

## **HOUSING SUB-COMMITTEE MEMBERS**

- Michael A. Fifi (Chair)
- Asad Mohammed (Vice-Chair)
- Calder Hart (MSG Representative)
- Carol Smart
- Robert Robinson
- Marsha Farfan
- Dianne Wells
- Jo-Ann Murrell
- Hamish Herrera
- Ingrid Lashley
- Roopnarine Toolsie
- Rudy Serrette
- Christopher Fojo
- Lennox Sankersingh
- Basha Mohammed
- Kamral Mohammed
- Debra D'Abreau (MSG Secretariat)
- Juliana Johan-Boodram (Technical Secretariat)
- Wayne Huggins (Technical Secretariat)
- Margaret Chow (Technical Secretariat)

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**Mr. Michael A. Fifi**  
Chair

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**Mr. Asad Mohammed**  
Vice-Chair



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## CREDO

### **Housing Policy in Trinidad and Tobago must adhere to the Following Basic Core Principles:**

- That every citizen has a right to access adequate housing;
- That an essential component of adequate housing is access to basic utilities, facilities and services, inclusive of the means of transportation;
- That security of tenure is an essential component of housing;
- That housing must be affordable to all citizens;
- That housing must be developed within the context of sustainable communities;
- That there should be social and economic balance in housing communities;
- That equal opportunity in obtaining housing must be given to citizens regardless of gender, race, religion, disability, political affiliation, etc.;
- That housing policy must incorporate a set of design and building standards based on economy of space and efficient use of resource<sup>1</sup>.

<sup>1</sup> Basic principles cannot be applied in isolation. The possible conflicts that could arise must be noted and efforts made to minimize such conflict. For example, affordability fuels greater demand, which fuels higher prices.

## EXECUTIVE SUMMARY

The Vision for Housing in Trinidad & Tobago is to provide adequate housing for all citizens of Trinidad and Tobago by the year 2020.

“Adequate housing” has been defined as not merely the provision of housing units but the creation of quality communities, which are well planned and socially and economically balanced and properly provided with all facilities and utilities and with access to employment.

A “developed country” housing profile was defined for Trinidad and Tobago. Major elements in the housing profile were a household size of 3.4 persons, a floor area index of 27.3 square meters with house price to income ratios of 3.5 - 4.5. Additionally, 100% of houses should be

supplied with basic utilities and amenities.

It is estimated that in order to achieve this vision the country must build ninety thousand (90,000) housing units with related facilities and utilities within the said community structure by 2020.

Additionally, in meeting this need or demand, size and cost of house, as well as geographical location, must be taken into consideration.

It should be noted that the provision of housing must be regarded as a major element in guiding urban policy and that a substantial element of housing should be constructed in our cities, with specific emphasis on Port-of-Spain, in order to counteract the present dysfunctional sub-urbanization trend. This would achieve at the same

time much needed urban redevelopment, and would also provide housing sites at high densities in proximity to existing employment opportunities and infrastructure.

Any housing programme should follow the basic principles as stated in our Credo (above).

In order to achieve the goals of the housing programme, the following major strategies should be adopted:

- An institution should be established urgently with the appropriate modern and powerful systems for effectively collecting, analysing and distributing reliable information in a timely manner;
- A national land policy which identifies and

## EXECUTIVE SUMMARY

provides adequate land resources to meet the needs of a housing programme should be established. This should include the identification of areas ear-marked for urban redevelopment and squatter regularisation. It is estimated that in gross terms, just over 7,500 acres of land would be needed to meet the requirements of the National Housing Programme;

- An accommodating legal and regulatory framework is essential to the success of any housing programme. An archaic and uncoordinated framework exists with outdated attitudes and very inefficient systems. There is urgent need for a total overhaul;

- The existing financial system is not sensitive to the needs of the National Housing Programme. Major strategies, including Government incentives and directives to the private financial sector, need to be put into place. It is estimated that to meet the programme objectives, the following finances would be required:

- 2004 - \$1.2 billion
- 2005 - \$1.44 billion
- 2006 - \$1.44 billion

- Strategies for the adequate provision of materials, equipment and human resources need to be put in place through Government intervention and private sector sensitisation, with specific regard to forecasting and training;

- A licensing authority to regulate construction companies needs to be established, and proper training and monitoring systems set up;
- An effective community management programme is seen as an essential prerequisite to a housing programme as it not only prolongs the life of housing (thus cutting substantially the rates of replacement), but it also educates communities in self reliance and self development, an essential ingredient for sustainable community growth;
- A strong framework of implementing institutions is a critical success factor for the National Housing Programme. From research which has been conducted, it is

## EXECUTIVE SUMMARY

recommended that the existing public or quasi-public sector approach is not cost effective as a disproportionate part of the dollar spent on housing (70%) goes toward administration and not into the product itself. Avenues must be explored to encourage the private sector to function as “developers” in the housing process;

- It is also recommended that the responsibility for the development of

housing as an essential part of local community building be devolved to the local government bodies. The Regional Corporations should be institutionally strengthened to carry out this role;

- National attitudes need to be brought in line with the 2020 Vision and steps should be taken through national consultations and education to create enlightened, accommodating, attitudes

to nurture the National Housing Programme;

- Finally this exercise should be seen as a preliminary exercise in the development of basic principles and policy-setting at a national level. There is need for a mechanism to be established, which will coordinate the National Housing Programme on an ongoing basis and will also monitor performance and ensure timely adjustments to changing conditions

## INTRODUCTION

### TERMS OF REFERENCE /OBJECTIVES OF THE HOUSING SUB- COMMITTEE

- The government has a vision of Trinidad and Tobago attaining developed nation status by the year 2020 and has adopted a multi-sectoral approach to gathering information and preparing plans to meet this goal. The housing sub-committee was one of 28 sub-committees formed to contribute to this vision.
  - The overall objective of the work of the Vision 2020 Sub-Committees is to prepare a strategic development plan that will position Trinidad and Tobago to achieve developed country status by 2020.
- As set out in the 2020 terms of reference, the strategic plan for housing will provide the following:
    - A situation and needs analysis;
    - A vision for the housing sector;
    - Overall policy objectives that provide quantifiable targets for achievement by the year 2020;
    - Specific objectives that provide quantifiable targets for achievement within the periods 2004-2006 and 2007-2009;
    - The strategies that should be pursued for 2004-2006 and 2007-2009, in order to achieve the stated objectives;
    - The indicators/ performance milestones, related to the overall policy objectives, at the end of every three-year
- period commencing in 2006;
- A detailed action plan that contains a prioritised matrix of activities for the public and private sectors and communities, an implementation timetable, and estimates of implementation costs for the first three years;
  - The most critical activities that should be undertaken, as well as those activities that can be easily implemented; and
  - The policy, legislative, and institutional arrangements for the efficient implementation of the strategies and action plan and review of the achievement of milestones and targets.
- The detailed scope of work for the Vision 2020 housing

## INTRODUCTION

Sub-Committee is shown in Appendix I.

### LIMITATIONS IN THE SCOPE OF WORK

- Time, manpower, technical expertise and information deficiencies were some of the major problems affecting the work of the Sub-Committee. This caused the Sub-Committee to focus on general principles, policy framework and urgent issues. Indeed, the level of detailed research and analysis required for some items in the scope of work (see Appendix I) could not be accomplished in the time allotted. In addition, another item in the scope of work (see Appendix I) which required

stakeholder consultations was limited to the organisations represented on the Sub-Committee.

- The sub-committee is of the view that this report is merely the initiation of an exercise that should be on-going. A committee should be maintained to co-ordinate the formulation of a more detailed action plan for the Housing Sector. The Sub-Committee's goal will be to set the policy direction for meeting the housing needs of our country. This Sub-Committee should be an on-going mechanism to assist in formulating, guiding and evaluating the performance of the Housing Policy.

### COMPOSITION OF THE SUB-COMMITTEE

- The Housing Sub-Committee was comprised of key stakeholders and interest groups at the public, private and community levels and was led by an appointed Chairman.
- The Sub-Committee wishes to note that Mr. Calder Hart did not attend any of the meetings and Ms Marsha Farfan was present on one occasion and was represented by Mr. J. Holgar Hackshaw at three (3) of the meetings. As such, we did not receive any input from them for this Report.

## INTRODUCTION

### WORKING ARRANGEMENTS

The Housing Sub-Committee was assisted by the technical secretariat which:

- Provided research support for all the major tasks of the Sub-Committee, including:
  - The sourcing and summarising of key documents; and
  - Gathering and analysing data and information and presenting findings on critical issues.
- Detailed the operational implications of the strategies defined by the Sub-Committee and presented these in the form of an action plan for approval by the Sub-Committee.

- Prepared the reports of the Sub-Committee in collaboration with the Chairman of the Sub-Committee.

- Provided administrative support for the Sub-Committee.

This secretariat was hampered in its work as members were also involved in other activities in their respective jobs and were unable to devote themselves on a full-time basis.

The Sub-Committee was divided into five (5) sub-groups who were assigned to work on specific issues in the housing sector and specific sections of the report. The technical secretariat as well as the Representative of the Multi-Sectoral Group

(MSG) Secretariat worked with all the sub-groups. The members and areas of responsibility for the sub-groups were as follows:

Situation and Needs Analysis Sub-Group - responsible for research on housing demand, and current issues in the Housing sector.

- Basha Mohammed (Chairman)
- Rudy Serrette
- Hamish Herrera
- Roopnarine Toolsie
- Dianne Wells

Legal and Regulatory System Sub-Group responsible for documenting the Legal and Regulatory Framework, and making recommendations for improvements.

## INTRODUCTION

- Basha Mohammed  
(Chairman)
- Carol Smart
- Lennox  
Sankersingh
- Christopher Fojo

Settlement policy sub-group - responsible for defining the settlements context of the vision for housing.

- Anthony Fifi  
(Chairman)
- Asad Mohammed
- Carol Smart
- Jo-Ann Murrell

- Roopnarine  
Toolsie
  - Marsha Farfan
- Implementation and Finance Sub-Group - responsible for researching the finance and other supply bottlenecks, and proposing solutions.

- Asad Mohammed  
(Chairman)
- Calder Hart
- Hamish Herrera
- Ingrid Lashley

- Rudy Serrette
- Kamral Mohammed

Steering Committee / Final Report Sub-Group responsible for co-ordination of the sub-groups and developing the structure and content of the final report.

