and help youth make healthy life choices. Youth Net's young people feel valued, cared about and listened to.

The outcomes speak for themselves. Of all students involved in Youth Net:

- 52% of students showed improvements in their academic performance.
- 50% of students showed improvements in classroom participation.
- 49 % of students had a better attitude towards school.
- 48% of students showed improvements in their decision-making skills.
- 54% of students had improved self confidence

In addition to empowering youth, Youth Net provides a means for many individuals to invest in and give back to the community and therefore in many ways Youth Net helps to bridge community divides. Both individuals in a student-mentor pair learn from each other, about each other, and work together towards a common goal. In this way Bermudians work with non-Bermudians, children work with adults, private school children work with public school children, etc. Both student and mentor learn to value each other, recognise how much they have to contribute to Bermuda, and understand that working together provides the best result for everyone. This exemplifies the partnership approach that is needed throughout Bermuda to set the island on a more sustainable path.

Good Practice Example 4.2

C.A.R.E Learning Centre

C.A.R.E Learning Centre assists youth who struggle to fit into the traditional school system. This includes youth with behavioural challenges and learning difficulties.

At C.A.R.E students are encouraged to upgrade their skills to obtain their high school diploma; are provided learning opportunities and work experience through work release programmes; and take part in a life-skills programme, which teaches specific skills such as budgeting and interviewing. The greater goal of all C.A.R.E.'s programmes is to promote a sense of self-esteem and dignity in all students.

C.A.R.E provides students with a positive and supportive learning environment that values and respects the self-worth and uniqueness of each individual. Students are treated as adult learners and are extensively involved in the planning of their own educational programme. Individual counselling and parental involvement are both encouraged at the C.A.R.E. Learning Centre.

Why C.A.R.E Learning Centre is a good example

Youth are the future of the island and are essential to its long-term sustainability. The current reality is that every year as many as 100 students drop out of senior secondary school or are dismissed due to behavioural problems. This is an unsustainable trend which does not bode well in regard to future levels of anti-social behaviour in Bermuda and also Bermudianisation of the workforce. Without alternative learning options, how can these students gain the skills needed to integrate and contribute positively in society?

In Bermuda there is potential for levels of anti-social behaviour to increase when some citizens feel they have no stake in how society functions. Anti-social behaviours affect not only the individuals carrying them out, but also the family unit, and the wider community. This would directly threaten Bermuda's future sustainability. At the extreme end of the spectrum, increased levels of anti-social behaviour could serve to weaken the social fabric of Bermuda enough to undermine both the economic and environmental health of the island.

Additionally, Bermuda risks becoming increasingly dependent on foreign workers if locals are not trained for, or do not desire, certain jobs. As more expatriate workers are required, more resources will be needed to manage the impacts these workers have on the island's infrastructure.

Sustainable development requires that unsustainable trends are identified and addressed. In this case, C.A.R.E directly invests in youth, intervening at a critical stage in their development, preventing the need for rehabilitation or more extensive intervention later in life. Youth are supported and encouraged to divert from a path which is only likely to lead to further anti-social behaviour that could ultimately result in imprisonment. Instead youth at C.A.R.E Learning Centre have the opportunity to recognise that they are valued, and in turn can make a valuable contribution to their island home.

Issue 4.3: What's happening to the gap between rich and poor?

Some Bermudians are not sharing in Bermuda's economic success because they do not have the skills, desire or perceived opportunities to enter the mainstream economy. Solutions in the form of training, education and skills are covered in Theme 1. The focus here is services provided to the poorest and most vulnerable members of society. Evidence shows that the costs to society of children raised in families under pressure can be significant. Early intervention in problems is key. Affordable housing and day-care can help significantly.

Objective 4.3.A: To achieve self-reliance for those on lower incomes.

Options for Action

Option 4.3.A.1: Develop an outreach and information programme

What: Develop an outreach programme to ensure that those that are entitled to assistance are aware of the support available and are claiming it.
Why: There are some persons who are in need of assistance, but don't know where to claim it or are not comfortable with coming into an office setting to claim it.
Who: Ministry of Health and Family Services, Department of Communication and Information.
When:
Anticipated outcomes: More uptake of assistance programmes leading to more people being helped.
Possible difficulties: The outreach programmes are not broad or far-reaching enough.

Option 4.3.A.2: Link Financial Assistance with other support programmes

What: Through the Cross-Ministry Initiative, ensure effective conditions are placed on the receipt of financial assistance. For example, require such programmes as compulsory financial planning, further education, or drugs counselling with any financial assistance.
Why: Without support programmes to address why they are in need in the first place, those receiving financial assistance might continue to practise bad habits.
Who: Ministry of Health and Family Services, Department of Financial Assistance, Court Services, Department of Child and Family Services, Department of Health, Ministry of Community Affairs and Sport, Department of Community and Cultural Affairs, Ministry of Labour, Home Affairs and Public Safety, Department of Labour and Training, Ministry of Education and Development, NTB, Bermuda College, Department of Education.
When:
Anticipated outcomes: Learned skills to assist getting off of financial assistance.

Possible difficulties: Lack of agreement on the way forward by departments and lack of resources to allow these support programmes to occur.

Option 4.3.A.3: Develop an electronic database of Financial Assistance clients to enable better tracking of trends in poverty

What: An integrated electronic database shared across the social service departments will allow flags and highlights to appear when a client is being serviced by one or more of those departments.

Why: Currently it is difficult to know whether those receiving financial assistance are clients of other Government Departments offering support services. Providing support to a client holistically will give a greater chance for success.

Who: Ministry of Health and Family Services, Department of Financial Assistance, Court Services, Department of Child and Family Services, Department of Health, Ministry of Labour, Home Affairs and Public Safety, Department of Labour and Training, Ministry of Works and Engineering and Housing, BHC.

When:

Anticipated outcomes: A more holistic approach to assisting clients.

Possible difficulties: Lack of resources and competing priorities which prevents the database from being properly designed, maintained, updated and utilised by well-trained technical officers.

Option 4.3.A.4: Link financial assistance increases to the Consumer Price Index and Household Expenditure Survey

What: Implement a policy which makes it clear that increases to financial assistance are affected annually and linked to the Consumer Price Index.

Why: If persons are receiving financial assistance, there is the potential for them to be put in a position of further debt or need if the assistance given does not take into account the current cost of living and inflation.

Who: Ministry of Health and Family Services, Department of Financial Assistance, Department of Statistics.

When:

Anticipated outcomes: Financial assistance provision linked closely to the economy should ensure that those receiving it can meet current costs.

Possible difficulties: The ability to collect data regularly to ensure that the financial assistance regulations are updated annually.

Option 4.3.A.5: Establish poverty thresholds for Bermuda

What: The Department of Financial Assistance currently uses de facto poverty thresholds through its Allowable Expenses Schedule which sets out the minimum needs and expenses for different types of households. However, objective, empirical data is needed to formalise the use of poverty thresholds and to track trends in income disparity.
Why: The current data on poverty is scant. Median incomes are used to define poverty for statistical purposes with no regard to size or type of household.
Who: Ministry of Health and Family Services, Department of Statistics.
When:
Anticipated outcomes: Better policy- and decision-making assisting those that live in poverty.
Possible difficulties: The collection of the necessary data and continued regular updates on this information.

Option 4.3.A.6: Improved enforcement of child support payments

<p>What: In many cases where families are struggling, a clear contributory factor is fathers and to some extent, mothers, not paying maintenance. The Childrens Amendment Act 2002 enables the judiciary to provide various means for child support if someone is in arrears such as:</p> <ul style="list-style-type: none">• garnishing wages;• withholding drivers licences;• enforcing payment by sale of goods;• surrendering travel documents; and• referring matters to mediation. <p>These are all as alternatives to incarceration. As such more support needs to be given to utilising mediation and counselling services. At the same time, a database needs to be developed, supported by the legislation, to enable parents in arrears to have their overseas travel restricted and car relicensing suspended.</p>
<p>Why: In 2005, there was an estimated \$13 million in unpaid child support going back some 10 years. Incarceration should only be looked at as a last resort, as the arrears continue whilst the parent is in prison. Implementing all the regulations currently contained in the existing legislation should see a reduction of the debt. However, an integrated database system linked between several Government Departments needs to be in place to ensure that policies are mutually reinforcing.</p>
<p>Who: Ministry of Justice, Attorney-General's Chambers, Ministry of Tourism and Transport, Transport Control Department, Ministry of Labour, Home Affairs and Public Safety, Immigration Department, Department of Corrections, Ministry of Health and Family Services, Court Services Department, Department of Child and Family Services.</p>
<p>When:</p>

Anticipated outcomes: A reduction in the child support debt and more children provided for financially by both parents.

Possible difficulties: Agreement to ownership of the issue and adequate resources to implement the systems required for tracking.

Option 4.3.A.7: Increase Government day care places for children

What: In consultation with pre-school and day care facilities and the Ministry of Finance, review the options for offering means-tested support for these services. In parallel, review the current facilities available and consider the options for expansion of the current public- and private-sector facilities.

Why: The current Government facilities which are available on a means-tested basis are limited, while private-sector provision is expensive. As such, affordable day care would ease problems for many families with young children.

Who: Ministry of Health and Family Services, Ministry of Finance, Ministry of Education and Development, Ministry of Works and Engineering and Housing, Ministry of Community Affairs and Sport.

When:

Anticipated outcomes: More spaces for children in Government day care which will assist those families who cannot afford the private sector provision.

Possible difficulties: Lack of space to expand facilities.

Option 4.3.A.8: Review current child healthcare subsidy

What: Review the subsidy paid by Government for children admitted to the hospital which is not currently means-tested, to ascertain the impacts of extending this subsidy to other services, for example seniors' healthcare.

Why: There are other sectors of society, such as seniors, who may not be in an economic position to provide for themselves.

Who: Ministry of Health and Family Services, Ministry of Finance, Bermuda Hospitals Board, Bermuda Health Council.

When:

Anticipated outcomes: Providing healthcare assistance to those special need groups that require it.

Possible difficulties: Inability to provide assistance due to lack of financial resources.

Box 4.6

Unequal Opportunities

Currently, 750 households are receiving financial assistance and 236 receive housing subsidies from the Government. Thirty-eight per cent of children attended private school in 2000, with 58% in public school. Eighty per cent of public school students were black, 78% of private school students were white. In 1950, black men in Bermuda had the lowest life expectancy of any other group. This also held true in 2000.

In 2002, nearly 7 in 10 executive positions were filled by white employees, while nearly 7 in 10 non-professional posts were filled by black employees. Last year, the average black-led household earned \$1,676 per week, over \$800 less than the average white-led household. The average non-Bermudian household earned \$600 a week more than the average Bermudian household.

It is clear from consultation that a portion of the Bermudian population feels marginalised by the current economic growth, which is in part responsible for driving up accommodation costs. They blame international business and guest workers, and this leads to xenophobia and resentment. If you've given up hope of making it in your own country, or you're excluded from the mainstream of the economy for any number of reasons, be it educational qualifications or not socialising in the right circles, the temptation to behave badly can be strong.

The figures are clear that on average non-Bermudians earn more money than Bermudians and white people earn more than black people. Yet there are plenty of wealthy black Bermudians and plenty of poor guest workers. The foreign currency earned from tourism and international business puts money in Bermudian pockets, whether one works in a supermarket, in construction or even the Civil Service. It enables the import of cars, DVD players, and clothes – all the things that are not made here in Bermuda.

Issue 4.4: How do we deal with the increased costs of health care and pension funding, especially with the implications of an aging population?

Between 1950 and 2000, the number of pensioners doubled from 6% to 11% of the population. The number of elderly is rising at a faster rate than the number of workers, which has implications for future pension provision. Bermuda's seniors are 'land rich and cash poor': In 2000, 71% of Bermuda's seniors were owner-occupiers, while 40% of them were considered 'poor'. In 2000, the average pension for seniors was less than \$11,000 per year. The poor pay proportionately more of their incomes for health care than the rich and in 2000, 14% of residents had only basic health insurance or none at all.

Objective 4.4.A: To provide a more progressive and equitable health-care and pension provision.

Options for Action

Option 4.4.A.1: Undertake a comprehensive review of healthcare funding

What: Explore innovative options for further funding of healthcare to ensure that those that need assistance can receive it.

Why: Limited financial resources contribute to economic stress. The cost of living in Bermuda means that expenses are high, especially when health related costs are incurred. The cost of health care more than doubled during the 1990s. With future medical advances and technologies, healthcare costs will continue to rise. As healthcare insurance costs increase, the poor will continue to pay disproportionately more of their income than those better off. Healthcare plans are also linked to where people work, so the current imbalances in economic opportunity will have a direct impact on fair access to healthcare in the future.