- Anthony Fifi  
(Chairman)
- Asad Mohammed
- Basha Mohammed
- Robert Robinson

### SCHEDULE OF MEETING

The following meetings were held:

Date	Sub-Group
May 2	Full Sub-Committee
May 6	Full Sub-Committee
May 9	Steering Committee/Final Report Sub-Group
May 12	Full Sub-Committee
May 13	Settlement Policy Sub-Group



## INTRODUCTION

Date	Sub-Group
May 14	Situation & Needs Analysis Sub-Group
May 20	Legal & Regulatory Sub-Group
May 26	Situation & Needs Analysis Sub-Group
May 27	Steering Committee/Final Report Sub-Group
May 28	Full Sub-Committee
May 28	Implementation & Finance Sub-Group
June 3	Implementation & Finance Sub-Group
June 5	Technical Secretariat
June 11	Implementation & Finance Sub-Group
June 13	Full Sub-Committee
June 25	Technical Secretariat
June 27	Full Sub-Committee
July 2	Implementation & Finance Sub-Group
July 3	Full Sub-Committee
July 11	Full Sub-Committee
July 18	Full Sub-Committee
July 21	Technical Secretariat
July 23	Technical Secretariat
July 24	Technical Secretariat
July 25	Full Sub-Committee
July 29	Full Sub-Committee
July 30	Full Sub-Committee
August 4	Full Sub-Committee
August 5	Full Sub-Committee
August 7	Full Sub-Committee

## INTRODUCTION

Date	Sub-Group
August 8	Technical Secretariat
August 9	Full Sub-Committee
August 11	Full Sub-Committee
August 18	Full Sub-Committee

Apart from face-to face meetings, the Sub-Committee made extensive use of e-mail for communication and review of documents.

### **ACKNOWLEDGEMENTS**

The Sub-Committee wishes to acknowledge the support and assistance of the

Technical Secretariat, especially Wayne Huggins and Margaret Chow, whose dedication contributed greatly to the quality of this report.

## THE VISION FOR HOUSING

### THE VISION

In the formulation of a housing policy, the following vision was relied upon to guide our deliberations.

*By the year 2020, every citizen of Trinidad and Tobago will have access to an adequate level of housing.*

### DEFINITION OF “ADEQUATE”

“Adequate shelter means more than a roof over one’s head. It also means adequate privacy, adequate space, physical accessibility, adequate security, security of tenure, structural stability and durability, adequate lighting, heating and ventilation; adequate basic infrastructure,

such as water-supply, sanitation and waste-management facilities; suitable environmental quality and health-related factors; adequate and accessible location with regard to work and basic facilities: all of which should be available at an affordable cost. Adequacy should be determined together with the people concerned, bearing in mind the prospect for gradual development.

Adequacy often varies from country to country, since it depends on specific cultural, social, environmental and economic factors. Gender-specific and age-specific factors, such as the exposure of children and women to toxic substances, should be considered in this context.” (UN Habitat)

### “DEVELOPED COUNTRY” PROFILE IN TERMS OF HOUSING

- In order to arrive at a standard which could be used as typifying the housing profile of a developed country, the following methodology was used:
  - Twenty comparator countries were chosen utilising the human development index (HDI) developed by the United Nations for rating countries in terms of their developed status. The twenty countries were chosen based on their HDI rank and the availability of data on the housing indicators used in developing the index.
  - Table 1 shows the twenty countries, their HDI ranks and scores as well as that of Trinidad and Tobago.

## THE VISION FOR HOUSING

**Table 1: Human Development Index Scores of Comparator Countries**

Country	HDI Rank	HDI Score
Sweden	3	0.941
Australia	4	0.939
Netherlands	5	0.938
Belgium	6	0.937
United States of America	7	0.937
Canada	8	0.937
Japan	9	0.932
Denmark	11	0.930
Ireland	12	0.930
United Kingdom	13	0.930
Finland	14	0.930
Luxembourg	15	0.930
Austria	16	0.929
France	17	0.925
Germany	18	0.921
Spain	19	0.918
New Zealand	20	0.917
Italy	21	0.916
Portugal	23	0.896
Greece	24	0.892
Trinidad & Tobago	54	0.802

Source: United Nations Human Development Indicators 2003.

## THE VISION FOR HOUSING

Additionally a number of housing indicators considered most relevant to housing quality were chosen, and their existing standard within the relevant comparator countries were examined.

Appendix II gives detailed definitions of the indicators used in deriving the housing index. These indicators were:

- Floor Area Index (overcrowding) - median house size / median household size;
- Number of persons per room (privacy);
- Condition of housing (material of outer walls);
- Type of tenure – percentage (%) ownership;
- House Price to Income Ratio - median house price / median income;

- Rent Price to Income Ratio – median rent price / median income;
- Access to basic utilities - water and sewerage, solid waste disposal, electricity, telephone; type of water supply - piped to house; piped to yard; standpipe
  - Sewer types – shared; pit latrine; septic tank; sewer treatment plant;
  - Solid waste disposal – to door; on-site disposal
- Access to transport, employment and schools - travel time, mode of transport;
- Access to finance – quantum of dollars available for mortgages as a percentage (%) of GDP;
- Security, as indicated by reported crime rates.

Information on condition of housing was available only

for Trinidad and Tobago from its 1990 census.

Because of the lack of data, this measure has not been included.

Appendix III shows the data for the comparator countries and Trinidad and Tobago for these nine (9) indicators and household size.

The average, range and standard deviation for each of the indicators for the comparator countries as well as the current situation in Trinidad and Tobago are shown in Table 2.

## THE VISION FOR HOUSING

**Table 2: Summary of Housing Indicators for 20 Comparator Countries**

Indicator	Average	Range	Std. Dev.	T&T Situation
Household Size	2.56	2.0 – 3.1	0.302	3.68
Floor Area Index	38.35sq. m.	27.5 – 60.71	8.73	18
Persons per Room	0.57	0.41 - 0.74	0.09	Not Available
Ownership	63.29%	39 - 83	11.63	72%
Rental	31.68%	11 - 57	11.48	28%
House Price/Income	4.53	2.4 – 7.8	1.86	6.3
Rent Price/Income	18.4%	3 – 28.9	9.50	25%
Water	99.99%	99.9 - 100	0.03	86%
Electricity	100%			88.3%
Telephone	99.87%	99.2 - 100	0.33	95.0%
Solid Waste	98.84%	91.9 - 100	3.06	Not Available
Sewage Disposal	100%			88%
Combined Primary, Secondary & Tertiary Education	95%	73 - 114	11.02	67%
Unemployment Rate	6.68%	2.4 – 14.1	3.00	12.2%
Travel Time	30.5 minutes	21 - 45	10.72	Not Available
Lowest Mortgage Rate	5.23%	3.9 – 6.4	0.87	6.0%
Financial Depth	0.64	0.39 – 1.23	0.28	0.43
Total Crime	22.17%	15 – 29.4	4.66	Not Available

## THE VISION FOR HOUSING

Based on this information, the desired developed country housing profile for Trinidad and Tobago is described as shown in Table 3, below.

**Table 3: Desired Housing Profile for Trinidad & Tobago**

Indicator	Score	Rationale
Household Size	3.4	Will accommodate extended family.
Floor Area Index	27.3 sq.m.	Will provide a balance between an individual's need for space and finite land mass. This provides a 93sq. m. three-bedroom house.
Persons per Room	0.65	One standard deviation over the average.
Ownership	70%	
Rental	30%	Average of the developed countries.
House Price/Income	3.5 – 4.5	4.5 is the average for the developed countries.
Rent Price/Income	25%	Using the median household income of \$3,200, 25% or \$800 will be able to provide reasonable rental accommodation both in terms of affordability to the renter and investment returns to the developer.
Water	100%	
Electricity	100%	
Telephone	100%	
Solid Waste	100%	
Sewage Disposal	100%	
Combined Primary,	84%	This is one standard deviation less than the average of the comparator countries. This level should provide our country

## THE VISION FOR HOUSING

Indicator	Score	Rationale
Secondary & Tertiary Gross Enrolment Ratio		with the supply of skills necessary to maintain developed country status.
Unemployment Rate	5%	The economist's definition of full employment.
Travel Time to work	30 minutes	This impacts on both productivity and the environment.
Lowest Mortgage Rate	6%	
Financial Depth	0.80	
Total Crime	17%	

### DESIRED HOUSING PROFILE

The Sub-Committee felt that the developed country housing profile most fitting a developed Trinidad and Tobago would be one in which there was an average household size of 3.4 persons, with average housing space allocated at 27.3 square metres per person divided into rooms, so that

the person per room average was 0.65.

Additionally, it was felt that the target ratio between home ownership and rental should be 70% ownership, 30% rental. House prices should range between 3.5 and 4.5 times annual income while rental prices should not exceed 25% of monthly income.

All housing units should have access to potable water,

electricity, telephone, sewage disposal and solid waste disposal services. Education and employment should be universally available within close proximity to home, keeping average travel time to work at thirty (30) minutes.

Table 4 gives an indication of the gap between the desired profile and the existing situation in Trinidad and Tobago.



## THE VISION FOR HOUSING

**Table 4: Gap between Desired Profile & Existing Situation in Trinidad & Tobago**

INDICATOR	CURRENT SCORE	TARGET SCORE	GAP (REQUIRED ACTION)
Household Size	3.68	3.4	Decrease of 0.28 persons per household
Floor Area Index	18	27.3sq.m.	Increase of 9.3 sq. meters per person
Persons per Room		0.65	
Ownership	72%	70%	Adequate
Rental	28%	30%	Adequate
House Price/Income	6.3	3.5 – 4.5	2.8
Rent Price/Income	25%	25%	No gap
Water	86%	100%	14% improvement required
Electricity	88.3%	100%	11.7% improvement required
Telephone	95.0%	100%	5% improvement required
Solid Waste		100%	
Sewage Disposal	88%	100%	12% improvement required
Combined Primary, Secondary & Tertiary Gross Enrolment Ratio	67%	84%	14% improvement required
Unemployment Rate	12.2%	5%	7.2% decrease required
Travel Time to work		30 minutes	
Lowest Mortgage Rate	6%	6%	No gap
Financial Depth	0.43		
Total Crime	Not available		

# THE NEED FOR HOUSING

## INTRODUCTION

Emanating from the Vision of an “adequate level of housing for all citizens in 2020”, the Sub-Committee determined that need must be equated with demand. The demand for housing over the next decade has been variously estimated as:

- 10,000 units per annum for all income groups (PADCO, 1993);
- 9,800 units per annum for all income groups (Halcrow, 2000); and
- 6,000 units per annum for all income groups (Angel, 2000).

Given the wide range of these figures, using the CSO 2000 Census figures as the base, an estimate of housing needs was done.

Housing need is determined by the following factors:

- Existing population;
- Existing housing stock;
- Population growth rates;
- Size of household or family units; and
- Condition of housing stock leading to replacement.

The details of the demand/need analysis are discussed in Appendix IV.

## THE EXISTING SITUATION

The CSO 2000 Census shows a total of 343,180 households in Trinidad and Tobago with 335,442 occupied dwelling units. This left a deficit of 7,738 dwelling units as at 2000.

## POPULATION GROWTHS AND HOUSEHOLD SIZE

Table 5 shows the projected population and the number of households starting with the 2000 average household size of 3.68, and gradually reducing household size to 3.4 in 2008, and maintaining this size to the year 2020.

The target household size of 3.4 is based on the 2000 average household size of upper and upper middle class neighbourhoods in Trinidad.

(See Appendix V for details of the neighbourhoods included). Whilst this target is higher than the average for the

## THE NEED FOR HOUSING

comparator countries, the Sub-Committee is of the view that there are cultural antecedents supporting a moderate household size, and social benefits to be derived

from multi-generational households.