Who: Ministry of Health and Family Services, Bermuda Health Council.

When:

Anticipated outcomes: Easier access to health care resulting in a healthier society.

Possible difficulties: Conflicting priorities and lack of resources.

Option 4.4.A.2: Develop a policy on the most cost-effective options for caring for vulnerable seniors

What: Review the costs of care in seniors' own homes against hospitalisation or rest home care, to determine whether there is a strong case for formalising the principle of family carers receiving support, since this may be less than the cost of institutional care.
Why: Many Bermudians care for their senior parents within their own homes due to the high costs of hospitalisation and rest home care. However, there is little financial support for this provision. Additionally, many seniors feel more comfortable and secure in their familiar, home setting, which in turn improves their health due to less stress and increased happiness. Family caregivers are largely responsible for making it possible for seniors to remain living at home and in the community. However, many family caregivers are stretched to their limit. Despite a profound commitment to their care giving role and responsibilities, in too many cases, care giving is taking a toll.
Who: Ministry of Health and Family Services, National Office for Seniors and the Physically Challenged, Bermuda Health Council, Age Concern.
When:
Anticipated outcomes: Reduced seniors' care costs and happier seniors.
Possible difficulties: Cost may be higher due to the need for more individual specialised care at many locations across the island.

Option 4.4.A.3: Help keep seniors active

What: Develop opportunities for volunteerism for seniors such as in schools or after-school activities with training support.
Why: Research shows that keeping seniors active reduces morbidity rates, as well as encourages intergenerational exchange and learning.
Who: Ministry of Health and Family Services, National Office for Seniors and the Physically Challenged, Ministry of Community Affairs and Sport, religious institutions, Centre on Philanthropy, Age Concern, Ministry of Education and Development.
When:
Anticipated outcomes: More physically and mentally active seniors who are contributing to society's needs.
Possible difficulties: Ensuring that there is support for seniors and openness to their involvement.

Option 4.4.A.4: Implement the outcomes of the pensions review

What: Implement various options to ensure that the pension fund does not become exhausted resulting in the inability to provide pensions for the next generation of workers.
Why: The number of old age pension beneficiaries is expected to grow steadily over the next 30 years. The population of working-aged persons is expected to eventually decline significantly in the longer term. As such, costs associated with providing pension benefits are expected to increase substantially relative to the contributions from the employed population. As such contributions will need to increase at a faster rate than benefits over the long term to avoid exhausting the pension fund. In addition, we need to clearly plan how we will take care of those without pension plans, especially the unskilled labour sector.
Who: Ministry of Finance, Department of Social Insurance.
When:
Anticipated outcomes: A healthy pension fund to provide for the next generation of workers.
Possible difficulties: A potential significant increase in contribution rates which could impact those on lower incomes.

Box 4.7

Healthcare

With future medical advances and technologies, healthcare costs will continue to rise. The cost of health care more than doubled during the 1990s. Last year the average household spent nearly \$7,000 on healthcare. This was a 156% increase since 1993. The five leading medical conditions reported in 2000 were high blood pressure, asthma, diabetes, arthritis, and heart condition.

Rest home costs are increasing. Seniors represent the majority of those receiving financial assistance. Healthcare plans are linked to where people work, so the current imbalances in economic opportunity will have direct impacts on fair access to healthcare in the future. Healthcare insurance costs are increasing and the poor pay disproportionately more of their income than those that are better off.

Theme 5: Living within Bermuda's Limits

Imagine

- An island where we ensure that our population only grows at a rate which can be sustained by our infrastructure and where we continually reinvest in our roads, water, energy and education infrastructure.
- An island with a reputation as one of the most environmentally conscious places on the planet. One where we make responsible lifestyle choices and use cutting-edge technologies to minimise our use of water and energy and the creation of waste and pollution, as well as promote efficient buildings and vehicles.
- An island with a resource efficient economy. An economy which generates as much economic value as possible from the lowest possible input of raw materials and energy. An economy, which, at the same time, reflects the true costs of pollution, inefficient resource use and negative social impacts in the prices we pay for all products and services.

Sustainable development involves finding a balance between social, environmental and economic priorities. Often environmental resources represent a limiting factor to sustainability. All too often unrestrained economic or human activity can lead to a degraded environment. This section deals with the resource limits which Bermuda faces, and the infrastructure and policies needed to overcome or manage those limits.

Box 5.1

The Worldwatch Institute in the US is one of a number of think-tanks which has noted that the booming economies of China and India are “planetary powers that are shaping the global biosphere”. Its *State of the World 2006* report said that the planet’s resources are being depleted and could not keep pace with such growth. “The world’s ecological capacity is simply insufficient to satisfy the ambitions of China, India, Japan, Europe and the United States as well as the aspirations of the rest of the world in a sustainable way,” the report added. Moreover, the report stated that if China and India were to consume as much resources per capita as Japan in 2030 “together they would require a full planet Earth to meet their needs”.

In the face of this trend, Bermuda will have to compete for natural resources such as steel, fossil fuels, and timber. If Bermuda is to maintain its high standard of living consumption patterns must become more sustainable. At the moment, waste levels are high, and energy and water consumption are rising. Sewage treatment is currently mainly primary. This impacts the quality of the water lens and marine life.

While Bermuda will never be entirely self sufficient, strategies for energy, water, waste and sewage should be guided by a desire to manage reliance on imported resources. All imports to Bermuda

have a negative impact on Bermuda's balance of payments and lead to increased waste levels. Bermuda can prepare for possible future shortages and the inevitable rising prices of a number of commodities, by developing appropriate systems now. This involves reusing waste and wastewater and minimising resource use wherever possible. In turn this will reduce both capital outflow and negative impacts on air and water quality.

Issue 5.1: How do we meet our energy needs without relying almost entirely on imported fossil fuels?

A strong economy, increased development, and extravagant use have resulted in higher electricity consumption. For example the extensive use of air conditioning has contributed to significant increased demand. Bermuda's high electricity prices are not effective in limiting demand because of strong and sustained income growth. Global oil prices continue to rise, driving inflation and affecting the balance of payments. Yet, in real terms, oil is cheaper today than in 1980. This means, that for the moment, there is little economic incentive to invest in renewable energy sources, even though burning fossil fuels has been strongly linked to global climate change.

Currently, with the exception of the Tynes Bay Incinerator plant, electricity for the entire island is produced at BELCO's Pembroke location. Land limitations at the Pembroke site will require the island to look at alternative solutions to increased electricity use, as well as to add renewable energy sources to the current diesel and gas energy production system. BELCO's total electricity generating capacity is 180 megawatts (MW), de-rated to 165 MW in summer. Peak demand for electricity rose from 91.8 MW in 1994 to a high of 114.6 MW during 2003. In 2004, BELCO used nearly a million barrels of oil, contributing nearly \$15 million to Government revenues through taxation.

The current energy provision system operates under a monopoly. Hence, in the absence of any major policy shift towards nationalisation or deregulation, any energy strategy must be developed by Government in collaboration with BELCO. It is in the island's best interests to reduce fossil fuel use, increase self-sufficiency and energy efficiency, and ensure security of energy supplies. Renewable energy sources, such as solar power, can ensure a degree of energy security in time of emergencies, such as during hurricanes or fires, when transmission lines can be put out of use.

Good Practice Example 5.1

About my electric car

Car registration number 28888 is an electric car, driven by an electric motor and powered by 13 batteries. The car is made by Solectria Corporation of Massachusetts. This car has been on Bermuda roads for over four years and replaced an earlier model which was the first electric car registered in Bermuda in 1995. It is a ZEV, a zero emission vehicle, and is a perfect means of transport in Bermuda. With a range of 50 miles on a charge (and it can be continually topped up during the day. There is nowhere in Bermuda that the car cannot travel. It holds up to five

passengers and is indistinguishable from the ordinary four-door family saloon. It even has air conditioning.

Why it is such a good example

What makes the car unique is the fact that it never has to stop at a gas station and is silent running without any emissions. When in traffic there is no energy use, and when going downhill it recharges the batteries, and so encourages economical use as it extends the range of the car's initial charge, all of which is monitored by onboard gauges. The car is perfect for a small island which has low hills but is not mountainous. Charging the vehicle is by a small onboard battery charger which runs off standard voltage. It costs approximately \$20 per month to run. It is highly efficient in its use of energy with no energy wasted in start-up, idling or by need of a tune-up. If Bermuda's electricity were generated from renewable sources, using this vehicle would not contribute to carbon dioxide emissions.

Submitted by Jeffery Elkinson – owner of an electric car

Objective 5.1.A: Develop a more secure energy supply.

Options for Action

Option 5.1.A.1: Set up an Energy Unit within Government

What: Set up an Energy Unit within Government to effectively regulate and monitor BELCO and other energy-related businesses. This unit would also push renewable energy sources and projects, and track future energy needs in consultation with BELCO.

Why: Currently, Government regulation is fragmented across a number of departments with no effective oversight of the energy provision. There is no single body coordinating efforts to push forward renewable energy or to encourage the uptake of energy efficient building practices. The unit could also provide incentives for retrofitting existing buildings with more energy efficient appliances and distribute information on reducing energy consumption. The current lack of coordination results in inefficiencies.

Who: Ministry of the Environment, Department of Environmental Protection, Ministry of Works and Engineering and Housing, Tynes Bay incinerator, Energy Commission, BELCO.

When:

Anticipated outcomes: Coordination on energy issues resulting in reduced fossil fuel use, increased self-sufficiency and energy efficiency, and a secure energy supply.

Possible difficulties: Identifying and allocating human and financial resources.

Good Practice Example 5.2

About alternative energy use in Bermuda

Energy conservation has been going on unnoticed for quite some time in Bermuda. As far back as 10 years ago, numerous offices in the City of Hamilton were entirely retrofitted with energy efficient lighting. This involved using electronic ballasts, as opposed to magnetic ballasts, extremely durable reflectors (20 year warranties) and T8 lamps in place of 40W T12 lamps. As a result of these measures lighting energy consumption was reduced by 60%. There are also examples of buildings whose outer cladding or window glass actually reduces the heat entering the buildings, thereby reducing the requirement for cooling, thus reducing energy use and energy costs.

Energy efficiency measures are also being used in residential buildings. For example, solar thermal panels have been benefiting property owners from Somerset to St. George's. With these panels water is heated to high temperatures by the sun, reducing the overall cost of water heating over the year by about 80%. Where it seemed inappropriate to use solar panels, some Bermudian home owners have invested in air-to-water heat pumps for residential water heating which reduces the cost of water heating by about 65%. These air-to-water heat pumps are also being used to heat swimming pools. To minimise heating and cooling costs by about 50%, some are using geo-exchange airconditioning systems which use groundwater as the heat exchanger.

Some sites in Bermuda have also been using photovoltaic power, backed up when needed by a small generator. One example of this is on Nonsuch Island. Bermuda's residents are becoming increasingly interested in residential generation of energy from wind and solar power.

Why this is a good example

Home owners have not had to disconnect themselves from the national electricity grid in order to use alternative energy. They have simply reduced the number of kilowatt hours they use and pay for on a daily basis by making the most of the energy present in warm air, hot sunshine and cool groundwater. In doing so, they have reduced their contribution to the amount of fossil fuel pollution which falls into the surrounding ocean and on to roofs around the island.

Sustainable development ensures that unsustainable trends are identified and addressed. In this case, some Bermudians recognised the need to reduce their contribution to fossil fuel pollution globally and opted to use alternative forms of energy. Although the start-up and installation expenses were high, over time, the benefits recouped to the building owners in achieving reduced energy costs have overridden those initial costs. The wider society as a whole also benefited from these owners' contribution to a healthier global environment.

Option 5.1.A.2: Develop an Energy Strategy for Bermuda

What: Bermuda has no strategic approach towards meeting its energy needs. Government and the energy industry need to agree what is needed over the next 20 years. This should be the initial focus of the Energy Unit proposed above. Any energy strategy must be developed by Government in collaboration with BELCO.
Why: An energy strategy will reduce fossil fuel use, increase self-sufficiency and energy efficiency, and ensure a secure energy supply. It will also assign targets and regulate accountability. BELCO is currently developing proposals for a 20 year strategy, which the company is currently discussing with stakeholders. However, in the meantime, Government will need to make clear its views on the future of energy provision in Bermuda. These views should include the elements set out in Box 5.2.
Who: Ministry of the Environment, Department of Environmental Protection, Ministry of Works and Engineering and Housing, Tynes Bay incinerator, Energy Commission, BELCO.
When:
Anticipated outcomes: Increased self-sufficiency achieved through efficient energy use and increased uptake of renewable technologies.
Possible difficulties: Government defining its views on the future energy provision for Bermuda. In addition, lack of resources to create the energy unit and timing challenges.

Box 5.2

Elements for a Bermuda Energy Strategy

1.1 A renewable energy target.

- In order to reduce reliance on fossil fuels and increase energy security, BELCO must be encouraged to develop a more integrated portfolio of energy sources. Recognising BELCO's current position in the electricity market, Government should require by legislation, BELCO to generate an agreed percentage of Bermuda's electricity needs from renewable sources by 2015. The legislation should include financial consequences for non-compliance with the agreed target. This agreement enables BELCO to determine which solutions are most effective, though Government could support the target. The following points suggest other ways this could be done. BELCO has carried out a number of technical studies this year to ascertain what might be feasible and this should form the basis for discussion on the precise nature of the target. Government currently does not have the expertise to know what is technically feasible.

1.2 Facilitate take-up of new technology.

- Government can increase household uptake of renewable energy and in particular, solar energy. This can be achieved by instituting a target requiring 50% of all domestic hot water to be provided by either photovoltaic or solar panels by 2015. The following could be enacted to ensure uptake of the requirement:

- Subsidise a '1,000 homes initiative' to get 1,000 Bermuda homes using solar energy by 2015. Government could offer land tax breaks, exempting householders from land tax for the first year of installation and a 10% cut for a further five years.
- Provide duty relief on solar panels and associated equipment. The limiting factor to take-up by households is cost. Government can offer import duty exemptions on all equipment associated with solar energy as long as the equipment is imported as a kit. Currently only the panels themselves are exempted.
- Make legislative provisions for reverse metering so that households can sell surplus energy back to the grid. This should include clear guidelines on standards for safety and security.
- Make legislative provisions for distributed generation to enable large developments, such as hotels, to develop on-site energy sources, with a strong predisposition towards renewable energy sources.
- Ensure technical skills are available by linking with the National Training Board to provide training to plumbers and electricians in solar panel installation, thereby supporting renewable energy and small businesses.
- Amend the current planning regulations and building codes to require solar energy use in all new developments, including residential housing.
- Give serious consideration for energy generation through the use of biomass. For example, the small scale generation of electricity and heating from the composting of organic waste.

1.3 **Ratify the Kyoto Protocol limiting emissions of greenhouse gases.**

- Extend the UK ratification of the United Nations Kyoto Protocol to Bermuda. The Kyoto Protocol to the United Nations Framework Convention on Climate Change is the international treaty on climate change. The protocol is made under the United Nations Framework Convention on Climate Change (UNFCCC). Countries that ratify this protocol commit to reduce their emissions of carbon dioxide and five other greenhouse gases, or engage in emissions trading if they maintain or increase emissions of these gases. The objective is the "stabilisation of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system" (UNFCCC-2).^{xiv} The Intergovernmental Panel on Climate Change (IPCC) has predicted an average global rise in temperature of 1.4 °C (2.5 °F) to 5.8 °C (10.4 °F) between 1990 and 2100. Current estimates indicate that even if successfully and completely implemented, the Kyoto Protocol will reduce that increase by somewhere between 0.02 °C and 0.28 °C by the year 2050 (source: *Nature*, October 2003).^{xv}

1.4 **Improve energy efficiency.**

- Restrict the importation of energy-inefficient goods. Require imported electrical goods to carry the 'Energy Star' label to ensure basic energy efficiency, and offer further duty breaks on highly energy efficient goods. This initiative would need to set out what

would be acceptable as an energy efficient standard, adequately address what constitutes an offence, and what would happen to unsuitable goods if imported. While the European Union has a highly evolved set of standards, most goods are imported from the United States. Therefore, it might be sensible for Bermuda's policy and legislation to mirror the US approach.

- Institute a Government energy efficiency programme. Develop a programme to reduce energy use in Government operations. Government must show leadership and this would also serve to cut Government's energy bill.
- Undertake a public education campaign to reduce extravagant energy consumption. There are many examples of programmes in other countries which could be adapted for Bermuda.

Issue 5.2: How do we deal with the increased demand for water and limited water resources?

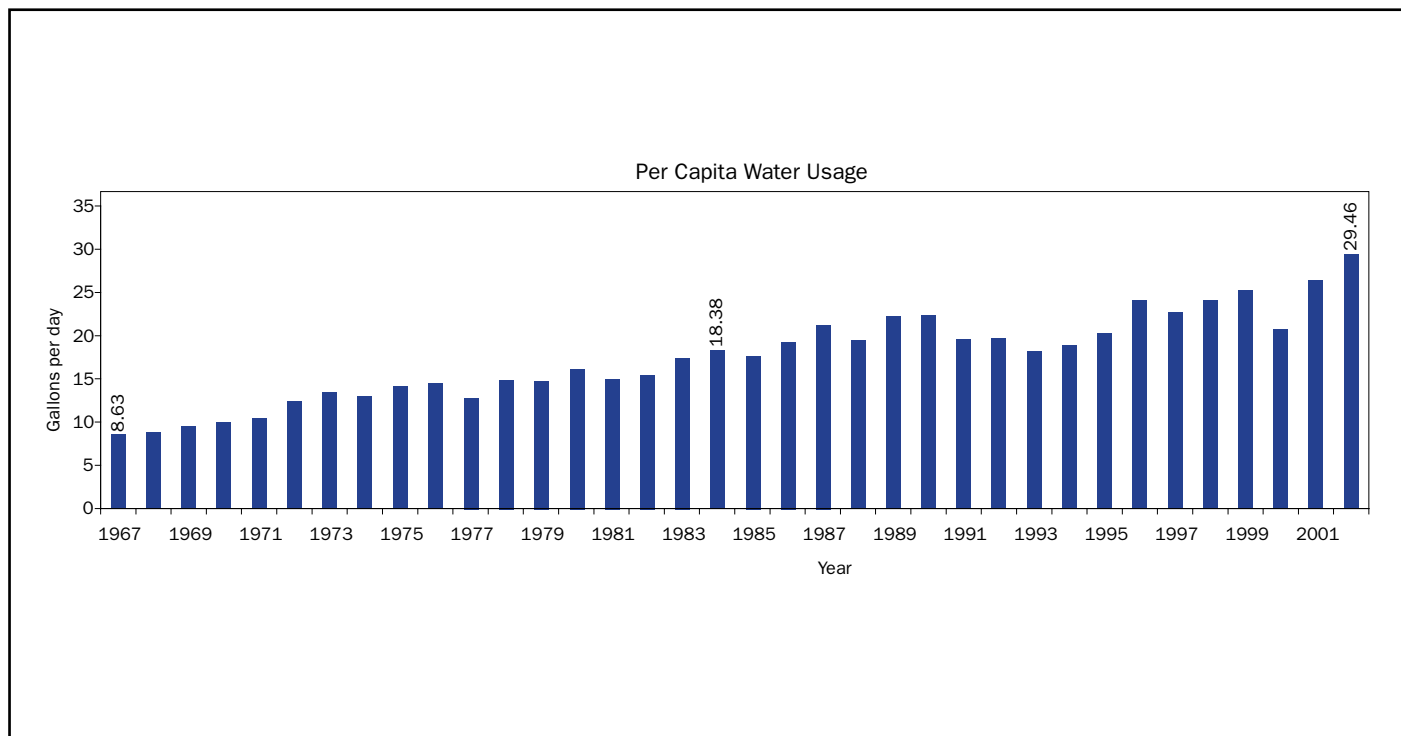
Water collection and use in Bermuda is an example of a sustainable best-practice that has existed for centuries. Traditionally, most residential buildings have collected their own rainwater from white lime-washed roofs, which purify and then store that water for individual use in underground water tanks. This method has proved adequate for our survival thus far, so long as demand is tempered with conservation.

However today, during dry periods, demand for water exceeds supply. As a result of lifestyle changes – dishwashers, washing machines, more regular showers – residents use more water than we collect in our tanks. In 1967 we consumed an average of 7 gallons per person per day. Now we consume around 30. We collect an estimated average of 1 billion gallons of rainfall in our tanks every year. Yet we use 1.58 billion gallons of water per year. By 2010, it is expected that we will use 1.76 billion gallons of water in one year. There has also been major development of high-capacity buildings over the years. In these buildings less rain water is collected per resident. As a result, personal daily water needs cannot be met and more stress is placed on supplementary water sources.

All these factors have resulted in an increasing demand for supplementary water. The primary source of supplementary water is the groundwater lenses. Both uneven and over-extraction from the lenses causes deterioration in the water quality and can cause irreversible damage to the lens itself. For that reason there are strict regulations in place. During dry periods, demand for groundwater exceeds the amount that is allowed to be extracted. Recently, pressure on the lenses has been slightly relieved by the introduction of a reverse osmosis plant by Bermuda Waterworks.

Despite these regulations the quality and quantity of water from the lenses is not guaranteed forever. Houses and businesses routinely dump effluent in the same spaces from which water is drawn. Predicted sea level rise due to global warming is also likely to impact on the water lenses in the future.

Water Use in Bermuda



Objective 5.2.A: Encourage water efficiency and map the next steps to a secure water supply.

Options for Action

Option 5.2.A.1: Develop a 20-year water strategy

What: Develop a 20-year water strategy to meet the island’s future water needs. This strategy would determine Bermuda’s future water needs, taking into account population projections. The strategy would further ensure that future industrial, residential, business and tourism water needs can continue to be met by being developed in conjunction with the new Development Plan. Finally, the strategy would also need to take account of sewage treatment plans for St George’s, Hamilton, WEDCo and BLDC. Significant public and technical consultation is needed.

Why: Currently there is no overarching water strategy. Therefore, it is not surprising that Bermuda experiences annual water shortages. A water strategy would help to alleviate this problem.

Who: Ministry of Works and Engineering and Housing, Ministry of the Environment, Department of Planning, Ministry of Health and Family Services, Department of Environmental Health, Corporation of Hamilton, Corporation of St. George's, WEDCO, BLDC, Watlington Waterworks.
When:
Expected outcomes: Bermuda will ensure that the future water needs of all residents, businesses and industries can continue to be met.
Potential difficulties: Prioritisation of the project and allocation of adequate financial and human resources.

Option 5.2.A.2: Improve water efficiency

What: Restrict the importation of water-inefficient goods. Require all imported water-related goods, such as taps, showers, toilets and washing machines, to be water-efficient, and offer further duty breaks on highly water-efficient goods. This initiative would need to adequately address what constituted an offence, what would happen to unsuitable goods if imported, and set out what would be acceptable as a water-efficient standard.
Why: Current water demands are not being met and water shortages are common. Conserving water is the most cost-effective, environmentally responsible way of ensuring residents' water needs can be met.
Who: Ministry of Works and Engineering and Housing, Ministry of the Environment, Ministry of Finance, HM Customs.
When:
Expected outcomes: Water will be used more efficiently and therefore will be able to go much further.
Potential difficulties: Additional cost of water-efficient appliances, limited resources in Customs, and enforcement challenges.

Option 5.2.A.3: Introduce a Government water efficiency programme

What: Develop a programme to reduce water use in Government operations.
Why: Government must show leadership and decreased water consumption will cut Government's water expenses and save taxpayers money.
Who: Ministry of Works and Engineering and Housing, Sustainable Development Unit.
When:
Expected outcomes: A decrease in the Government's water usage and in times of water shortages, Government's operations will be less impacted. Government will also lead by example advocating the adoption of similar programmes in other businesses and organisations.
Potential difficulties: The current lack of a central coordinating body regulating all Government procurement. In addition, initial costs of investing in water-efficient appliances.

Option 5.2.A.4: Public education

What: Consider the need for public education to reduce excessive water consumption. There are many examples of programmes in other countries which could be adopted in Bermuda.
Why: Water conservation is the most cost-effective and environmentally responsible way of ensuring that all Bermuda's residents have access to the water they need. Additionally, conserving water is dependent on behaviour, habits, as well as technological improvements. If residents of Bermuda do not remain aware of their water consumption habits, other conservation methods will be ineffective.
Who: Ministry of Works and Engineering and Housing, Water Section; Ministry of the Environment, Hydrogeology Section.
When:
Expected outcomes: Bermuda's residents and companies will remain aware of their water consumption habits, and will actively strive to decrease water consumption in their daily lives.
Potential difficulties: Education and awareness does not always result in behaviour change. If water becomes more abundant through new technologies, there will be less of an incentive to conserve.

Issue 5.3: How do we deal with increased waste levels and the potentially hazardous nature of waste streams?