At the same time, some reduction in household size is necessary in order to reduce the level of

overcrowding in the early years. The cumulative number of new homes needed due to new household formation to 2020 is estimated at 66,701.

**Table 5: Projected Population and Number of Households 2000 – 2020**

Year	Population	Household Size	Number of Households	Occupied Dwelling Units (estimated)	New Dwelling Units Needed	Cumulative New Dwelling Units Needed (Demand)
2000	1,262,366	3.678	343,180	335,442	7,738	7,738
2001	1,267,415	3.643	347,863	-	4,683	12,421
2002	1,272,485	3.608	352,642	-	4,779	17,200
2003	1,277,575	3.573	357,520	-	4,878	22,078
2004	1,282,685	3.538	362,501	-	4,981	27,059
2005	1,287,816	3.503	367,586	-	5,086	32,144
2006	1,292,967	3.468	372,781	-	5,194	37,339
2007	1,298,139	3.433	378,087	-	5,306	42,645
2008	1,303,332	3.4	383,333	-	5,246	47,891
2009	1,308,545	3.4	384,866	-	1,533	49,424
2010	1,313,779	3.4	386,406	-	1,539	50,963
2011	1,319,034	3.4	387,951	-	1,546	52,509
2012	1,324,311	3.4	389,503	-	1,552	54,061
2013	1,329,608	3.4	391,061	-	1,558	55,619
2014	1,334,926	3.4	392,625	-	1,564	57,183

## THE NEED FOR HOUSING

Year	Population	Household Size	Number of Households	Occupied Dwelling Units (estimated)	New Dwelling Units Needed	Cumulative New Dwelling Units Needed (Demand)
2015	1,340,266	3.4	394,196	-	1,571	58,754
2016	1,345,627	3.4	395,773	-	1,577	60,331
2017	1,351,010	3.4	397,356	-	1,583	61,914
2018	1,356,414	3.4	398,945	-	1,589	63,503
2019	1,361,839	3.4	400,541	-	1,596	65,099
2020	1,367,287	3.4	402,143	-	1,602	66,701

Source: Population and Household and Household Size 2000 – CSO 2000 Census

Population 2001 – 2020 projected using 2000 Census and CSO projected population growth

### REPLACEMENT DEMAND

In this 2000 report, Angel estimated that 91.3% of the housing stock was permanent housing. This means that 8.7% of the 353,097 dwelling units counted in the 2000 Census, or 30,719 units, are non-permanent and would need to be replaced by the year 2020. Assuming that an equal number will be replaced

each year from 2000, 1,463 units will need to be replaced each year. For purposes of this report, the replacement demand for housing will be rounded to 1,500 units per annum. Policies and incentives which encourage proper building maintenance and waste water management programmes are needed to prolong the life of existing housing stock.

### TOTAL DEMAND

Table 6 shows the estimated total demand for housing for the period 2000 to 2020. The total demand, including the need for replacement, is estimated at 98,201. The need averages approximately 7,000 units per year to 2008 and then decreases to approximately 3,000 units per year thereafter. This skewed need arises as a result of the reduction in

## THE NEED FOR HOUSING

household size that takes place in the first nine (9)

years of the period.

**Table 6: Total Demand For Housing 2000 – 2020**

Year	Annual New Demand for Housing	Annual Replacement Demand For Housing	Total Annual Demand for Housing
2000	7,738	1,500	9,238
2001	4,683	1,500	6,183
2002	4,779	1,500	6,279
2003	4,878	1,500	6,378
<b>Sub-Total 2000 - 2003</b>	<b>22,078</b>	<b>6,000</b>	<b>28,078</b>
2004	4,981	1,500	6,481
2005	5,086	1,500	6,586
2006	5,194	1,500	6,694
<b>Sub-Total 2004 - 2006</b>	<b>15,261</b>	<b>4,500</b>	<b>19,761</b>
2007	5,306	1,500	6,806
2008	5,246	1,500	6,746
2009	1,533	1,500	3,033
<b>Sub-Total 2007 - 2009</b>	<b>12,085</b>	<b>4,500</b>	<b>16,585</b>
2010	1,539	1,500	3,039
2011	1,546	1,500	3,046
2012	1,552	1,500	3,052
<b>Sub-Total 2010 - 2012</b>	<b>4,637</b>	<b>4,500</b>	<b>9,137</b>
2013	1,558	1,500	3,058
2014	1,564	1,500	3,064

## THE NEED FOR HOUSING

Year	Annual New Demand for Housing	Annual Replacement Demand For Housing	Total Annual Demand for Housing
2015	1,571	1,500	3,071
<b>Sub-Total 2013 - 2015</b>	<b>4,693</b>	<b>4,500</b>	<b>9,193</b>
2016	1,577	1,500	3,077
2017	1,583	1,500	3,083
2018	1,589	1,500	3,089
<b>Sub-Total 2016 - 2018</b>	<b>4,749</b>	<b>4,500</b>	<b>9,249</b>
2019	1,596	1,500	3,096
2020	1,602	1,500	3,102
<b>Sub-Total 2019 - 2020</b>	<b>3,198</b>	<b>3,000</b>	<b>6,198</b>
<b>Grand Total 2000 - 2020</b>	<b>66,701</b>	<b>31,500</b>	<b>98,201</b>

Table 7 shows number of new mortgages granted by all financial institutions from 2000 – 2002.

**Table 7: Number of New Mortgages Granted 2000 – 2002**

Year	Number of New Mortgages
2000	1,473
2001	2,004
2002	1,447
Total	4,924

Source: Central Bank of Trinidad & Tobago – Research department

## THE NEED FOR HOUSING

In the absence of data on housing statistics in Trinidad and Tobago, the total number of mortgages granted will be used to estimate the number of new housing units built during the 2000 – 2002 period.

Angel (2000) estimates that approximately half of all new housing is built without mortgage financing. However, the number of new mortgages includes the resale of

existing homes. The Housing Sub-Committee has therefore estimated the number of new housing units built from 2000 to 2002 as approximately 8,200.

This figure of 8,200, when deducted from the estimated total demand of 98,201 gives an unmet need of approximately 90,000 units.

Although the net requirement is estimated at 90,000, the tables in

this report continue to show the gross requirement from 2000 to 2020, in order to maintain the integrity of the statistical analysis.

The net housing need of 90,000 is used in the estimates for implementation in Part 5 of this report.

## THE NEED FOR HOUSING

Table 8 shows the total demand by size of unit. 57.3% of the demand is for three-bedroom units, 22.6% for two-bedroom units and 19.5% for one-bedroom units.

**Table 8: Total Demand by Size of Unit**

Trinidad and Tobago	Number of Dwelling Units	Number of 1 - Bedroom Units	Number of 2 - Bedroom Units	Number of 3 - Bedroom Units
2000	9,238	1,800	2,084	5,354
2001	6,183	1,204	1,395	3,584
2002	6,279	1,223	1,417	3,639
2003	6,378	1,242	1,440	3,696
<b>Sub-Total 2000 - 2003</b>	<b>28,078</b>	<b>5,469</b>	<b>6,336</b>	<b>16,273</b>
2004	6,481	1,262	1,462	3,757
2005	6,586	1,283	1,486	3,817
2006	6,694	1,304	1,510	3,880
<b>Sub-Total 2004 - 2006</b>	<b>19,761</b>	<b>3,849</b>	<b>4,458</b>	<b>11,454</b>
2007	6,806	1,326	1,535	3,944
2008	6,746	1,314	1,521	3,911
2009	3,033	592	685	1,757
<b>Sub-Total 2007 - 2009</b>	<b>16,585</b>	<b>3,232</b>	<b>3,741</b>	<b>9,612</b>
2010	3,039	592	685	1,761
2011	3,046	593	688	1,765
2012	3,052	594	689	1,769
<b>Sub-Total 2010 - 2012</b>	<b>9,137</b>	<b>1,779</b>	<b>2,062</b>	<b>5,296</b>
2013	3,058	597	691	1,772
2014	3,064	598	692	1,776



## THE NEED FOR HOUSING

Trinidad and Tobago	Number of Dwelling Units	Number of 1 - Bedroom Units	Number of 2 - Bedroom Units	Number of 3 - Bedroom Units
2015	3,071	598	692	1,778
<b>Sub-Total 2013 - 2015</b>	<b>9,193</b>	<b>1,792</b>	<b>2,074</b>	<b>5,326</b>
2016	3,077	599	694	1,783
2017	3,083	600	695	1,787
2018	3,089	603	698	1,790
<b>Sub-Total 2016 - 2018</b>	<b>9,249</b>	<b>1,801</b>	<b>2,087</b>	<b>5,361</b>
2019	3,096	603	698	1,794
2020	3,102	604	699	1,799
<b>Sub-Total 2019 - 2020</b>	<b>6,198</b>	<b>1,207</b>	<b>1,397</b>	<b>3,593</b>
<b>TOTAL 2000 - 2020</b>	<b>98,201</b>	<b>19,131</b>	<b>22,155</b>	<b>56,914</b>

Table 9 shows the geographical distribution of this demand, broken down by size of unit, and based on the existing patterns of urbanisation.

The regions with the highest demand are Tunapuna / Piarco and Couva /Tabaquite / Talparo. The figures clearly show the

depopulation and sub-urbanisation of Port of Spain and the need for urgent action to reverse this trend.

## THE NEED FOR HOUSING

**Table 9: Total Demand by Geographical Area and Unit Size**

<b>Region</b>	<b>Total Demand for Housing</b>	<b>1 – Bedroom Units</b>	<b>2 – Bedroom Units</b>	<b>3 – Bedroom Units</b>
City of Port of Spain	63	23	19	21
City of San Fernando	6,442	1,004	1,757	3,681
Arima Borough	3,278	675	1,060	1,543
Chaguanas Borough	6,500	1,175	1,175	4,150
Point Fortin Borough	939	293	235	411
Diego Martin	6,924	2,181	1,518	3,225
SanJuan/Laventille	9,845	2,735	1,641	5,469
Tunapuna/Piarco	27,573	4,651	6,645	16,277
Couva/Tabaquite/ Talparo	9,135	1,400	2,200	5,535
Mayaro/RioClaro	816	110	176	529
Sangre Grande	4,140	840	780	2,520
Princes Town	5,777	918	918	3,940
Penal/Debe	4,124	944	1,102	2,078
Siparia	5,779	1,323	1,544	2,911
Tobago	6,868	1,564	1,224	4,080
<b>Trinidad and Tobago</b>	<b>98,201</b>	<b>19,838</b>	<b>21,993</b>	<b>56,370</b>

Sources: CSO 1997/98; Table 1; Author's Calculation

## THE NEED FOR HOUSING

Table 10 shows the household income distribution in Trinidad and Tobago. Almost one-

third (29.5%) of the population earns less than \$2,000 per month, the minimum level necessary

to be considered for a mortgage loan by a financial institution.