Bermuda produces high levels of waste. In fact, Bermudians produce more waste per capita than New Yorkers. Moreover, each year we are producing up to 4% more garbage than the year before. If we continue at this rate we will double the amount of waste we produce in 24 years.

Waste has many impacts economically since we pay not only to dispose of it, but also for the raw materials which we turn into waste. It currently costs \$129 to collect and \$95 to dispose of each tonne of residential waste. As the amount of waste increases the economic costs of disposal will increase accordingly.

Waste and pollution also threatens to impact human health and environmental health, especially in locations close to disposal sites. This is of particular concern given the unknown impacts of the changing nature of our waste stream. Over the next 10 years, it is projected that 60,000 televisions, computers, and other electronics equipment will become obsolete and require disposal.

Bermuda is well on the way to developing an integrated solid waste management system. However much remains to be accomplished if the system is to become sustainable in the long term. In order for this to happen changes must be introduced and systems added in several areas.

Objective 5.3.A: Minimise waste production, encourage re-use and recycling where viable, and use safe disposal as a final option.

Options for Action

Update the waste management infrastructure

The priority infrastructure items are covered in the following sections as a short-term list of action areas that are currently being addressed or can reasonably be addressed within the next two to five years.

Option 5.3.A.1: Expand the Tynes Bay Waste Treatment Facility

What: Tynes Bay will continue to be the main workhorse of the waste management system in Bermuda. The facility must be expanded to handle the projected increase in waste production and to obtain the maximum amount of power production possible.
Why: Waste is projected to increase by up to 4% a year. As such, it is important to plan ahead so that we have the capacity to deal with this waste. If this is not dealt with efficiently there could be impacts on both human and environmental health. Additionally, obtaining the maximum power possible from waste is important as it will help to reduce Bermuda's near total reliance on diesel fuel for the production of electricity. This is of concern as the global cost of oil is predicted to continue to rise as oil production becomes more difficult. Electrical energy produced from waste is beneficial in that it is not directly dependent on oil. The Tynes Bay facility is also beneficial as it reduces the volume of waste to be handled. The resultant end product of ash to be disposed of weighs approximately 80% less than the input waste. This bottom and fly ash is currently combined and disposed in concrete blocks as foreshore protection at the airport facility. Possible long-term sustainable disposal methods for the ash include fixation of the ash in concrete blocks for paving stones or aggregate that could be used as engineered fill or in asphalt.
Who: Ministry of Works and Engineering and Housing.
When:
Expected benefits: Increased power output from the incinerator, capacity to deal with future levels of waste production, and the potential to use waste outputs to locally produce products the community needs.
Potential difficulties: Conflicting priorities and a lack of technical expertise and resources.

Option 5.3.A.2: Develop a new composting facility

What: An efficient composting system must be developed in order to convert the large volumes of organic waste generated on the island into high quality compost. Research is pointing to using in-vessel composting systems as the most practical composting method for the island. The final selection of the most appropriate technology from among the suitable providers and the selection of a site for a new composting facility is a high priority.
Why: Currently large volumes of organic waste are produced on the island. Composting can convert this organic waste into high quality compost that can be returned to the environment in a beneficial manner. This is particularly important given that in Bermuda soil is scarce – on average the island is covered with four inches of soil. The current system of open air composting at Marsh Folly is problematic as it requires a great deal of space and has undesirable environmental impacts such as odour, dust, and poor aesthetics. Additionally, the need to process organic material at the site prevents the landfill from being developed into much needed green and recreation space for the residents of the area to enjoy. Planned additional residential development next to the Marsh Folly site is raising the need to accelerate site rehabilitation. In-vessel composting could be a solution as this method produces compost on a faster time scale and takes up less land area.
Who: Ministry of Works and Engineering and Housing.
When:
Expected outcomes: High quality compost, produced in less time and using minimal land area. Also the conversion of Marsh Folly into green space.
Potential difficulties: Designating a location for a new composting facility and ensuring adequate resources are available.

Option 5.3.A.3: Utilise the Airport land reclamation fill site for inert wastes only

What: Alternative disposal methods must be found for the non-inert wastes that are currently disposed in the airport fill site. There are environmentally superior disposal methods and recycling opportunities for several of these wastes overseas. These should be considered. When looking at overseas options, the requirements of the waste receivers must be taken into consideration. This will ensure that pre-treatment and handling requirements are developed in a manner that allows efficient transport of these materials to market.
Why: Currently, the Airport land reclamation fill site is licensed to receive various materials that are not suitable for processing at the Tynes Bay facility. These materials include inert fill, scrap metal, appliances, electronic waste, PVC plastic, tyres and disused vehicles. In order to reduce reliance on this fill site and to reduce the potential of negative impacts, a more suitable disposal method for the non-inert materials needs to be found.
Who: Ministry of Works and Engineering and Housing.
When:

Expected outcomes: Reduction of negative impacts to human and environmental health.

Possible difficulties: Cost of transporting the materials overseas.

Option 5.3.A.4: Construct a new Material Recovery Facility (MRF)

What: A new recycling centre is required for efficient sorting and baling of the materials in the current blue bag recycling programme and to handle increased volumes and additional materials if necessary. The new MRF will enable glass to be crushed and sorted into two grades to be employed as aggregate or engineered fill. This facility will replace the existing recycling centre and is currently being constructed in the Government Quarry.

Why: This plant will have the capacity far exceeding the current recycling requirements in order to accommodate future recycling volumes. It will also be able to handle additional materials, if desired, with the purchase of optional sorting equipment. The automated system will be less labour intensive and will thus enhance the efficiency of the system while at the same time achieving increased throughput. Additionally, the new facility will allow glass to be used more effectively as glass that is currently collected through the blue bag system is placed as inert fill in the airport facility.

Who: Ministry of Works and Engineering and Housing.

When:

Expected outcomes: Increased public participation in recycling, greater volume of recycled material, and more efficient reuse of glass.

Potential difficulties: Rebuilding public confidence in and buy-in to the recycling programme.

Good Practice Example 5.3

About 'Home Computers for Students'

'Home Computers for Students' is an innovative project designed to benefit those students in the Bermuda Public School System, who may have not previously had access to a computer at home. The objectives of the programme are to give young people the tools they need to successfully carry out their schoolwork, to cross the digital divide, and to bridge any economic gap which prevents equal access to technology.

Computers that Government would normally have retired, but are still functional are cleaned and appropriate software and internet is installed. These updated computers are provided free of charge to identified students who do not already have a computer in their household. These computers are not meant to be the new toy in the household. Students are expected to use them for learning purposes and not for games. Parents are encouraged to monitor computer use.

So far 30 computers have been provided to the Ministry of Education and Development to get the programme running. However, initial indications show that about 100 computers may be available annually for inclusion in this programme.

Why this is a good example

Having a trained, adaptable workforce is essential to Bermuda's sustainability. The growing reality of 21st Century life is that unless an individual is familiar with technology and has easy access to it, they will be at a disadvantage. Technology, and in particular, computers, are the front-line tools that we need to conduct business, to organise our lives, to do our banking, and even to teach in our schools.

This programme ensures that more of Bermuda's youth become familiar and comfortable with technology from the start by providing for students who otherwise would not have access to a computer in their home. By giving students yet another tool this programme will help develop Bermudian citizens who are both educated and who possess the skills for future success.

Additionally, the reuse of these computers serves to minimise the amount of electronic waste thrown away. Every year Bermudians throw away more electronic waste, computers, cell phones, etc. This waste is disposed of at the airport dump, where it enters the salt water. Electronic goods contain heavy metals, which have the potential to negatively impact human and environmental health. In order to minimise the potential negative impacts, it makes sense to minimise the number of electronics goods thrown away.

Box 5.3

Waste

Increased waste is a sign of affluence, but also of materialism and wastefulness. As other countries, like India and China develop habits like ours, there will be fewer resources to spread around. Globally, mankind needs to use resources more efficiently and dispose of trash safely.

Bermuda produces more trash per capita than even New Yorkers, and this is increasing at approximately 4% a year. If this continues Bermuda will double its trash in 24 years. It costs the Government \$14.9 million a year to dispose of household waste. The airport dump, which opened in 1971, takes 650 to 700 truck-loads a week as well as approximately 140 vehicles a month. Only since 1999 have oil, gas and batteries been removed from vehicles.

The facilities used for handling waste are fast approaching (and, in some cases, have already gone beyond) maximum capacity. Tynes Bay incinerator burns 288 tonnes of waste a day, but both waste streams at Tynes Bay incinerator are now fully utilised with virtually no redundancy. To accommodate this increased generation of waste, a third stream is going to have to be opened by 2007.

Ash from the incineration process is mixed with concrete to form ash blocks. These blocks are placed in Castle Harbour as part of a land reclamation scheme at the airport waste facility. In 2002 some 12,180 tonnes of ash were processed.

Over the next 10 years, it is projected that 60,000 televisions, computers and other electronics equipment will become obsolete and require disposal. This is concerning as electronics have a high lead content and lead is known to have serious negative effects on children's brain development. It also has a high acute and chronic toxic effect on plants and animals. In one study, cadmium, a metal used in batteries was found in high levels near the dump. More studies must be done as these levels could have simply been the result of Hurricane Fabian stirring up the ocean floor. Cadmium is toxic and there is a possible risk of irreversible effects on human health.

We currently produce and compost 18,000 tonnes of horticultural waste per year. However, it is interesting to note that food waste accounts for only 18% of personal solid waste. Technologies that compost more rapidly and take up less land area are currently being looked into.

In 1992, the Bermuda Government implemented a local programme for the management of hazardous waste. Most hazardous waste material is difficult to dispose of in Bermuda in an environmentally acceptable way and is therefore shipped to special hazardous waste processing plants in the US. In the 2002/03 year 39 containers were shipped to the US.

Currently Bermuda does recycle, just not very much. In 1991 Government started a recycling programme for glass bottles and jars, aluminium and steel cans. In 1992 recyclables started being collected along with regular trash pick up. For the fiscal year of 2003/04, 38 tonnes of aluminium and 140 tonnes of tin were recycled. In early 2004 plans began for the building of a new state-of-the-art recycling plant at the Government Quarry in Bailey's Bay.

Issue 5.4: How do we deal with sewage and waste water?

Historically, Bermuda has been fortunate to be able to rely on its geology to efficiently dispose of sewage and waste water. However, now there are more people producing more waste. There is greater housing density, more multi-person dwellings, more chemicals in our waste stream, and more buildings located in environmentally sensitive areas. Sewage and waste water have serious potential to create problems that relate to aesthetics, health, ecology and ultimately economics. Thus, there is a need to constantly re-examine and improve upon the way we deal with waste water and sewage. We must remain aware of the impacts of current disposal practices, continually improve existing practices, and make use of new technologies.

Objective 5.4.A: Move towards tertiary treatment of sewage.

Options for Action

Option 5.4.A.1: Focus on addressing sewage from urban centres

What: Any cost-effective proportionate response to sewage disposal should focus on Hamilton, St. George's, WEDCo and BLDC. The aim should be tertiary treatment as currently sewage is collected, chopped into pieces, and pumped out to sea. This represents a significant loss of nutrients, water, and energy which could be collected and reused. The Corporation of St. George's current plans will cost an estimated \$4 – 5 million, with an estimated 12 months to design and 18 months to implement a new system. However, Government will need to enter into discussion with the Corporation to explore finance, legislation for charging fees, and site location of the treatment plant. There are time pressures on this work, with the possible redevelopment of the Club Med site, and the new seniors' home. Any plan should consider links to developments at Southside.

Why: High volumes of waste water and sewage are most concentrated in urban centres. Therefore, it is in these local areas that waste water and sewage are most likely to negatively impact human health and degrade the environment. Additionally, treatment plants in these areas would be most cost-effective as the collection infrastructure required is much less intensive.

Who: Ministry of Works and Engineering and Housing, Corporation of Hamilton, Corporation of St. George's, WEDCo, Bermuda Land Development Company Ltd. (BLDC).

When:

Expected outcomes: More effective use of waste water and sewage and maintenance of health of Bermuda's people and environment.

Potential difficulties: May not be prioritised as there are many competing large infrastructure projects also in the pipeline. Funding, site location and technical expertise might also present challenges.

Option 5.4.A.2: Keep under review the possibility of sewage collection from cess pits

What: While in the short-term the focus must be on effectively treating sewage from urban areas, in the longer term, consideration should be given to the feasibility of sewage collection from cess pits.
Why: This would provide a significant source of organic material for composting, for energy generation, and water recovery. This would also help to remove nitrate pollution from the fresh-water lens enabling residents once again to use the water from their private wells. Currently, this well water is unfit for human consumption unless it has been treated to be made potable.
Who: Ministry of Works and Engineering and Housing, Ministry of Health and Family Services, Department of Environmental Health.
When:
Expected outcomes: Higher quality water lenses, production of useful by-products, and more efficient use of sewage.
Potential difficulties: Highly labour and resource intensive.