**Table 10: Income Distribution by Household**

Monthly Income Level	Number of Households	% of Population	Cumulative %
Less than \$1,000	36,068	10.5	10.5
\$1,000 - \$1,999	65,239	19.0	29.5
\$2,000 - \$2,999	62,768	18.3	47.8
\$3,000 - \$3,999	46,432	13.5	61.3
\$4,000 - \$4,999	33,426	9.7	71.1
\$5,000 - \$5,999	22,924	6.7	77.8
\$6,000 - \$6,999	19,115	5.6	83.3
\$7,000 - \$7,999	12,252	3.6	86.9
\$8,000 - \$8,999	10,227	3.0	89.9
\$9,000 - \$9,999	6,726	2.0	91.8
\$10,000 - \$10,999	4,976	1.4	93.3
\$11,000 - \$11,999	4,667	1.4	94.6
\$12,000 - \$12,999	3,226	0.9	95.6
More than \$13,000	15,169	4.4	100.0
<b>TOTAL</b>	<b>343,215</b>		

Source: CSO 1998 Household Budgetary Survey

## THE NEED FOR HOUSING

Table 11 shows the percentage of households in each income group and the number of new units that would be required for each group.

**Table 11: Household Income Category and Share of Households**

Household Income Category	Share of Households	Number of Households
Low Income (under \$3,999)	61.34%	60,236
Middle Income (\$4,000 to \$8,999)	28.54%	28,027
High Income (\$9,000 and above)	10.12%	9,938
<b>Total</b>	<b>100.00%</b>	<b>98,201</b>

Table 12 shows the projected total demand by income group to 2020 provided that the income distribution of Trinidad and Tobago remains as it

was in the 1998 “Household Budgetary Survey”. It shows that more than half of the demand for housing to 2020 (57.3%) falls within

the low-income group with 30.7% in the middle-income group and 12% in the high-income group.

## THE NEED FOR HOUSING

**Table 12: Total Demand by Income Group**

Region	Total Units	Low Income Units	Middle Income Units	High Income Units
City of Port of Spain	63	38	18	6
City of San Fernando	6,442	3,826	2,168	446
Arima Borough	3,278	1,070	1,471	736
Chaguanas Borough	6,500	2,907	2,643	952
Point Fortin Borough	939	715	201	22
Diego Martin	6,924	3,598	1,832	1,493
San Juan/Laventille	9,845	6,710	2,366	768
Tunapuna/Piarco	27,573	12,568	9,758	5,247
Couva/Tabaquite/Talparo	9,135	5,872	2,654	610
Mayaro/Rio Claro	816	635	181	-
Sangre Grande	4,140	3,060	720	360
Princes Town	5,777	4,127	1,363	287
Penal/Debe	4,124	2,809	1,036	279
Siparia	5,779	3,937	1,452	391
Tobago	6,868	3,131	2,943	794
<b>Total</b>	<b>98,201</b>	<b>55,002</b>	<b>30,808</b>	<b>12,392</b>

Source: CSO 1992; CSO 2002; author's calculation

## THE NEED FOR HOUSING

There has been a marked decline in population in the two cities, Port-of -Spain and San Fernando. In 2000, both city boundaries were increased, with San Fernando increased substantially.

The highest recorded population in both cities was in 1960 – 94,000 in Port of Spain and 40,000 in San Fernando. There has been a steady decline from then to the present using the original city boundaries. In 1990, Port of Spain’s population was 46,000, while San Fernando’s was 28,000.

At the same time, large increases have been recorded in the East-West Corridor (St. George) and the North-South Corridor (Caroni).

In the cities, there exist high quality infrastructure and high levels of social services and facilities, as well as high employment opportunities, particularly within the services sector and the government agencies. It is therefore proposed that there should be a thrust towards the re-development of these cities for residential growth.

This would mean that a substantial portion of the population could be housed in the cities. At the very least, the cities could accommodate their 1960 population levels, which would double their existing population.

To arrive at a method for distributing the 98,201 new dwelling units needed by

2020, four (4) approaches were explored:

- Density of permitted development and land areas, based on existing zoning designation;
- Distribution based on relative prices for residential lands;
- Distribution based on current settlement trends; and
- Distribution based on proposed new development.

The four factors stated above were used in determining a proposed distribution of new dwelling units by region, size of unit and income level as shown in Tables 13 and 14.

## THE NEED FOR HOUSING

**Table 13: Proposed Distribution of Total Demand by Size of Unit**

Region	Total Demand for Housing	1 - Bedroom	2 - Bedroom	3 - Bedroom
City of Port of Spain	30,881	6,176	7,103	17,602
City of San Fernando	12,352	2,470	2,841	7,041
Arima Borough	2,573	515	592	1,467
Chaguanas Borough	13,382	2,676	3,078	7,628
Point Fortin Borough	823	165	189	469
Diego Martin	8,235	1,647	1,894	4,694
San Juan/ Laventille	8,235	1,647	1,894	4,694
Tunapuna/Piarco	10,294	2,059	2,368	5,867
Couva/Tabaquite/ Talparo	3,706	741	852	2,112
Mayaro/Rio Claro	823	165	189	469
Sangre Grande	823	165	189	469
Princes Town	823	165	189	469
Penal/Debe	823	165	189	469
Siparia	823	165	189	469
Tobago	3,603	721	829	2,054
<b>Trinidad and Tobago</b>	<b>98,201</b>	<b>19,640</b>	<b>22,586</b>	<b>55,975</b>

## THE NEED FOR HOUSING

**Table: 14: Proposed Distribution of Total Demand by Income Category**

Region	Total Units	Low Income Units	Middle Income Units	High Income Units
City of Port of Spain	30,881	17,293	9,573	4,015
City of San Fernando	12,352	6,917	3,829	1,606
Arima Borough	2,573	1,441	798	335
Chaguanas Borough	13,382	7,494	4,148	1,740
Point Fortin Borough	823	461	255	107
Diego Martin	8,235	4,612	2,553	1,071
San Juan/ Laventille	8,235	4,612	2,553	1,071
Tunapuna/Piarco	10,294	5,764	3,191	1,338
Couva/Tabaquite/ Talparo	3,706	2,075	1,149	482
Mayaro/Rio Claro	823	461	255	107
Sangre Grande	823	461	255	107
Princes Town	823	461	255	107
Penal/Debe	823	461	255	107
Siparia	823	461	255	107
Tobago	3,603	2,018	1,117	468
<b>Total</b>	<b>98,201</b>	<b>54,993</b>	<b>30,442</b>	<b>12,766</b>



## THE NEED FOR HOUSING

The projections of demand by income levels are based on the assumption that income levels and the distribution of income will remain

largely unchanged over the planned period. An analysis of the status of the developed countries gives a profile of income distribution

and income levels that propel their development.

Table 15 shows the individual income distribution for selected developed countries.

**Table 15: Individual Income Distribution for Selected Countries**

Country	Gini Coefficient	Percent of GNP allocated to 40% of Population	GNP/Capita in US\$
Australia	35.2	17.9	\$ 20,050.00
Austria	23.1	25.2	\$ 25,970.00
Belgium	25.0	24.1	\$ 24,510.00
Canada	31.5	20.4	\$ 19,320.00
Denmark	24.7	24.5	\$ 32,030.00
Finland	25.6	24.2	\$ 23,780.00
France	32.7	19.8	\$ 23,480.00
Germany	30.0	21.4	\$ 25,350.00
Greece	32.7	19.9	\$ 11,770.00
Ireland	35.9	18.3	\$ 19,160.00
Italy	27.3	22.7	\$ 19,710.00
Japan	24.9	24.8	\$ 32,230.00
Netherlands	32.6	20.0	\$ 24,320.00
New Zealand	43.9	12.7	\$ 13,780.00
Norway	25.8	24.0	\$ 32,880.00
Spain	32.5	20.1	\$ 14,000.00
Sweden	25.0	24.1	\$ 25,040.00

## THE NEED FOR HOUSING

Country	Gini Coefficient	Percent of GNP allocated to 40% of Population	GNP/Capita in US\$
Switzerland	33.1	19.6	\$ 38,350.00
United Kingdom	36.1	18.1	\$ 22,640.00
United States	40.8	15.7	\$ 30,600.00
Average	30.92	20.88	\$ 23,948.50
Standard Deviation	5.75	3.36	\$ 6,894.58
<b>Trinidad and Tobago</b>	<b>41</b>	<b>14.5</b>	<b>\$ 4,368.00</b>

The table shows that the average Gini Coefficient (a measure of income distribution) for developed countries is 31% (30.92), while that for Trinidad and Tobago is 41%. While the United States has a Gini Coefficient similar to that of Trinidad and Tobago, the GNP per capita is some seven times that of Trinidad and Tobago. The GNP per capita for Trinidad and Tobago is US \$4,368, while that for

the United States is US \$30,600, and the average for the selected developed countries is US \$23,948.

It is clear that to achieve developed country status; Trinidad and Tobago must dramatically increase its income levels while working to improve its income distribution as measured by the Gini Coefficient.

Increasing the income levels has important implications for housing, as the conditions in housing are largely a reflection of affordability. Higher overall income levels would mean less reliance on Government and the civic sector in the provision of housing (social housing), and greater reliance on the formal financial sector.

## THE NEED FOR HOUSING

### **SUMMARY/ CONCLUSIONS OF THE DEMAND ANALYSIS**

Analysis of the statistics shows the following characteristics of housing needs in Trinidad and Tobago to the year 2020:

#### **Total Demand**

The total demand for Trinidad and Tobago to 2020 is 98,201 dwelling units.

#### **Distribution of Demand**

This demand is heaviest in the central to eastern parts of the east-west corridor and in central Trinidad. It should be noted that the boroughs and the cities all show a diminished demand, which reflects the effects of suburbanisation. This trend, because it encourages longer distances between areas of

work and services and areas of residence, causes problems and inefficiencies in our settlement patterns, such as increased travel time to work and concomitantly, traffic congestion.

#### **Type of Demand**

Of the total demand of 98,201 units, the size distribution shows approximately a 57% demand for three-bedroom units. This distribution does not hold true nationally. The urban areas have a much higher need (roughly 30%) for one-bedroom units than the suburban and rural areas (17%).

#### **Income Distribution of Demand**

The distribution by income level shows that the area of greatest need for housing is

in the low-income group, with 57.3% of the demand. Our income distribution shows that 61.3% of households are categorised as low income and would be unable to afford a mortgage sufficient to purchase an adequate house by developed country standards. This points to severe problems with affordability.

Table 16 shows the debt service requirements for 100% financing on a 25-year mortgage at 6% interest for a two-bedroom home on 454 square metres of land, located in a rural area. (Estimated cost \$180,000).

## THE NEED FOR HOUSING

**Table 16: Debt Service Requirements for \$180,000 25-Year Mortgage At 6%**

Monthly Income Category	Monthly Debt Servicing Lower Income Range at 1/3 Income (\$)	Monthly Debt Servicing Upper Income Range at 1/3 Income (\$)	Required Monthly Debt Servicing for \$180,000 house at 1/3 Income (\$)	Deficit based on Lower Income Range (\$)	Deficit based on Upper Income Range (\$)	Average Deficit (\$)
Less than \$500	-	166.17	1,173.40	(1,173.40)	(1,007.23)	(1,090.32)
\$500 to \$999	166.50	332.67	1,173.40	(1,006.90)	(840.73)	(923.82)
\$1,000 to \$1,999	333.00	665.67	1,173.40	(840.40)	(507.73)	(674.07)
\$2,000 to \$2,999	666.00	998.67	1,173.40	(507.40)	(174.73)	(341.07)
\$3,000 to \$3,999	999.00	1,331.67	1,173.40	(174.40)	158.27	(8.07)
\$4,000 to \$4,999	1,332.00	1,664.67	1,173.40			
\$5,000 to \$5,999	1,665.00	1,997.67	1,173.40			
\$6,000 to \$6,999	1,998.00	2,330.67	1,173.40			
\$7,000 to \$7,999	2,331.00	2,663.67	1,173.40			
\$8,000 to \$8,999	2,664.00	2,996.67	1,173.40			
\$9,000 to \$9,999	2,997.00	3,329.67	1,173.40			

## THE NEED FOR HOUSING

Monthly Income Category	Monthly Debt Servicing Lower Income Range at 1/3 Income (\$)	Monthly Debt Servicing Upper Income Range at 1/3 Income (\$)	Required Monthly Debt Servicing for \$180,000 house at 1/3 Income (\$)	Deficit based on Lower Income Range (\$)	Deficit based on Upper Income Range (\$)	Average Deficit (\$)
\$10,000 to \$10,999	3,330.00	3,662.67	1,173.40			
\$11,000 to \$11,999	3,663.00	3,995.67	1,173.40			
\$12,000 to \$12,999	3,996.00	4,328.67	1,173.40			
More than \$13,000	4,329.00		1,173.40			

Table 17 shows the debt service requirements for 100% financing on a 25- year mortgage at 6.5% interest for a three-bedroom home on 454 square metres of land, located in a suburban area. (Estimated cost \$240,000)

**Table 17: Debt Service Requirements for \$240,000 25-Year Mortgage at 6.5%**

Monthly Income Category	Monthly Debt Servicing Lower Income Range at 1/3 Income (\$)	Monthly Debt Servicing Upper Income Range at 1/3 Income (\$)	Required Monthly Debt Servicing for \$240,000 house at 1/3 Income (\$)	Deficit based on Lower Income Range (\$)	Deficit based on Upper Income Range (\$)	Average Deficit (\$)
Less than \$500	-	166.17	1,639.63	(1,639.63)	(1,473.46)	(1,556.55)
\$500 to \$999	166.50	332.67	1,639.63	(1,473.13)	(1,306.96)	(1,390.05)
\$1,000 to \$1,999	333.00	665.67	1,639.63	(1,306.63)	(973.96)	(1,140.30)

## THE NEED FOR HOUSING

Monthly Income Category	Monthly Debt Servicing Lower Income Range at 1/3 Income (\$)	Monthly Debt Servicing Upper Income Range at 1/3 Income (\$)	Required Monthly Debt Servicing for \$240,000 house at 1/3 Income (\$)	Deficit based on Lower Income Range (\$)	Deficit based on Upper Income Range (\$)	Average Deficit (\$)
\$2,000 to \$2,999	666.00	998.67	1,639.63	(973.63)	(640.96)	(807.30)
\$3,000 to \$3,999	999.00	1,331.67	1,639.63	(640.63)	(307.96)	(474.30)
\$4,000 to \$4,999	1,332.00	1,664.67	1,639.63	(307.63)	25.04	
\$5,000 to \$5,999	1,665.00	1,997.67	1,639.63			
\$6,000 to \$6,999	1,998.00	2,330.67	1,639.63			
\$7,000 to \$7,999	2,331.00	2,663.67	1,639.63			
\$8,000 to \$8,999	2,664.00	2,996.67	1,639.63			
\$9,000 to \$9,999	2,997.00	3,329.67	1,639.63			
\$10,000 to \$10,999	3,330.00	3,662.67	1,639.63			
\$11,000 to \$11,999	3,663.00	3,995.67	1,639.63			
\$12,000 to \$12,999	3,996.00	4,328.67	1,639.63			
More than \$13,000	4,329.00		1,639.63			

## THE NEED FOR HOUSING

It should be noted that our current ownership rate of 72% is not consistent with our income distribution statistics (see Table 9). This rate of home ownership shows clearly that there is a group of lower income households

who through imaginative systems of construction and financing (e.g. Gayap and non-mortgage financing systems) are providing their own housing solutions - the design and size of a house, the method and price of acquiring land,

the method of construction, as well as the density, are matters which must be taken into consideration in evaluating these cases for purposes of formalising them into housing practice.

## CRITICAL SUCCESS FACTORS TO MEET TARGETS

### INTRODUCTION

The goal of providing “access to adequate housing for all” and the target of building 90,000 dwelling units over the next 17 years require an environment in which all the elements that contribute to the provision of housing are easily accessible and user-friendly.

The major elements to a solution are:

- Information;
- Availability of land;
- An accommodating legal and regulatory framework;
- Availability of finance;
- Adequate resources (materials, labour and equipment);
- Design capability and capacity;
- Construction capability and capacity;
- Squatter regularisation;

- Urban redevelopment;
- Community management;
- Efficient implementing agencies (sites and services);
- Local governance;
- Enlightened and enabling attitudes; and
- Inter-relationships with other sectors.

In this section, a synopsis of the existing situation and constraints for each of these areas, as well as recommendations for changes will be presented.

### INFORMATION

Of prime importance, and critical to the successful formulation of any national housing strategy is the ability to access timely, reliable and accurate information. At present, there is grave deficiency both in terms of

the range and quality of relevant information, as well as in systems for disseminating and accessing this information.

Immediate steps should be taken to review the need for information relevant to national planning, and to set up systems and databases to collect, format, analyse and disseminate the said information.

### AVAILABILITY OF LAND

The provision of adequate housing requires the right amount of land in a desirable and accessible location, serviced with the required facilities and available at an affordable price.

For Trinidad and Tobago, land is the most limiting and critical factor in the provision



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of housing. The demand for land for the construction of residential communities must allow for the provision of ancillary facilities and amenities, infrastructure, recreational open space, landscaped areas, and must compete with the requirements for agriculture and environmental conservation.

There has been a continuous rural to urban drift, with a high preference for housing along the East-West and the North-South corridors. The cultural norm in Trinidad and Tobago is for a three-bedroom house on at least 465 square metres of land. This expectation is not sustainable, especially in the urban and suburban areas. It is therefore, imperative that we make changes that would accommodate higher housing densities in these areas.

One must also recognise the sub-urbanisation process now taking place in our major cities (especially in Port-of-Spain) leading to a depopulation of these centres and a movement of residential populations away from the citing of increasing job opportunities. A study of Port-of-Spain clearly shows this trend.

One major issue that has stymied many landowners, including the Government is the problem of squatting. Squatting, though positive, in that it creates shelter for the lowest income levels in our country by their own initiative, poses serious problems both to government and the private sector, creating environmental problems and hazardous situations. It is estimated that there are 25,000 squatter households on government

land with a similar number on private lands.

The State Lands Regularisation of Tenure Act of 1998 sought to regularise squatters on Government Lands but no provision was therein made to solve the problem on private lands. The pace of regularisation has been painfully slow, with only limited success to date.

The speed of regularisation needs to be increased and measures to regularise squatters on private lands must be developed.

Table 18 shows the current land prices by region. The minimum price of serviced land in the East-West corridor, around the major cities and towns on the open market is \$125,000 per 465 square metre lot. In the less

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developed areas, it averages \$40,000.

**Table 18: Land Prices By Region**

Region	Land Price Per Sq. Ft (\$)
City of Port of Spain	300
City of San Fernando	120
Arima Borough	25
Chaguanas Borough	130
Point Fortin Borough	8
Diego Martin	80
San Juan/ Laventille	80
Tunapuna/Piarco	100
Couva/Tabaquite/Talparo	36
Mayaro/Rio Claro	8
Sangre Grande	8
Princes Town	8
Penal/Debe	8
Siparia	8
Tobago	35

Source: Housing Committee; Trinidad Guardian 27<sup>th</sup> and 28<sup>th</sup> July 2003

Table 19 shows the amount of land required to fulfil the new housing needs of the country to 2020.

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**Table 19: Land Needs to 2020 Based on Projected Number of New Dwelling Units By  
Region**

<b>Region</b>	<b>Projected Number of Dwelling Units</b>	<b>Gross Density (Units/Hectare)</b>	<b>Density Designation in Urban / Suburban Areas</b>	<b>Required Land Area (Hectares)</b>	<b>Total Land Area in Each Region (Hectares)</b>
City of Port of Spain	30,881	200	R7	154	1,227
City of San Fernando	12,352	80	R6	154	1,867
Arima Borough	2,573	15	R2	172	1,180
Chaguanas Borough	13,382	30	R4	446	5,943
Point Fortin Borough	823	15	R2	55	2,508
Diego Martin	8,235	45	R5	183	12,588
San Juan/ Laventille	8,235	45	R5	183	23,949
Tunapuna/Piarco	10,294	45	R5	229	51,031
Couva/Tabaquite/ Talparo	3,706	30	R4	124	72,342
Mayaro/Rio Claro	823	30	R4	27	81,374
Sangre Grande	823	30	R4	27	92,708
Princes Town	823	30	R4	27	61,967
Penal/Debe	823	30	R4	27	24,592
Siparia	823	30	R4	27	49,518
Tobago	3,603	20	R3	180	30,044
<b>Total Trinidad and Tobago</b>	<b>98,201</b>			<b>2,017</b>	<b>512,838</b>

Source: Author's calculation

## CRITICAL SUCCESS FACTORS TO MEET TARGETS

Note: The land area calculated covers the site need for housing only. Land for services (schools, open spaces, roads, etc.) Is estimated, at an average, of an additional 30% of housing needs.

Land must be made available in the right place, in the right amounts at affordable prices. Table 19 shows that 2,000 hectares of land will be needed by 2020 to fulfil the housing needs of the country. A further 30% needs to be added to meet the services required for the new housing units. This assumes that specific densities, as shown in Table 19, are adhered to.

It is suggested that these lands may be provided by taking the following steps:

- The identification and zoning of land for

residential purposes throughout the country with special emphasis on the urban areas and the controlling of price through government purchase, subsidy and the release of state owned lands.

- The regularisation and infilling of squatter occupied lands, which, when subject to environmental investigation and analysis, are deemed to be suitable to be retained in built developments.
- Urban redevelopment – the redevelopment of sites now in disrepair or under-utilised within our urban areas and throughout the rest of the country.

- The enforcement of zoning policy, which ensures that residential lands, especially within our urban areas, remain under residential use.
- The formulation of appropriate and relevant site-development standards for residential development with special emphasis on those standards that enable attainment of sustainable balanced communities – basic recreational open space and social facilities while recognising rational density and setback requirements.
- The introduction of incentives and the imposition of penalties to encourage landowners to develop idle lands for housing.

## CRITICAL SUCCESS FACTORS TO MEET TARGETS

- The development of proper access, infrastructure and facilities into some of our rural areas so as to stabilise and increase residential populations.