Box 5.4

Sewage Treatment

In Bermuda we generate approximately 5 million gallons of waste water a day, most of which is domestic and non-toxic. There are currently three main methods of disposing of this waste – cesspits, ocean outfall and deep sealed boreholes.^{xvi} Each of these methods has both potential positive and negative impacts.

Cess Pits: Over 90% of sewage and waste water is still disposed of using a cesspit. A cesspit is usually an underground stone or concrete tank in which the solids settle and the waste water, containing nitrates, drains to the ground below by filtering through the base and walls. It is estimated that there are 21,000 cesspits in Bermuda which together dispose of 3.5 million gallons a day.^{xvii}

Though this sounds primitive, Bermuda’s limestone physically filters and chemically absorbs many contaminants which filter through it.^{xviii} In fact, international standards for the disposal of treated effluents allows for elevated nutrient levels which are similar in quality to the effluent from Bermuda’s cesspits after filtration through a few meters of limestone. Contrary to popular belief, groundwater is not becoming increasingly polluted by sewage. Nitrate levels have been fluctuating and have recently levelled. This is due to the fact that population densities in the most heavily developed areas have not increased over the last two decades.^{xix}

All groundwater is continuously monitored and treated therefore current nitrates in the water should not impact upon human health. But it is not clear what other impacts nitrates might have on, for example, Bermuda’s inshore marine ecosystem.

Ocean Outfall: Roughly one million gallons a day is being disposed through ocean outfalls. Sewage

receives preliminary treatment (meaning soft solids are ground and solid trash and larger inorganic particles are removed) and is then pumped through pipes where it is disposed offshore. The two primary ocean outfalls connect to the only two public sewer systems in the Town of St. George and the City of Hamilton.^{xx} Surveys of reef health adjacent to the Sea Bright outfall off Hungry Bay have indicated that the rapid dilution of sewage prevents any adverse impact, though the abundance and diversity of animals does decrease toward the location of sewage out put.^{xxi}

Boreholes: A deep borehole is a hole that extends down below the freshwater lens. It is coated in an impervious lining, so that the release of waste occurs only at the base of the hole. They are being used in residential and commercial development where a high volume of water is discharged in a small area.^{xxii}

Where are we going?

Arguably, cesspit disposal has been and will continue to be completely sufficient. However, it is clear that the use of cesspits becomes questionable in high density and environmentally sensitive areas. For the last 20 years, high-density developments such as condominiums have been required to install septic tank treatment systems and deep sealed boreholes for effluent disposal. Meanwhile, the largest new housing hotel developments are now required to implement secondary or tertiary sewage treatment.^{xxiii} While this reduces some of the pressure on the local environment caused by cesspits, new disposal methods present new challenges, more questions are posed, and more answers are needed.

Issue 5.5: How do we deal with the increasing numbers of vehicles, limited road space and residents' need to easily get around the island?

Bermuda is one of the few countries with a history of attempting to manage the number of motor vehicles, particularly cars. Shortly after the automobile was introduced in 1946, legislation was passed to limit the number and size of cars and to prohibit car rentals.^{xxiv} However, due to the growth in the population and households, the number of vehicles on our roads continues to increase. This has led to increased air pollution, more traffic congestion, extensive fuel consumption, and increased road safety concerns. Our current pricing system doesn't take into account the costs associated with air pollution, time in traffic and vehicle disposal.

Objective 5.5.A: Ease congestion on Bermuda's roads.

Options for Action

Option 5.5.A.1: Continue to implement the 2002 National Transportation Management Report

What: Prioritise the implementation of the proposals contained in the 2002 "National Transportation Management Report", which is the blueprint for transportation in Bermuda.
Why: The plan, which has been developed through the input of residents from all sectors of the community, describes the transportation issues facing Bermuda and clearly identifies proposals to address those issues. The report also suggests the lead agencies, time-frames, and estimated costs for implementation of the proposals.
Who: Ministry of Tourism and Transport.
When:
Anticipated outcomes: Better management of Bermuda's traffic and transportation system.
Possible difficulties: Conflicting priorities and inadequate resources to implement recommended proposals.

Option 5.5.A.2: Encourage the use of school buses

What: Make provision for dedicated school buses to encourage parents not to drive and to allow their children to be picked up by these buses. The service would operate independently from the public transportation system, freeing up more seats on the public buses for commuters and visitors. This should be coupled with each school preparing travel plans to develop a menu of alternate transport options for its students and faculty.

Why: The 1999 traffic survey showed that traffic levels increased by 16% when school was in session. During consultation many also noted the striking decrease in traffic when school was out. Schools clearly contribute to traffic levels. Dedicated school buses would reduce the impact that school traffic is currently contributing to the overall traffic problem.
Who: Ministry of Tourism and Transport, Public Transportation Board, Transport Control Department, schools.
When:
Expected outcomes: Decreased traffic levels.
Potential difficulties: Parental resistance to school bus use and ensuring adequate number of vehicles to serve all the schools.

Option 5.5.A.3: Conduct regular traffic flow management surveys for Hamilton

What: Conduct an updated traffic flow management survey for the City of Hamilton and ensure that a review is carried out on a regular basis.
Why: Hamilton is the area of the island with the most congestion. A traffic flow management survey will identify problem areas and will make recommendations for improvement. The survey should also consider the feasibility of shutting certain streets to cars which would serve to create a more vibrant city for locals and tourist to enjoy.
Who: Corporation of Hamilton, Ministry of Tourism and Transport, Ministry of Works and Engineering and Housing, Highways Section; Ministry of the Environment, Department of Planning.
When:
Expected outcomes: Improved traffic flow through the City of Hamilton and a vibrant pedestrian-friendly city.
Potential difficulties: Conflicts over jurisdiction.

Option 5.5.A.4: Limit the creation of new assessment numbers

What: Consider how limiting new assessment numbers will impact the island's traffic problems.
Why: In 1999, approximately 83% of households had a car licensed to them. This left only 17% of households without a car but with a legal right to do so if they so chose. As the number of private cars on the roads is directly linked to the number of assessment numbers, some believe that one solution to the island's growing traffic problem is to place a moratorium on issuing new assessment numbers. Our progressive policy of limiting one car per household through assessment numbers worked in the past, but as the number of households on the island has increased, so has the number of cars. And with an average increase of 250 new units (and households) per year, there appears to be no end to the number of licensed cars.
Who: Ministry of Tourism and Transport, Department of Land Valuation, Ministry of Finance.

When:
Expected outcomes: A reduction of the number of cars on the road.
Potential difficulties: Assessment numbers are currently used for a variety of Government purposes such as land tax, licensing of vehicles, and rent control. Consequently, any limiting of assessment numbers will have to ensure another mechanism for these operations.

Option 5.5.A.5: Encourage carpooling

What: All residents should be encouraged to carpool and incentives to promote carpooling should be considered. Any carpooling scheme should involve Government leading the way, and should be linked to prepared travel plans for employees.
Why: Having more people in one car decreases the number of cars on the road at any time which helps to reduce vehicle emissions, decreasing air pollution. Some have said that it also helps to strengthen local communities by allowing not only neighbours but strangers to meet and converse with each other. The “Business Transportation Survey 2000” indicated that 26% of employers carpooled to work while 43% drove alone ^{xv} . Although the current uptake of carpooling is low compared to driving alone, there has been strong public support for carpooling, with most businesses expressing support for a structured organised programme.
Who: Ministry of Tourism and Transport, businesses.
When:
Expected outcomes: Improved traffic flow throughout the island and especially in Hamilton. Also a reduction of the number of cars on the road.
Potential difficulties: For success it can’t be imposed, and so getting buy-in and support from the community might be challenging.

Option 5.5.A.6: Continue to improve public transport

What: Continue to make improvements to the public transportation system so that it best meets the needs of the community. This should include adapted timetables, revised routes, more ferry-bus connections, an expanded ferry system and other expanded services. As the roadways become increasingly congested, the water offers the greatest potential for providing improvements in public transport.
Why: Increased use of public transportation will result in fewer cars on the road and also decrease the pressure to provide more parking spaces in the city. However, public transport still has a stigma attached to it and so it must be attractive and convenient in order to encourage the public that it is worth making the switch and getting out of the car. Intensive public consultation will be necessary to ensure the success of any new initiatives.
Who: Ministry of Tourism and Transport, Public Transportation Board, Transport Control Department.
When:

Expected outcomes: Increased use of public transport and decreased cars on the road.
Potential difficulties: Changing behaviour habits and the perceived stigma associated with public transportation.

Option 5.5.A.7: Study benefits of road pricing

What: Conduct a study to see if Bermuda could benefit from a road pricing scheme. Road pricing is a term used for directly charging users for travelling a specific section of the road network. Examples include traditional methods such as toll booths, turnpikes and toll roads, as well as more modern schemes employing electronic toll collection such as the (2003) London congestion charge and Singapore’s electronic road pricing. It is in contrast to indirect charges such as gas taxes, or other types of taxes. ^{xxvi}
Why: The aims of road pricing are several. The revenue could be used to offset gas taxes, to pay for public transport, or to build new infrastructure. It manages demand on the road by varying charges by the time of day (sometimes called congestion pricing). Users can then be discouraged from making trips during peak hours and encouraged to travel during off-peak times. It also discourages driving altogether. ^{xxvii}
Who: Ministry of Tourism and Transport, Corporation of Hamilton, Ministry of Works and Engineering and Housing, Highways Section.
When:
Expected outcomes: Concrete data on whether road pricing can work in Bermuda which could lead to less congested roads.
Potential difficulties: Lack of resources to carry out the study.

Option 5.5.A.8: Increase parking costs

What: Increase the parking costs in and around urban areas to discourage people from driving and encourage use of public transportation. This must be done in partnership with local businesses.
Why: Transportation studies conducted in other jurisdictions concluded that free or inexpensive parking acts as a deterrent to the use of public transportation. ^{xxviii} As is seen in big cities all over the world, when parking is difficult or expensive, driving is discouraged and more people tend to use public transport. The same could be done in Bermuda.
Who: Ministry of Tourism and Transport, Corporation of Hamilton, Corporation of St. George’s, WEDCo, BLDC, private businesses.
When:
Expected outcomes: Fewer cars on the road leading to less traffic congestion.
Potential difficulties: Not publicly popular.

Option 5.5.A.9: Increase deterrents, modernise legislation, revise procedures and improve enforcement

What: Update legislation to increase fines and deterrents for breaches of transportation legislation, such as speeding, unlicensed and/or uninsured vehicles, and registering vehicles to assessment numbers where one does not live. This should also include private sector service providers of public transportation who do not meet established service standards.
Why: There appears to have been an increase in road traffic offences indicating that the current penalties are no longer disincentives. These infractions combined with the increase in traffic has made Bermuda's road less safe.
Who: Ministry of Tourism and Transport, Ministry of Justice, Attorney-General's Chambers, Bermuda Police Service.
When:
Anticipated outcomes: A significant decrease in traffic infractions.
Possible difficulties: Increased public resistance to enforcement unless the system is operated with fairness and transparency.

Option 5.5.A.10: Promote opportunities for adjusted working hours and flexi-time policies

What: Encourage Government offices, businesses, and organisations to adjust start and finish working times. This can be done through promoting the many benefits of flexi-time programmes to schools and employers. Government must lead.
Why: Traffic is at its worst when all vehicles are on the road at the same time. If people are travelling to and from work and school at different hours, everyone will spend less time sitting in traffic.
Who: Ministry of Tourism and Transport, Bermuda Government, businesses.
When:
Expected outcomes: Less traffic congestion as all traffic will not be on the road at the same time.
Potential difficulties: Many service oriented jobs cannot have flexible hours. Also changing the mindset of employers and employees who are tied to the 9 – 5 routine.

Option 5.5.A.11: Encourage decentralisation of business

What: Promote the decentralisation of business to other key areas of the island by offering incentives to businesses that elect to have their office outside of the City of Hamilton (See Option 3.4.A.1 in Theme 3).
Why: If less traffic is heading in the same direction at the same time everyone will spend less time waiting in traffic.

Who: Ministry of Tourism and Transport, Ministry of Finance, Ministry of the Environment, Department of Planning.

When:

Expected outcomes: Less traffic congestion as all rush hour traffic will not be heading into the City of Hamilton.

Potential difficulties: Low take-up due to wanting to be tied to Hamilton because of support services and other conveniences.