### LEGAL AND REGULATORY FRAMEWORK

The Legal and Regulatory Framework in which property development and housing transactions take place is complex, archaic and un-coordinated. This results in long time frames, as there are virtually no time limits controlling the government departments responsible for these processes. The outcome is long delays and considerable expense for the completion of even the simplest transactions.

The attitudes of persons within the regulatory authorities need to be brought into alignment with visionary thinking and modern standards of technology and administration to ensure transparency and accountability. A concerted effort towards retraining, re-education, and re-direction is required as part of an institutional strengthening mechanism.

The production of housing requires the builder and the potential homeowner to successfully negotiate the plethora of regulations relating to:

- Land ownership and property registration;
- Change of use, land subdivision and development; and
- Building approval.

This process involves interfacing with some twelve different government departments and authorities. Appendix VI shows a flowchart of the approval process. In addition, mortgage approval and documentation have to be overlaid on this already complicated process.

Critical to the success of the housing programme is the streamlining of the Legal and Regulatory Framework. Systems need to be put in place which can effectively and efficiently deal with the approval process.

“Government has the responsibility to manage the housing sector and, in this regard, it must reorganise existing institutional structures and create new ones, if necessary, in order to achieve this objective. An

## CRITICAL SUCCESS FACTORS TO MEET TARGETS

effective and efficient development approval process is critical to the success of the land management and development programme. The realisation of that goal would require formal coordination of all agencies involved in that process”.<sup>2</sup>

Our detailed recommendations on specific areas of concern are as follows:

- Change of use, land subdivision and development.
- The elaboration and approval of National and Local Area Land Use Plans, which clearly show areas earmarked for housing with standards for development. These should be developed

<sup>2</sup> “Showing Trinidad and Tobago a New Way Home”, Ministry of Housing, Trinidad and Tobago, September, 2002, p.25.

through public consultation and administered at the local government level.

- A review needs to be done of the Environmental Management Authority (EMA) Act and the operations of the EMA. The jurisdictional areas between physical planning and the EMA must be clarified and the EMA limited to matters of direct environmental impact. The EMA has to be properly resourced in terms of numbers and skills.
- The process for the approval of plans by the Director of Lands and Surveys with respect to lands under the Real Property Ordinance (RPO) needs to be re-examined and streamlined. For

example, the malfunctioning of air conditioning units at the offices of Lands and Surveys has resulted in shortened business hours for more than five years.

- Building Approval.
- The standardised set of Building Codes<sup>3</sup> which has been developed must be approved and adopted.
- The Development Control function of the Minister responsible for Town and Country Planning, and the Minister of Planning and Development, ought to be delegated to the Local Authorities (Regional Corporations and Boroughs), in accordance with the Town and Country Planning Act Ch

<sup>3</sup> Trinidad and Tobago Small Building Code, Second Draft, 2001. Public consultation to begin in 2003.

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35:01. These local authorities should be appropriately resourced to carry out this function.

- An application fee should be charged consistent with the size and complexity of the development.
- Minor development i.e. Single family dwelling units, small extensions and alterations should be considered to be permitted development, once it conforms to the terms and conditions of the local area plans and the building codes.
- The Town and Country Planning Act Ch. 35:01 should be urgently reviewed with a view to making it more relevant to planning and development in Trinidad

and Tobago, with specific regard to the devolution of the planning and approval function to local government. It would be useful in doing this review to include an analysis of the Planning and Development of Land Bill with a view to determining whether it should replace the existing Act.<sup>4</sup>

- Land Ownership and Property Registration
  - A comprehensive computerised land registry system incorporating a GIS capability needs to be implemented urgently. This would eliminate the multiple systems currently in operation as well as the time-

<sup>4</sup> It should be noted that one of the conditions of the Inter-American Development Bank Agricultural Sector for the Land Rationalisation Programme, 1992, was the replacement of the Urban Planning legislation.

consuming, costly and sometimes inconclusive searches necessary to verify ownership.

- Three pieces of legislation, the Land Adjudication Act (2000), the Land Tribunal Act (2000) and the Registration of Title to Lands Act (2000), already proclaimed, need to be implemented urgently.

### FINANCIAL FRAMEWORK

The Financial Framework for home construction and mortgages is critical to a healthy and viable housing sector. The need for housing is universal but the effective demand will always be influenced by the cost of the units and the availability of affordable and suitable

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mortgage finance to all income groups.

At present, the institutions in the financial sector that are involved in the mortgage market are:

- The Home Mortgage Bank (HMB). HMB is a secondary mortgage finance institution. HMB finances the purchase of mortgage loans from primary lenders using funding provided by bonds that are sold to institutional and individual purchasers. The service fee of 0.5% which was recently introduced (previously 1%) is considered insufficient by the primary lenders. HMB takes the risk on the loans they purchase, except for tax-exempt mortgages under 9%. It also offers

direct loans through approved lenders (including credit unions) which process and service the loans. This aspect of HMB's service is seen as being in direct competition with the primary lenders, where HMB's lending rate is lower than market.

- HMB has successfully implemented a mortgage indemnity fund to insure lenders against the risk of default based on the Canadian (CHMC) model. The premium costs 1% of the loan value, which amount is added to the loan and amortised over its life.
- The Trinidad and Tobago Mortgage Finance Company Limited (TTMF). TTMF is a State-owned, mortgage

finance institution.

TTMF is not a deposit-taking institution, but raises long-term funds through the sale of bonds to private and institutional investors.

- TTMF aims at the “lower-end” of the market with average loans of \$175,000. Since TTMF does not have offices outside of Port of Spain, it has entered into an agreement with certain credit unions to process and service loans. TTMF underwrites a larger number of Approved Mortgage Company (AMC) loans than any other approved lender. Indeed, based on partial information, TTMF appears to underwrite more preferential rate mortgages (\$121.8



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million in 2000) than the combined total of the other participating institutions.

- Credit Unions are active lenders providing mortgage and consumer loans for home building and improvement. These loans are typically based on a multiple of savings plus shareholdings, and calculated on a declining balance (1% to 2% per month) with the result that initial payments are higher and (initially) less affordable than a fully amortised loan.
- Member shares, which are their main source of funds are considered call accounts, restricting long-term lending. The Co-operative Credit Union League of Trinidad and Tobago (CULTT) is attempting

to steer credit unions towards loan underwriting and pricing based on individual risk assessment. Certain credit unions are now acting as mortgage originators for larger institutions. This activity allows them to offer fully amortised long-term mortgage loans to their members without affecting their prudential ratios and liquidity.

- Complete statistics are not available for the credit union sector but the Credit Union League reports loans outstanding in 1999 of \$1.8 million for 74 credit unions, an increase of 5.5%, of which 25% were related to land purchase and housing. This latter

percentage is smaller than that observed in other countries, where housing accounts for up to 50% of the loans outstanding.

- The Approved Mortgage Company programme shelters the interest income of qualifying mortgages from corporate income tax, providing a considerable subsidy to those who access it. It provides a 7% interest rate for a mortgage loan on properties valued under \$150,000, 8% under \$200,000 and 9% under \$350,000. Beyond this amount there is no tax subsidy and the market rate (presently 9% to 10%) prevails. Many of the insurance, mortgage and trust companies participate in this programme.

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The TTMF lends to households with a monthly income of \$2,000 or greater while the insurance and trust companies require household monthly income of \$3,000 and above, based on the general criteria of instalment to gross income not exceeding 30%.

Based on the income distribution statistics presented in Table 10 (page 45 of this report), almost 30% of households fall below the \$2,000 level, which does not allow them to qualify for mortgage financing. A further 31% of households earn less than \$4,000 per month, the minimum monthly

income needed to afford a mortgage to purchase a minimum standard dwelling in accordance with 2020 standards.

Table 20 shows the amount of funds needed over the years to finance the housing thrust.

**Table 20: Funding Required for Housing by Year**

Year	Number of Dwelling Units	Funding Required TTS Billions at constant (2003) prices
2000	9,238	2.22
2001	6,183	1.48
2002	6,279	1.51
2003	6,378	1.53
<b>Sub Total 2000 - 2003</b>	<b>28,078</b>	<b>6.74</b>
2004	6,481	1.56
2005	6,586	1.58
2006	6,694	1.61
<b>Sub Total 2004 – 2006</b>	<b>19,761</b>	<b>4.74</b>
2007	6,806	1.63
2008	6,922	1.66

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<b>Year</b>	<b>Number of Dwelling Units</b>	<b>Funding Required TTS Billions at constant (2003) prices</b>
2009	2,857	0.69
<b>Sub Total 2007 - 2009</b>	<b>16,585</b>	<b>3.98</b>
2010	3,039	0.73
2011	3,046	0.73
2012	3,052	0.73
<b>Sub Total 2010 - 2012</b>	<b>9,137</b>	<b>2.19</b>
2013	3,058	0.73
2014	3,064	0.74
2015	3,071	0.74
<b>Sub Total 2013 - 2015</b>	<b>9,193</b>	<b>2.21</b>
2016	3,077	0.74
2017	3,083	0.74
2018	3,089	0.74
<b>Sub Total 2016 - 2018</b>	<b>9,249</b>	<b>2.22</b>
2019	3,096	0.74
2020	3,102	0.74
<b>Sub Total 2019 – 2020</b>	<b>6,198</b>	<b>1.49</b>
<b>Grand Total 2000 - 2020</b>	<b>98,201</b>	<b>23.57</b>
<b>Total 2004 - 2020</b>	<b>70,123</b>	<b>16.83</b>

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Table 21 shows the quantum of funds disbursed through mortgages and the relationship to Total Loans disbursed for the period 1998 to 2003.

**Table 21: Mortgage Loans and Total Loans Disbursed – 1998- 2003**

<b>Year</b>	<b>Total Real Estate Mortgage Loans (\$TTMn)</b>	<b>Residential Mortgage Loans (\$TTMn)</b>	<b>Total Loans (\$TTMn)</b>	<b>Housing Credit Portfolio</b>
1998	844.3	759.84	11,454.9	6.6%
1999	817.1	720.20	12,325.9	5.8%
2000	732.5	591.20	13,205.5	4.5%
2001	764.7	646.83	14,753.2	4.4%
2002	837.8	717.14	15,283.8	4.7%

Source: Central Bank 2003

These figures show that there is a large deficit with respect to the finance required for long term funding of housing construction and purchase.

The percentage of total loans allocated to mortgages (the Housing Credit Portfolio) in Trinidad and Tobago decreased from 6.6% in 1998 to 4.7% in 2002. This is

lower than the average for developing countries (11%) and significantly lower than the average for industrialised countries (35%), as shown in Table 22.

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**Table 22: Housing Credit Portfolio for Selected Country Grouping**

Country Grouping	Housing Credit Portfolio (1995)
Low Income	7%
Low Middle Income	12%
Upper Middle Income	20%
High Income	27%
All Developing Countries	11%
Industrialized Countries	35%
<b>Trinidad and Tobago</b>	<b>5.5% (2002)</b>

Source: Angel 2000b

To ensure that the housing demand is properly funded over the period, finance is needed:

- In adequate amounts; and
- At affordable interest rates and under acceptable conditions to the homeowner.

To ensure adequate funding for the National Housing

Programme, it is recommended that a pool of funds be created which will provide funding commensurate with the demand, through government, private sector and international funding agencies.

It is recommended that the following steps be taken:

- Government should allocate, for an initial five-year period, 5% of the National Budget to funding a national housing programme in keeping with developed country status. This is in keeping with the practice in more developed countries.
- Government can source funding through the

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issuing of tax-free housing bonds, which will be made available for purchase by the commercial sector and individuals.

- The financial sector must be mandated to allocate, for the initial five years of the programme, 5% of their loan portfolio to mortgage funding at affordable tax-free rates accessible to a range of borrowers, who fall within the lowest three deciles of households. These funds should carry an indemnity provided by the Government.
- Employers should be encouraged by appropriate mechanisms,

including tax incentives, to provide matching funds for employees' savings accounts, reserved specifically for house purchase and construction.

- Individuals (potential homeowners) should be offered a tax incentive (no tax on interest) to hold special Housing Savings Accounts, designated for house purchase and construction.
- Credit Unions should be allowed to source external long-term funding for mortgage lending.

- The National Insurance Board should be mandated to invest at least 5% of their funds under management in mortgages for low to middle income housing.
- Government should continue to source low interest loans for housing from International Lending Agencies.

A scenario showing a summary of funding from the above sources of finance is shown in Table 23.

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**Table 23: Sources of Funds for Housing Programme 2000 – 2020**

Trinidad and Tobago	Number of Dwelling Units	Funding Required (\$TTBn)	5% of Government Budget (\$TTBn)	Funding Required from Financial Institutions (\$TTBn)	% of Financial Institutions Portfolio
2000	9,238	\$2.22	\$1	\$1.22	8.1%
2001	6,183	\$1.48	\$1	\$0.48	3.2%
2002	6,279	\$1.51	\$1	\$0.51	3.4%
2003	6,378	\$1.53	\$1	\$0.53	3.5%
<b>Sub-Total 2000 - 2003</b>	<b>28,078</b>	<b>\$6.74</b>			
2004	6,481	\$1.56	\$1	\$0.56	3.7%
2005	6,586	\$1.58	\$1	\$0.58	3.9%
2006	6,694	\$1.61	\$1	\$0.61	4.0%
<b>Sub-Total 2004 - 2006</b>	<b>19,761</b>	<b>\$4.74</b>			
2007	6,806	\$1.63	\$1	\$0.63	4.2%
2008	6,746	\$1.62	\$1	\$0.62	4.1%
2009	3,033	\$0.73	0	\$0.73	4.9%
<b>Sub-Total 2007 - 2009</b>	<b>16,585</b>	<b>\$3.98</b>			
2010	3,039	\$0.73	0	\$0.73	4.9%
2011	3,046	\$0.73	0	\$0.73	4.9%
2012	3,052	\$0.73	0	\$0.73	4.9%
<b>Sub-Total 2010 - 2012</b>	<b>9,137</b>	<b>\$2.19</b>			
2013	3,058	\$0.73	0	\$0.73	4.9%
2014	3,064	\$0.74	0	\$0.74	4.9%

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Trinidad and Tobago	Number of Dwelling Units	Funding Required (\$TTBn)	5% of Government Budget (\$TTBn)	Funding Required from Financial Institutions (\$TTBn)	% of Financial Institutions Portfolio
2015	3,071	\$0.74	0	\$0.74	4.9%
<b>Sub-Total 2013 - 2015</b>	<b>9,193</b>	<b>\$2.21</b>			
2016	3,077	\$0.74	0	\$0.74	4.9%
2017	3,083	\$0.74	0	\$0.74	4.9%
2018	3,089	\$0.74	0	\$0.74	4.9%
<b>Sub-Total 2016 - 2018</b>	<b>9,249</b>	<b>\$2.22</b>			
2019	3,096	\$0.74	0	\$0.74	5.0%
2020	3,102	\$0.74	0	\$0.74	5.0%
<b>Sub-Total 2019 - 2020</b>	<b>6,198</b>	<b>\$1.49</b>			
<b>TOTAL 2000 - 2020</b>	<b>98,201</b>	<b>\$23.57</b>			

In order to broaden access to mortgages across the income spectrum, measures need to be taken to reduce effective

mortgage interest rates as follows:

The financial sector and the Government need to

increase the quantum of low cost funds in the mortgage market in the following bands:



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Up to \$100,000	4%
From \$101,000 to \$150,000	5%
From \$151,000 to \$250,000	6%
From \$251,000 to \$400,000	6.5%
Over \$401,000 to a maximum of \$600,000	7%
Over \$600,000	Market Rate

Funds sourced through international agencies should be lent at the lowest interest rate to the lowest income bracket.

The following steps are recommended to improve mortgage terms and conditions:

- Offer mortgages with down payments reduced to as low as zero, with consideration given to credit rating. This would mean introducing Mortgage Indemnity Insurance coverage at

reasonable rates. In addition, steps should be taken to develop a national credit rating system and to educate the low-income earner with respect to the financial system.

- Extend the length of the mortgage term to age 65, or a determined retirement age, depending on the circumstances of the borrower. At the time of actual retirement, a balloon payment would apply to be paid from

gratuity or similar payment.

- Permit assumable and portable mortgages on residential units at minimal transfer cost. This allows the mortgage to be assumed by new owners upon the sale of the property (assumable); and the transfer of the existing mortgage loan balance to a new home with or without additional financing (portable). This feature provides for an extension of the term of the mortgage to well

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beyond existing norms and introduces flexibility and cost effectiveness in financing in the mortgage market. This would necessitate some measure of Title Insurance being introduced.

- Permit assignable mortgages on residential units at minimal transfer cost. This allows for transfer of the mortgage obligation from one mortgagee to another.
- Introduce / expand the programme of reverse mortgages at minimal cost. This allows the homeowner to become the mortgagee, providing

the homeowner with a monthly income. Upon the demise of the homeowner, the financial institution will either sell the property to settle the outstanding debt or offer the property to the estate of the homeowner for continuation of the mortgage arrangement, provided that the beneficiary could qualify to service the mortgage.

- Standardise mortgage and conveyancing documents in order to simplify the process and reduce the costs of these transactions.

Many of these recommendations will require legislative changes before implementation. A list of the legislation affecting mortgage transactions is shown in Appendix VII.

### RESOURCE REQUIREMENTS

A successful housing construction programme requires adequate supplies of basic materials, equipment and labour. The quantities of the major raw materials needed for the home construction programme envisaged in this report are shown in Table 24 and amplified in Appendix VIII.

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**Table 24: Quantities Of Selected Materials Required For National Housing Programme**

<b>Trinidad and Tobago</b>	<b>3000 psi concrete (cub.yds)</b>	<b>Plastering sand (cub. Yds)</b>	<b>Cement (cub.ft)</b>	<b>4X8X16 concrete blocks</b>	<b>BRC (rolls)</b>	<b>R5 Rebar</b>	<b>R10 Rebar</b>
2000	474,411	281,383	1,969,679	26,074,794	18,759	450,212	1,650,778
2001	317,503	188,317	1,318,222	17,450,754	12,554	301,308	1,104,796
2002	322,456	191,255	1,338,784	17,722,948	12,750	306,008	1,122,028
2003	327,555	194,279	1,359,954	18,003,203	12,952	310,847	1,139,771
2004	332,806	197,394	1,381,758	18,291,840	13,160	315,830	1,158,045
2005	338,216	200,603	1,404,220	18,589,193	13,374	320,964	1,176,870
2006	343,791	203,910	1,427,367	18,895,614	13,594	326,255	1,196,269
2007	349,538	207,318	1,451,226	19,211,473	13,821	331,709	1,216,266
2008	355,464	210,833	1,475,829	19,537,160	14,056	337,332	1,236,885
2009	146,721	87,023	609,161	8,064,125	5,802	139,237	510,535
2010	156,090	92,580	648,059	8,579,067	6,172	148,128	543,135
2011	156,406	92,767	649,372	8,596,448	6,184	148,428	544,236
2012	156,723	92,956	650,690	8,613,898	6,197	148,729	545,340
2013	157,042	93,145	652,014	8,631,419	6,210	149,032	546,450
2014	157,362	93,335	653,342	8,649,009	6,222	149,335	547,563
2015	157,684	93,525	654,676	8,666,670	6,235	149,640	548,681
2016	158,006	93,717	656,016	8,684,401	6,248	149,946	549,804
2017	158,330	93,909	657,361	8,702,203	6,261	150,254	550,931
2018	158,655	94,102	658,711	8,720,077	6,273	150,562	552,062
2019	158,982	94,295	660,066	8,738,022	6,286	150,872	553,198
2020	159,310	94,490	661,427	8,756,038	6,299	151,183	554,339
<b>Total</b>	<b>5,043, 045</b>	<b>2,991,130</b>	<b>20,937,911</b>	<b>277,178,057</b>	<b>199,409</b>	<b>4,785,808</b>	<b>17,547,963</b>

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**Table 24 (Continued): Quantities of Selected Materials Required for National Housing Programme**

<b>Trinidad and Tobago</b>	<b>T12 Rebar</b>	<b>T16 Rebar</b>	<b>28g Aluzinc Sheets (feet)</b>	<b>12x12 Non-Skid Tiles</b>	<b>Concrete Primer (gal)</b>	<b>Emulsion Paint (gal)</b>
2000	2,945,139	862,907	4,164,464	13,784,281	210,849	421,699
2001	1,971,056	577,507	2,787,099	9,225,235	141,113	282,225
2002	2,001,801	586,515	2,830,572	9,369,128	143,314	286,627
2003	2,033,455	595,789	2,875,332	9,517,283	145,580	291,160
2004	2,066,057	605,341	2,921,431	9,669,869	147,914	295,828
2005	2,099,643	615,182	2,968,921	9,827,063	150,318	300,637
2006	2,134,253	625,322	3,017,861	9,989,051	152,796	305,592
2007	2,169,929	635,775	3,068,307	10,156,028	155,350	310,701
2008	2,206,715	646,553	3,120,323	10,328,200	157,984	315,968
2009	910,840	266,870	1,287,939	4,263,051	65,209	130,418
2010	969,003	283,912	1,370,182	4,535,271	69,373	138,746
2011	970,966	284,487	1,372,958	4,544,460	69,514	139,027
2012	972,937	285,064	1,375,745	4,553,685	69,655	139,310
2013	974,916	285,644	1,378,543	4,562,947	69,797	139,593
2014	976,902	286,226	1,381,353	4,572,246	69,939	139,877
2015	978,897	286,811	1,384,173	4,581,582	70,082	140,163
2016	980,900	287,397	1,387,005	4,590,955	70,225	140,450
2017	982,911	287,987	1,389,848	4,600,367	70,369	140,738
2018	984,930	288,578	1,392,703	4,609,815	70,513	141,027
2019	986,956	289,172	1,395,569	4,619,302	70,659	141,317
2020	988,991	289,768	1,398,446	4,628,826	70,804	141,608
<b>Total</b>	<b>31,307,162</b>	<b>9,172,799</b>	<b>44,268,726</b>	<b>146,528,485</b>	<b>2,241,354</b>	<b>4,482,707</b>

## CRITICAL SUCCESS FACTORS TO MEET TARGETS

The major equipment required to support the proposed programme is listed hereunder:

- Trucks for transportation of materials, inclusive of concrete trucks.
- Heavy earth-moving equipment for infrastructure development.
- Excavating equipment for infrastructure and housing foundations.
- Small tools.
- At present, with the heating up of construction in the non-residential sector, shortages are beginning to occur,

especially with respect to transportation, leading to an inflationary spiral in prices.