Box 5.5

Car numbers

In 1951 there were 6,326 registered vehicles. By 1 March 2005 this grew to 45,908 registered vehicles with an estimated additional 3,000 unregistered vehicles. These registered vehicles include 12,717 motorcycles over 50cc, 21,057 private cars and 3,824 trucks. Even in the last five years 10, 253 new vehicles have been put on Bermuda's roads.

The number of vehicles on Bermuda's roads becomes particularly problematic when many vehicles head to the same place at the same time. In 1999, approximately 9,600 vehicles entered the city of Hamilton between 8am and 9am. This same 1999 study indicated that during the school year there was a 16% increase in traffic.

The ownership of private cars and motorcycles was first allowed in 1946. From 1946 until 1979, approximately 400 cars were added to the roads each year. Since that time, the rate of vehicle increase has not levelled. In fact, during the 1980s the number of registered vehicles increased by 2% per year and since 1990 increase has jumped to 4.5% every year!

Now, on average, 170 new cars are added to the road each month, and only approximately 139 are written off. Demand also remains strong with dealerships currently selling over 2,000 vehicles each year totalling approximately \$47 million.

Increased traffic impacts the Bermuda visitors' experience. In recent exit surveys, 12% of visitors noted traffic issues as a factor that had helped to diminish the quality of their Bermuda holiday experience.

Public transportation has the ability to keep vehicles off the road and decrease traffic congestion. In 2000, there were close to 500,000 passenger journeys on the ferry accounting for approximately 1,350 journeys a day. However only 2% of commuters into Hamilton used the ferry. Of the commuters that used the Far Rockaway Ferry, 25% also use the subsidised Mini Bus Service. In that same year, the bus system saw a total of 4.6 million passengers with only 8% of commuters using the bus to get to work.

Currently the Ministry of Tourism and Transport is implementing the recommendations from its "National Transportation Management Report" of 2002 to address transportation issues. These

include establishing and updating vehicle emission standards, continually enhancing public transportation, and employing further traffic management initiatives.

Air pollution

Currently, traffic emissions are the most concerning source of air pollution in Bermuda. Air samples collected along East Broadway have consistently exceeded international standards with respect to acceptable levels of particulate matter. Yet, as previously stated, the number of vehicles travelling along east Broadway into the City of Hamilton continues to increase.

Steps are being taken to tackle air pollution. Bermuda's vehicle emission standards were brought into law in December 2004. In addition, a ban on the importation of all two-stroke engine motor cycles came into effect in September 2004. At this time, new emission testing facilities are not yet operational, but are actively being pursued.

Issue 5.6: How do we manage the overall size our population?

Bermuda is one of the few islands that did not have a native population. As a result, the island has a long history of immigration that dates back to 1609 with the arrival of the first settlers. Today Bermuda continues to attract a wave of immigrants.

The influx of non-Bermudian workers has always been an important issue because it is linked with perceived crowding, labour-force issues, race and ethnic relations and nationalism. Today immigration is a particularly contentious issue because 28% of Bermuda's population is comprised of foreign-born persons. This percentage is higher than any OECD (Organisation of Economic Cooperation and Development) country.^{xxx}

In addition to labour-force issues, Bermuda is one of the most densely populated countries in the world. Therefore the question of how many residents can Bermuda accommodate often arises. Imported workers and their accompanying families place an impact on Bermuda's infrastructure, contributing to heightened traffic congestion, increased water consumption, and more healthcare demands. Additionally, imported workers compete with Bermudians for affordable housing and access to private schools.

Box 5.6

History of immigration policy in Bermuda

The Department of Immigration was established in 1937 with the introduction of the Immigration Act.^{xxx} This legislation made provision for "statutory domicile" (legal residence) to Commonwealth citizens in Bermuda after meeting the necessary requirements.^{xxxi} In 1956 the Bermuda Immigration and Protection Act made provisions for persons to be classified as Bermudians.^{xxxii} Persons were able to acquire Bermudian status either by birth, marriage or grant. Under the legislation, people

who were residing in Bermuda on 30 June 1956 automatically became Bermudian on 1 July 1956.

Discretionary grant of Bermudian status is the process by which foreign-born residents could apply for Bermudian status after living in the island for a period of five years. This was increased to 10 years in 1987.^{xxxiii} Bermudian status by grant entitles the foreign-born resident to all the rights and privileges of a person who acquired Bermudian status by birth. They can vote, seek employment freely, purchase any property and have the right of abode.

In 1975 the number of discretionary grants was limited to 40 annually. This represented one-tenth of 1% of the Bermudian population. Many residents lacked confidence in the fairness of the process for acquiring Bermudian status and some grew disgruntled about the procedure.

By 1980 the Government introduced a Bermudianisation policy. This policy itemises the order in which qualified people are to fill jobs^{xxxiv}, placing Bermudians and spouses of Bermudians at the top of the list. However, the Ministry of Labour, Home Affairs and Public Safety has no powers to force an employer to hire a particular Bermudian. The Ministry can only prevent the hiring of a non-Bermudian by the refusal to grant a work permit.^{xxxv} Periodically, some job categories are either closed or restricted to non-Bermudians.

In 1984 the Government placed a moratorium on discretionary grants for five years in order to review the policy on Bermudian status grants. During this time, long-term residents who would have qualified for the grant were given Working Residence Certificates which allowed unrestricted employment and residence. These certificate holders had to re-register every three years. As of 1 August 1989, discretionary grants were abolished.^{xxxvi}

In 2001 the Government introduced a term-limit policy to discourage the expectation that work permit approval is tantamount to permanent residence rights in Bermuda. With the exception of key occupations in which there are insufficient Bermudians available, work permit holders will be limited to a term of six years. Generally, no extensions will be granted beyond a further three-year period.^{xxxvii}

In 2002 the Bermuda Immigration and Protection Act made provisions for Permanent Resident's Certificates to be granted to persons who resided in Bermuda before 1 August 1989 who meet the necessary requirements. These applications must be submitted by 1 August 2010.

Objective 5.6.A: Ensure infrastructure provisions and population projections are closely linked.

Options for Action

Option 5.6.A.1: Ensure accurate population projections are carried out

<p>What: We already know that the population is aging. Between 1950 and 2000, the number of pensioners doubled from 6% to 11% of the population. We also know that the number of elderly is rising at a faster rate than the number of workers. However, we also need to know the:</p> <ul style="list-style-type: none">• projected Bermudian workforce;• projected number of workers compared with the numbers of seniors they will be supporting;• projected number of school places needed;• projected number and type of housing units looking at the current trends in household size; and• projected male to female population ratio.
<p>Why: Bermuda now has an accurate projection up until 2030. This is essential for long-range infrastructure planning such as healthcare and schools, as well as decisions on population density, immigration, workforce needs and pensions. Regular projections will allow the island to anticipate changes and better plan for the future.</p>
<p>Who: Cabinet Office, Department of Statistics.</p>
<p>When:</p>
<p>Expected outcome: Development of infrastructure that can fulfill Bermuda’s future needs. Additionally, informed long-term policy decisions.</p>
<p>Potential difficulties: Adequate resources within the Department of Statistics and accurate up-to-date data to run the projections.</p>

Option 5.6.A.2: Use population projections for forward planning of infrastructure and to inform long-term policy decisions

<p>What: Include demographic issues as part of the sustainability impact assessment of all future policies (see Option 2.1.A.4 in Theme 2). Consult all Government departments to ascertain the ramifications of the population projections on their respective policy areas.</p>
<p>Why: Policies and forward planning that make use of the most accurate population projections will best be able to meet Bermuda’s needs</p>
<p>Who: All Government Ministries.</p>
<p>When:</p>

Expected outcomes: A Bermuda where the changing needs of the population can be supported.
Potential difficulties: Resistance to changing the methodology of decision-making throughout Government.

Option 5.6.A.3: Ensure regular updates of population projections.

What: Population projections must be carried out on a regular basis. Recommendations should be made on the data to be collected regularly to ensure projections can occur more easily in the future, coupled with a five-yearly review and update of the projections.
Why: The exercise to produce the current set of projections has taken over nine months because of the unreliability of certain data sets. Given the importance of being able to understand and react to population trends in Bermuda, this must be addressed.
Who: Cabinet Office, Department of Statistics.
When:
Expected outcomes: Accurate projections necessary to inform the best possible decisions.
Potential difficulties: Available resources in the Department of Statistics.

Box 5.7

The carrying capacity myth

The maintenance of Bermuda’s economy and infrastructure is, and always has been, reliant on guest workers. Guest workers help to provide the quality services which Bermudians require and expect. While many guest workers are directly employed by international business as actuaries and accountants for example, the 2004 Employment Survey shows that non-Bermudians also filled more than half the vacancies for other jobs such as pharmacists, architectural assistants, butchers, bakers, farm workers, chefs, waiters, housekeepers, and doctors.

If Bermudians do not train in these areas, or are not prepared to work in these fields, guest workers will continue to be necessary, regardless of international business. Furthermore, some have argued that continued immigration is essential if Bermuda is to remain up to date with the latest global innovations, knowledge and approaches. Given the small size of the Bermudian labour pool, it is difficult to conceive of a future where there is a suitably qualified Bermudian ready to fill every position which arises.

In absolute terms there is no limit on the number of residents Bermuda can accommodate, as long as there are enough dwellings and effective support systems in place such as schooling, healthcare, transport, water, waste disposal and energy. Manhattan has a similar land mass to Bermuda and had 1,537,195 inhabitants in 2000. It is more a question of how much Bermuda wants to adapt to increased population.

In part, this question is answered in Theme 3 which deals with open space and land use issues.

The suggestions in that Theme give a clear picture of what residents want to see in the future. While this will place a natural limit on numbers, it is impossible to offer an absolute maximum population limit. If Bermuda wishes to focus built development in Hamilton, the west end and the former baseland areas, while maintaining open space and limiting high-rise building, and providing infrastructure improvements which serve the needs of an increased population, the maximum population might be somewhere between 75,000 and 80,000 residents.

Bermuda's population is closely linked to the strength of the economy. In boom times, work permit holders increase to fill the jobs created by the economy. In times of recession, both work permit holders and Bermudians leave in search of employment opportunities elsewhere. As a result, reliable population projections and the associated infrastructure planning for both the Bermudian and non-Bermudian population are difficult.

Housing is an excellent example of the link between the economy and population pressures. The current economic climate, increased population and associated high rents are putting pressure on a limited housing stock, while an economic downturn would create the opposite situation.

Based on the most recently compiled population projections, it is estimated that Bermuda's overall population will see a moderate 5% increase from 62,131 in 2000 to 65,447 in 2030.^{xxxviii} However, the numbers of seniors will more than double (125%) from 9,297 in 2000 to 20,938 in 2030 resulting in implications for the future with regard to healthcare, pensions and housing. In addition, with declining birth rates, the total number of school children (ages 5–18) will also decline some 12% from 10,766 in 2000 to 9,447 in 2030.

There are future implications for the workforce (ages 16–64) as it is projected that the working population will also decline 7% from 42,766 in 2000 to 39,804 in 2030. The projections show that the change in the workforce will be mainly attributed to the loss of Bermudians which will see a 9% decline from 32,117 in 2000 to 29,154 in 2030, while the non-Bermudian workforce will see a slight increase but then hold constant over that period at approximately 10,600 workers.

Issue 5.7: How will climate change affect Bermuda and what should be done about it?

Global warming can seem too remote or too uncertain to worry about. But it is a fact that the climate is changing. It is only how it is happening and our role in the process that is less certain. Bermuda already exists in delicate balance. Being 21 square miles sitting in the middle of the ocean, we cannot afford to ignore the fact that the climate is changing. Armed with the best knowledge science can offer, how do we plan for the future accordingly?

Objective 5.7.A: Study and prepare for the impacts of global climate change.

Options for Action

Option 5.7.A.1: Regular coastline and foreshore assessment

What: Perform a coastline and foreshore assessment every five years to track coastal erosion.
Why: Reliable data on coastal erosion will allow swift identification of areas under particular threat and to develop an appropriate response.
Who: Ministry of Works and Engineering and Housing, Ministry of the Environment, Department of Conservation Services.
When:
Anticipated outcomes: Better reaction to coastal erosion threats.
Possible difficulties: Effective implementation of any recommendations.

Option 5.7.A.2: Appropriate shoreline development and protection

What: General design criteria and setback provisions to be considered for all shoreline development and shoreline protection structures are presented in “Coastal Protection and Development Planning Guidelines” submitted to the Government by Smith Warner International in November 2004 as part of the Bermuda Coastal Erosion Vulnerability Assessment. These guidelines should be published and incorporated into the new Development Plan, so that developers are aware of the parameters for shoreline development and used to guide the consideration for approval of shoreline works in a general sense. Given the range of suitable options, applications will need to be reviewed on a case-by-case basis.
Why: At the moment, the functional integrity of shoreline defence is deemed less important than the aesthetics of shoreline structures. With increased development pressure as a result of Bermuda’s economic success and increased risk to the shoreline as a result of climate change, it is essential that the guidelines above be implemented immediately, and encapsulated in the revised spatial development plan, which is covered in Theme 2 of this Implementation Plan.

Who: Ministry of the Environment, Department of Planning, Ministry of Works and Engineering and Housing.
When:
Anticipated outcomes: A better balance between respecting the forces of nature and protecting human assets and life.
Possible difficulties: Effective monitoring of shoreline development, enforcing planning guidelines and balancing the desire to maintain Bermuda's image with effective structural protection.

Option 5.7.A.3: Review options for public marinas

What: Undertake a review of the options for increasing public marinas in Bermuda, with specific proposals subject to rigorous, publicly available Environmental Impact Assessments (EIAs).
Why: If Bermuda is to limit foreshore development, with the increasing numbers of boats in Bermuda this will mean that marina space will need to be increased. Concerns have been raised about the environmental impact of marinas, hence the need for full EIAs on any proposed site. Any marinas will need to be public to ensure that the recreational use of the water is not unduly limited by socio-economic status.
Who: Ministry of the Environment, Department of Planning, Ministry of Works and Engineering and Housing, Ministry of Tourism and Transport, Department of Marine and Ports.
When:
Anticipated outcomes: Increased access to the water for all residents and decreased impact of foreshore development.
Possible difficulties: Identifying suitable sites and mitigating any environmental impacts effectively.

Option 5.7.A.4: Address the ecological factors relating to coastal erosion

What: Address the ecological factors relating to coastal erosion by: <ul style="list-style-type: none"> a) Developing an eradication and public awareness programme to remove casuarina trees in coastal areas and replace with endemic species such as Bermuda cedar. b) Conducting research into the ecology of boring and grazing organisms which remove significant rock material from the coastline, particularly in Harrington Sound. c) Maintaining the health and structure of Bermuda's reefs. d) Protecting the existing areas of mangrove and developing a replanting strategy.
Why: The ecology of casuarina trees and some marine organisms leads to significant erosion of the island's coastlines. Bermuda's reefs and mangroves help to dissipate wave energy and slow wave action to mitigate against erosion naturally.
Who: Ministry of the Environment, Department of Conservation Services.

When:
Anticipated outcomes: Decreased coastal erosion.
Possible difficulties: Prioritisation of these actions and public understanding of the importance of ecological factors in protecting Bermuda's coastline.

Option 5.7.A.5: Encourage the use of endemic and native species in landscaping

What: Through planning guidelines (as at Theme 3) encourage the use of endemic and native species in landscaping.
Why: Future possible climate change could lead to many, as yet unknown consequences, such as soil erosion and loss of vegetation. Evidence shows that the climate of Bermuda and sea-levels have changed significantly in the past, and that endemic species such as the Bermuda cedar have been able to survive and adapt.
Who: Ministry of the Environment, Department of Planning, Department of Conservation Services, Department of Parks.
When:
Anticipated outcomes: Improved adaptation to the effects of climate change.
Possible difficulties: Enforcement of guidelines, public awareness and understanding.

Option 5.7.A.6: Monitor possible impacts of climate change on Bermuda

What: As part of the science strategy, continue to support BUEI/BBSR's work on sea-level trends in Bermuda. Keep abreast of international expertise and knowledge on climate change and, as necessary, review its possible effects on Bermuda.
Why: While much information on the changing climate is currently available, knowledge and understanding is constantly growing. Given Bermuda's vulnerability as a small isolated island, it is essential to remain up-to-date with the latest knowledge. Equally, much of the data is relevant at a global level but may not be useful for Bermuda's unique situation. It is important for Bermuda to develop its own knowledge on how climate change has affected the island in the past and may do in the future. For example, studies show that Bermuda is sinking at about 1mm a year as it moves away from the Mid Atlantic Ridge and cools. We also know that 18,000 years ago the shoreline was over 300 feet lower than currently and that a future increase in sea-level of one foot could lead to an estimated six foot increase in storm surge.
Who: Ministry of the Environment, Department of Conservation Services, BUEI, BBSR.
When:
Anticipated outcomes: Better long-term understanding of possible impacts and hence, improved response to climate change effects.

Possible difficulties: Defining what information may be needed and driving that through to policy changes, especially in building design. Additionally, overcoming scepticism as to the soundness of the scientific results.

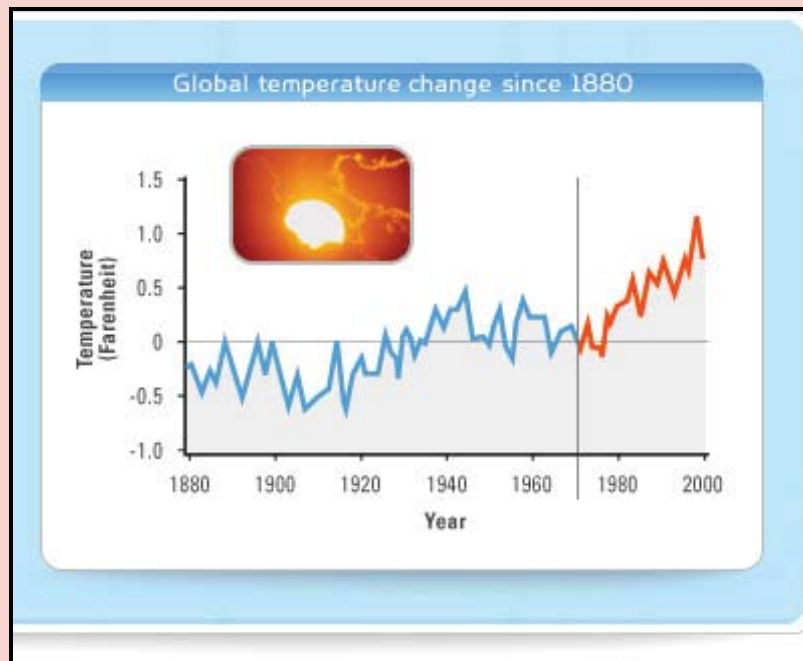
Box 5.8

Global warming

“Things that normally happen in geological time are happening during the span of a human lifetime.”

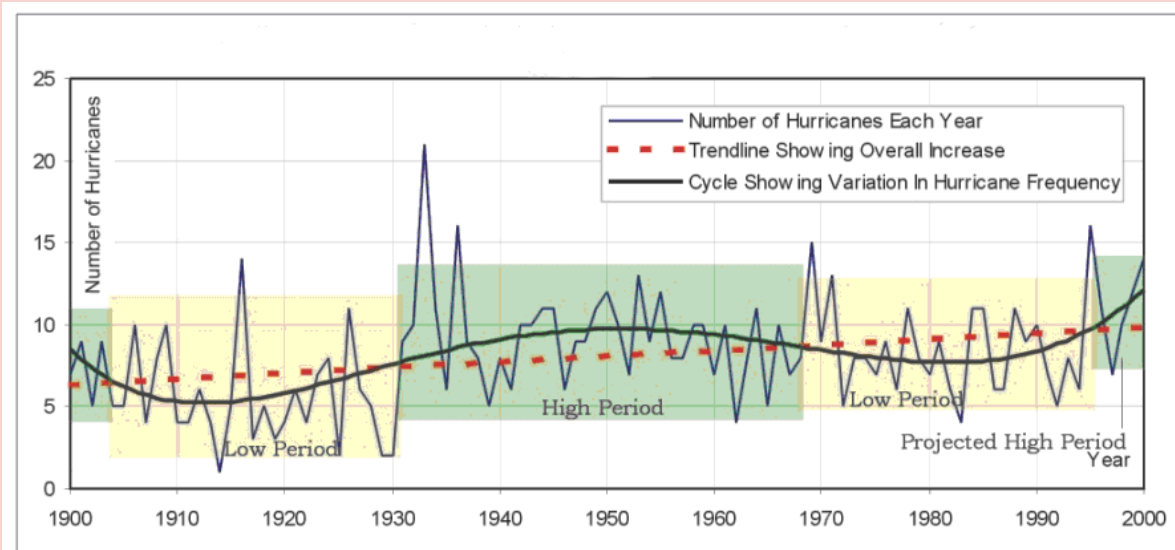
National Geographic, September 2004.

Over the last century the average temperature has climbed about 1 degree Fahrenheit around the world (see graph below^{xxix}). The spring ice thaw in the Northern Hemisphere occurs nine days earlier than it did 150 years ago and the fall freeze now typically starts 10 days later.^{xi}



The United Nations InterGovernmental Panel on Climate Change (IPCC) projects that global temperatures will rise an additional 3 to 10 degrees Fahrenheit by century's end. Globally, sea level has risen 4 to 8 inches over the past century. There is no question that sea levels will continue to rise. The only question that scientists are debating is at what rate it is going to happen – slow, medium or fast. The IPCC predicts that levels could rise between 4 and 35 inches (10 to 89 cm) by century's end.^{xii}

In parallel with predicted sea-level rise, the average number of hurricanes per year in the Atlantic Ocean is increasing by a rate of three per 100 years (see graph below).^{xiii}



Bermuda Coastal Erosion Vulnerability Assessment Report, Ministry of the Environment, November 2004

Hurricane activity typically varies over time. However some models suggest that global warming could cause more frequent extreme weather conditions. An increase in storm severity, coupled with sea-level rise, will have enhanced adverse effects on coastlines around the world.

This becomes particularly striking when one recognises that approximately 3% of Bermuda's mass is less than one metre above sea-level and over 10% of our land mass is less than two metres above sea level.^{xliii} Low lying areas include the Bermuda International Airport, the Causeway, businesses along Front Street, and much of the former naval annex at Morgan's Point.^{xliii} Hurricane Fabian cost Bermuda between \$200 and \$225 million dollars^{xliii} and had serious ramifications for the tourism sector and every resident on the island. How do we plan ahead to minimise the impact of severe storms?

The Gulf Stream keeps Bermuda at a temperate climate and also holds most of the world's weather patterns in the way that we are used to. Models predict that the Gulf Stream will slow in response to climate change.^{xliii} This may well affect Bermuda's temperate climate. This becomes important in the context that Bermuda's climate is one of the top three reasons tourists choose to come here, and one of the many reasons business travellers enjoy doing business here.

Finally, coral reefs are fragile ecosystems. Today, Bermuda's reefs are in comparatively good condition. However, the global picture doesn't look good. One-quarter of the world's coral reefs have already been lost. If current trends continue 60 per cent of the World's coral reefs may be lost by 2030. Global warming is thought to be a factor contributing to this decline. The IPCC says with high confidence that sea surface warming would increase stress on coral reefs and

result in increased frequency of marine diseases. Additionally, increased carbon dioxide (a gas strongly linked to climate change) in the atmosphere results in more carbon dioxide in the oceans. Preliminary research done by the Bermuda Biological Station for Research indicates that the future health of our ecosystem may be at risk since this gas hampers the ability of corals to produce their hard skeletons of calcium.

If our climate changes, the reefs which help mitigate against storm surge may degrade and this would increase the potential severity of storm impacts on our coastline. A decrease in the health in the coral reef systems could also have potential impact on fish stocks.

Issue 5.8: What is the future of the cruise ship industry in Bermuda?

Bermuda remains a popular cruise destination. Current understanding is that the smaller vessels which service Bermuda will soon be decommissioned. The newer and usually larger Panamax and post-Panamax ships often have better standards including the increased capacity to hold waste, water and sewage, and they carry more passengers. Yet their introduction to Bermuda may mean significant changes to port infrastructure and shipping channels, and have consequent environmental impacts. The Town of St. George and the City of Hamilton present the most challenges in accommodating these larger ships.

The cruise ship industry is estimated by the Ministry of Transport to generate \$65 million a year in revenue for Bermuda, with particular impact on bus, taxi and walking tours, watersports activities and commercial ventures at Dockyard and St. George's.

At the same time, the waterfronts in Hamilton, St. George's, Dockyard and possibly Morgan's Point, are underutilised as recreational facilities and require redevelopment to maximise their full potential as significant attractions to tourists and Bermudians alike.

Broad concepts have been created for each of the existing cruise ship terminals. The process is underway to collect information and conduct feasibility studies on these proposals. To date, no decisions have been formally made. However, there is considerable public concern about the future of the cruise ship industry in Bermuda, as evidenced during the public consultation on sustainable development and the numerous letters to the media.

Objective 5.8.A: A cruise ship industry suited to Bermuda’s needs with redeveloped waterfronts in the major tourist centres.

Options for Action

Option 5.8.A.1: Finalise the Ports Infrastructure Master Plan, working closely with the Waterfront Development Taskforce

<p>What: Finalise the Ports Infrastructure Master Plan covering cruise ships, waterfront development and docks relocation, to deliver a phased improvement in current facilities. This should include a regular review of the proposals in the light of latest trends in both the cruise ship and tourist industry and resultant impacts on Bermuda. Broad stakeholder and public consultation is essential. Independent environmental and economic impact assessments should be undertaken and published to allow open discussion of the benefits and disadvantages of any proposals.</p>
<p>Why: The Ports Infrastructure Master Plan covering cruise ships, waterfront development, and docks relocation, is essential to developing the infrastructure relevant to the needs of the Bermudian economy. It should also bring with it associated social benefits. A loss of foreign currency revenue from the cruise industry would make Bermuda more vulnerable to change in other sectors of the economy. At present there are a limited number of vessels which can enter our ports, many of which are aging. Bermuda needs to remain competitive. Upgraded ports will also enable a better selection process, including using environmental impacts of vessels as a selection criterion.</p>
<p>Who: Ministry of Tourism and Transport leading with various consultative sub-groups.</p>
<p>When: Ongoing.</p>
<p>Anticipated outcomes: A vibrant cruise ship industry which integrates well with the broader tourism industry and operates within Bermuda’s environmental and infrastructure limits.</p>
<p>Possible difficulties: Misinformation and public mistrust. Ensuring rigorous environmental assessments and responding to their outcomes, as well as, striking the right balance between economic, environmental and social needs.</p>

Option 5.8.A.2: Integrate sustainable development principles into the cruise ships policy

<p>What: Much of the following is already in place or under consideration. The Ministry of Tourism and Transport is keen to integrate sustainable development principles into the cruise ships policy, covering issues such as improved ground and ferry transportation, the maximum numbers of passengers at any time, ship movements, and continued monitoring of environmental and economic impacts of the industry.</p>
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Why: Once port facilities are upgraded, Bermuda will be able to bring cruise ships into the island which meet our needs. However, as already articulated by the Ministry of Tourism and Transport, a clear policy will be needed to ensure that the industry is managed by policy rather than by the maximum possible berths which could dock here during the season.

Who: Ministry of Tourism and Transport.

When: Ongoing.

Anticipated outcomes: A vibrant cruise ship industry which integrates well with the broader tourism industry and operates within Bermuda's environmental and infrastructure limits.

Possible difficulties: Misinformation and public mistrust. Ensuring rigorous environmental assessments and responding to their outcomes, as well as striking the right balance between economic, environmental and social needs.

Issue 5.9: How should we manage our reliance on food imports and the future of the agriculture industry?

Approximately 80% of Bermuda's food requirements are imported. Bermuda's land and marine resources are unable to feed the current population. As Bermuda's population has grown, arable land has shrunk mostly due to built development. In 1912, 3,000 acres were farmed. Today 696 acres is zoned as agricultural land, but only half is still being used for farming. Most farmers are tenants and half of remaining agricultural land can be developed under current land zoning provisions. As one consultation response put it, "it is more profitable to farm concrete than to farm crops."

It is not realistic to envisage a future where Bermuda's agriculture sector meets the island's food needs. Labour costs are too high to support an export market, and the industry is suffering a skills shortage. However, agriculture is part of our heritage, it helps to protect open space, it contributes to our island's natural beauty, and it provides a small buffer if the situation were to arise where food imports did not arrive. Additionally, agriculture is important in regard to economic diversification as local production decreases the balance of payments. It can also be very socially empowering to be able to produce one's own food, which reduces a dependency on others and builds community.

It is interesting that consultation showed that Bermudians value their agricultural heritage and believe agriculture should be protected. Bermuda's farmers already receive significant levels of protection from market forces with restrictions on imports during harvest season. The future focus should be on agriculture as a means of protecting open space; retaining farming skills in case of future need; and bringing unused land back under cultivation.

Objective 5.9.A: Maintain a viable agricultural sector.

Options for Action

Option 5.9.A.1: Maintain and enhance farming skills

What: Offer farming apprenticeships through the National Training Board (NTB) with support to farmers who offer such training. Encourage backyard farming through community education programmes and develop school gardens.
Why: Fallow farmland can only be brought back into use by skilled farmers and labourers. Presently there are not enough skilled agricultural workers in Bermuda.
Who: Ministry of the Environment, Department of Conservation Services, NTB, local farmers.
When:
Expected outcomes: More trained Bermudian farmers and labourers and, hence, more local food production.
Possible difficulties: Finances and ensuring wages are high enough once trained to encourage take-up of training.

Option 5.9.A.2: Protect remaining agricultural land through the new Development Plan

What: In order to protect Bermuda's remaining open space and agricultural land, implement an immediate, temporary moratorium on planning applications, except applications for certain types of development we want to promote (see Theme 3 Issue 1 on Open Space Protection).
Why: Most open space is held in private hands and is being lost through small-scale infill developments and large-scale developments on greenfield sites. Bermuda's economy is to a significant degree dependent upon a beautiful landscape with open spaces. Visitors and businesses come to the island for this beauty and residents relish the recreational options that open space provides. However, Bermuda's economic success and continuing demand for housing has resulted in increasing development pressure on its limited land resources, particularly on those areas that are not yet developed. If the current rate of development continues, there will be very little open space left, leaving a suburban Bermuda with poorly planned and distributed open spaces.
Who: Ministry of the Environment, Department of Planning.
When:
Expected outcomes: Retention and protection of existing open spaces and agricultural fields.
Possible difficulties: Resistance to the removal of development rights from specific parcels of land, as well as pressure to develop.

Option 5.9.A.3: Review recommendations from the Board of Agriculture

What: Review and concentrate on the recommendations from the Board of Agriculture that address the current challenges in the industry, its potential to Bermuda, and the solutions required to bring it back to health.
Why: To provide an understanding of the immediate and long-term needs of those working in, and alongside the agriculture industry and how they can best be supported. The recommendations cover issues such as financial assistance and aid, proper use of land, backyard farming, insurance for disaster relief, the current embargo system, the labour pool, immigration and apprenticeships.
Who: Ministry of the Environment, Department of Conservation Services.
When:
Anticipated outcomes: Rationalisation of support for agriculture.
Possible difficulties: Unrealistic expectations and competing priorities for funding.

Issue 5.10: How do we manage forthcoming major infrastructure construction projects?

Over the next few years, Bermuda will need to undertake a number of major infrastructure improvement projects. These include a new hospital, the law courts and police station, rebuilding the Causeway, completing the National Sports Centre, providing affordable housing, redeveloping Morgan's Point (including clean-up), rejuvenating North Hamilton, and redeveloping the waterfronts and ports infrastructure.

Objective 5.10.A: Phase construction of infrastructure over the coming years

Options for Action

Option 5.10.A.1: Develop a phased infrastructure upgrading plan

What: Develop a phased infrastructure upgrading plan, with options for private finance and public/private partnerships (PPP) options as appropriate.
Why: Infrastructure will require continual and regular upgrading so that it does not fall into disrepair or cease to function with consequent economic disruption. However, the construction sector is currently working at full capacity. This means that Government must plan ahead for phased construction of infrastructure requirements over the coming years in order to avoid further overheating the construction industry, increasing costs, and creating labour shortages.
Who: Ministry of Works and Engineering and Housing.
When:
Anticipated outcomes: Projects managed within budget and on time.
Possible difficulties: Managing competing demand for scarce resources in the construction industry, particularly labour and professional expertise.

The World Commission on Environment and Development's (the Brundtland Commission) report, *Our Common Future* (Oxford: Oxford University Press, 1987).

ⁱⁱKamala Hussein, "Evolving Principles of Sustainable Development and Good Governance". In: K. Ginther, E. Denters and Paul J.I.M. de Waart, eds *Sustainable Development and Good Governance*, Norwell, MA.: Kluwer Academic Publishers, 1995.

ⁱⁱⁱStewart, Robert, *Bermuda an Economy Which Works*. p 289.

^{iv}Total Marketing and Communications. Bermuda Government 2005 "Public Perception Study on Sustainable Development". p.2.

^vThis figure excludes non-Bermudian spouses of Bermudians and permanent residents.

^{vi}*State of the Environment Report*, Ministry of the Environment, 2005

^{vii}*Budget Book 2005/06*, Ministry of the Environment, Ministry of Finance

^{viii}Department of Planning "Land Use Statistics"; and *State of the Environment Report*, Ministry of the Environment, 2005

^{ix}*State of the Environment Report*, Ministry of the Environment, 2005

^x*Bermuda Biodiversity Country Study*, the Bermuda Zoological Society and the Bermuda Aquarium Museum and Zoo, May 2001, p. 10 (see figure 7); and *State of the Environment Report*, Ministry of the Environment, 2005

^{xi}Department of Planning Statistics; *Bermuda Biodiversity Country Study*, the Bermuda Zoological Society and the Bermuda Aquarium Museum and Zoo, May 2001; and *State of the Environment Report*, Ministry of the Environment, 2005

^{xii}*Budget Book 2005/06*, Ministry of the Environment, Ministry of Finance

^{xiii}Department of Planning "Land Use Statistics"; and *State of the Environment Report*, Ministry of the Environment, 2005

^{xiv}www.wikipedia.com

^{xv}www.wikipedia.com

^{xvi}*State of the Environment Report*. Ministry of the Environment, 2005.

^{xvii}*State of the Environment Report*. Ministry of the Environment, 2005.

^{xviii}*Bermuda Biodiversity Country Study*, the Bermuda Zoological Society and the Bermuda Aquarium Museum and Zoo, May 2001

^{xix}"Nitrates/Sewage in Bermuda's Ground Water". Mark Rowe, Government Hydrogeologist, 2002

^{xx}*State of the Environment Report*. Ministry of the Environment, 2005.

^{xxi}BBSR website

^{xxii}*State of the Environment Report*. Ministry of the Environment, 2005.

^{xxiii}*Bermuda Biodiversity Country Study*, the Bermuda Zoological Society and the Bermuda Aquarium Museum and Zoo, May 2001

^{xxiv}*The National Transportation Management Report*, Ministry of Transport, 2002.

^{xxv}*The National Transportation Management Report*, Ministry of Transport, 2002.

^{xxvi}www.wikipedia.com

^{xxvii}www.wikipedia.com

^{xxviii}*The National Transportation Management Report*, Ministry of Transport, 2002.

^{xxix}<http://policyresearch.gc.ca>

^{xxx}www.immigration.gov.bm, p.1.

^{xxxi}Governor and Council. 1953. *Revised Edition of the Laws of Bermuda 1620 to 1952*. vol. 2. pp. 1145–1177.

^{xxxii}Bermuda Immigration and Protection Act 1956.

^{xxxiii}Bermuda Immigration and Protection Amendment Act 1987.

^{xxxiv} Bermuda Immigration and Protection Act 1980, Consolidations

^{xxxv} www.immigration.gov.bm p.w1-2

^{xxxvi} Bermuda Immigration and Protection Amendment Act 1989

^{xxxvii} Bermuda Government. 'Community for a New Millennium: Bermuda's Long-Term Residents'. p.34

^{xxxviii} "Mid-Year Population Projections July 1 2000 – July 1 2030", Department of Statistics, March 2006

^{xxxix} www.environmentaldefense.org

^{xl} *National Geographic News*, Brian Handwerk, Dec. 6 2004, http://news.nationalgeographic.com/news/2004/12/1206_041206_global_warming.html

^{xli} United Nations InterGovernmental Panel on Climate Change (IPCC), www.ipcc.ch

^{xlii} *Bermuda Coastal Erosion Vulnerability Assessment Report*, Ministry of the Environment, November 2004

^{xliii} GIS Map, Department of Planning, Ministry of the Environment

^{xliv} *State of the Environment Report*, Ministry of the Environment, 2005

^{xlv} *The Royal Gazette*, 8 November 2003

^{xlvi} www.bbc.co.uk/climate/impact/gulf_stream.shtml

What do you think?

Since Bermuda was settled, many decisions and actions have been taken, all of which have created the Bermuda we see today. We have much to be proud of, but we need to make some choices to ensure that this continues.

In order to Chart Our Course and decide our future we must agree where we want to go. This document, Bermuda's first draft Sustainable Development Strategy and Implementation Plan is based on what we heard from you.

Tell us what you think. Are we missing anything? Have we got it right? What have we got wrong?

To truly create a plan to collectively guide our Island's future we need to hear from you. Please feel free to provide us with your comments to the address below or via email.

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