- The types of labour required for the construction of the average two-bedroom house using the traditional brick and mortar system are as follows:
  - Masons – this requires the highest number of man-hours in the traditional construction setting;
  - Carpenters / Joiners - this is the scarcest skill on the market at the moment. Training efforts therefore need to be intensified;

- Tilers;
- Painters;
- Plumbers;
- Electricians;
- Steel benders;
- Miscellaneous – Roofers; and
- Unskilled Labourers.

Table 25 shows an estimate of the labour requirements for an individual unit. It is estimated that a further 20% of labour input is required for infrastructure development and site preparation.

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**Table 25: Major Labour Requirements For One Housing Unit**

<b>Labour Category</b>	<b>1 - Bedroom Unit (41 sq. metres.) (Man Days)</b>	<b>2 - Bedroom Unit (68 sq. metres) (Man Days)</b>	<b>3 - Bedroom Unit (96 sq. metres) (Man Days)</b>
Plumbers	8.2	13.4	18.7
Electricians	8.2	13.4	18.7
Masons	32.8	53.6	74.8
Carpenters	20.5	33.5	46.75
Tilers	8.2	13.4	18.7
Painters	6.56	10.72	14.96
Unskilled Labourers	32.8	53.6	74.8
Roofers	12.3	20.1	28.05
<b>Total</b>	<b>129.56</b>	<b>211.72</b>	<b>295.46</b>

Table 26 shows an estimate of labour requirements for the housing programme on an annual basis to 2020.

**Table 26: Total Labour Requirements 2000 – 2020**

<b>Year</b>	<b>Plumbers (Man Days)</b>	<b>Electricians (Man Days)</b>	<b>Masons (Man Days)</b>	<b>Carpenters (Man Days)</b>	<b>Tilers (Man Days)</b>	<b>Painters (Man Days)</b>	<b>Unskilled Labourers (Man Days)</b>	<b>Roofers (Man Days)</b>
2000	142,190	142,190	568,760	355,475	142,190	113,752	568,760	213,285
2001	95,162	95,162	380,647	237,904	95,162	76,129	380,647	142,742
2002	96,646	96,646	386,584	241,615	96,646	77,317	386,584	144,969
2003	98,174	98,174	392,697	245,436	98,174	78,539	392,697	147,261
2004	99,748	99,748	398,993	249,371	99,748	79,799	398,993	149,622

## CRITICAL SUCCESS FACTORS TO MEET TARGETS

Year	Plumbers (Man Days)	Electricians (Man Days)	Masons (Man Days)	Carpenters (Man Days)	Tilers (Man Days)	Painters (Man Days)	Unskilled Labourers (Man Days)	Roofers (Man Days)
2005	101,370	101,370	405,479	253,424	101,370	81,096	405,479	152,055
2006	103,041	103,041	412,163	257,602	103,041	82,433	412,163	154,561
2007	104,763	104,763	419,053	261,908	104,763	83,811	419,053	157,145
2008	106,539	106,539	426,157	266,348	106,539	85,231	426,157	159,809
2009	43,975	43,975	175,900	109,937	43,975	35,180	175,900	65,962
2010	46,783	46,783	187,132	116,957	46,783	37,426	187,132	70,174
2011	46,878	46,878	187,511	117,194	46,878	37,502	187,511	70,317
2012	46,973	46,973	187,892	117,432	46,973	37,578	187,892	70,459
2013	47,068	47,068	188,274	117,671	47,068	37,655	188,274	70,603
2014	47,164	47,164	188,658	117,911	47,164	37,732	188,658	70,747
2015	47,261	47,261	189,043	118,152	47,261	37,809	189,043	70,891
2016	47,357	47,357	189,430	118,393	47,357	37,886	189,430	71,036
2017	47,454	47,454	189,818	118,636	47,454	37,964	189,818	71,182
2018	47,552	47,552	190,208	118,880	47,552	38,042	190,208	71,328
2019	47,650	47,650	190,599	119,124	47,650	38,120	190,599	71,475
2020	47,748	47,748	190,992	119,370	47,748	38,198	190,992	71,622
<b>Totals</b>	<b>1,511,497</b>	<b>1,511,497</b>	<b>6,045,986</b>	<b>3,778,741</b>	<b>1,511,497</b>	<b>1,209,197</b>	<b>6,045,986</b>	<b>2,267,245</b>

Attempts to collect meaningful information on available labour were unsuccessful.

However, information from the construction sector tends

to indicate that at present, there is some difficulty in sourcing certain categories of skilled labour.

It must be noted that intensification of construction

activity could result in further shortages of competent persons in these skill areas. This is further aggravated in the housing sector by competition caused by increased construction

## CRITICAL SUCCESS FACTORS TO MEET TARGETS

activity in other sectors, which offer higher rates of pay. This often results in the use of semi-skilled labour to fill skilled positions with the resultant problems of quality control. These factors are the recipe for delays and therefore increased costs.

The following are the conclusions and recommendations resulting from an analysis of the resource requirements of the National Housing Programme.

### General

- Detailed studies need to be carried out which clearly and accurately identify the existing supply of, and anticipated demand for materials, equipment and labour throughout Trinidad and Tobago up to 2020.

- It should be noted that the lead time necessary for meeting these demands for materials, equipment and labour is twelve (12) to twenty-four (24) months. It is therefore imperative that immediate action be taken to increase materials production and the development of the construction skills base.

### Materials

In addition to the above action, the following major measures are recommended:

- Sensitise the business sector to the investment opportunities available in materials manufacturing and supply for construction.
- Facilitate the establishment of quarrying under acceptable environmental

conditions, by the identification and approval of sites for quarrying in accordance with the provisions of the Minerals Act (2000).

- Facilitate the establishment of manufacturing facilities for construction materials by the identification and / or development of industrial sites and the expediting of approvals.
- Facilitate the importation of materials necessary for the housing programme that cannot be produced locally on a competitive basis by the removal of licensing requirements and onerous duties.
- The establishment of proper port facilities and administrative procedures to cater for the importation of bulk building materials.



## CRITICAL SUCCESS FACTORS TO MEET TARGETS

- Educating our design professionals in the proper use of local materials and building systems.
- Investigate the possibility of the local steel industry custom manufacturing components for the housing sector, for example, 3-inch I-beams, galvanise coils.

### Plant and Equipment

- Facilitate the importation of construction plant and equipment through an upgrading of the vehicle inspection and licensing systems.
- Establish facilities for the training of operators and maintenance personnel relevant to the use of the equipment necessary to support the housing programme.

### Labour

- Evaluate all of the existing training programmes for construction-specific skills.
- Expand and accelerate present training under the HYPE, YTEPP and OJT programmes.
- Encourage the private sector to set up in-house training programmes by establishing incentives.
- Establish within the NHA a unit with the specific responsibility for the training of small contractors in construction and business management and in efficient and modern building methodology, that is, the proper sequencing of work, the use of tools, etc.
- Examine the use of industrialised building systems – new methods

of constructing houses - as a means of reducing labour inputs and costs.

### DESIGN CAPABILITY AND CAPACITY

Important to the housing sector are design services which are efficient and which are relevant to the requirements of the customers they serve and the demands of the local environment – physical, social, cultural and economic.

There is a need to:

- Increase the number of professionals available for the design of residential communities.
- Award scholarships specifically for training in community and housing design.

## CRITICAL SUCCESS FACTORS TO MEET TARGETS

- Re-focus local consulting practices on some measure of involvement in housing design at affordable rates. Introduce innovative ways of producing low priced designs for lower income housing by standardisation, etc.
- Ensure that design provisions are made to accommodate the disabled in a percentage of new housing units, commensurate with the occurrence of disability within the population.
- Sensitise design professionals to the need for economy, efficiency and localisation of designs.

### CONSTRUCTION CAPABILITY AND CAPACITY

The proposed housing programme will create a tremendous demand for construction capability. Assuming that the existing mix of contractors in Trinidad and Tobago remains unchanged, it is estimated that approximately 200 contracting companies of an average size, well managed, well equipped and well financed, will be needed to implement the housing programme in the first five years.

At present, although there are well over this number of contractors registered in the country, the greater number of these are small, poorly managed, poorly equipped and poorly financed operations.

Given increased demand for contracting in the wider economy, a serious overburden on construction capability and capacity will be created. This is especially since the larger, more organised contractors will naturally gravitate to the more lucrative larger commercial and industrial projects.

Appendix VIII contains a listings of contractors registered with various organisations.

It is clear that immediate steps should be taken to:

- Establish a Contractors Licensing Act for the protection of the public from unfair, unsafe and unscrupulous bidding practices and to ensure capable and skilled craftsmanship to be

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utilised on construction projects.

- Identify and categorise by skill and available resources all contracting organisations in the country.
- Set up training programmes to improve the business and technical skills of existing contracting organisations and to add to the list new contractors.
- Set up within the Ministry of Housing a unit to assist contractors, especially small contractors, in the field of housing construction, and to set quality standards, monitor quality and performance.
- Investigate the potential of, and attempt to facilitate, if necessary, the importation of contracting organisations and other construction management

skills from within CARICOM and beyond.

- Ensure that housing projects are packaged in terms of size and value to satisfy a range of contracting organisations.

### SQUATTER REGULARISATION

The importance of squatter regularisation and urban redevelopment cannot be over-emphasised in terms of its relevance to a solution to the country's housing problem. An estimated fifty thousand households now live in squatter communities in unplanned and highly inefficient settlements, very often in extremely strategic locations.

Rational, well-planned squatter regularisation programmes will not only drastically improve the existing housing stock, but will also create a tremendous number of new housing sites if structured policies with respect to land use and densities are applied. Private sector involvement through government facilitation could contribute to this process.

The above programme should be carried out within a strict policy of elimination of the need for squatting through the provision of adequate housing for all.

The Ministry of Housing should immediately intensify its programme of squatter regularisation so that it can begin to have some effect.

## CRITICAL SUCCESS FACTORS TO MEET TARGETS

### URBAN REDEVELOPMENT

It must be recognised, as previously indicated that our urban areas contain tremendous potential for contributing to the solution of the country's housing problem through urban redevelopment.

Major areas of land, derelict and under utilised, close to employment opportunities and well serviced by utilities and facilities exist within all our urban centres.

There is an urgent need for major urban redevelopment programmes to take place, which will not only bring residential populations back into our cities, revitalising them, but will at the same time, reduce urban blight and traffic congestion.

It is estimated that approximately 40% of the housing units (approximately 40,000) needed to meet our housing demand to 2020 can be accommodated within our urban environments.

It is necessary that rational planning policies with respect to land use, density and building heights be adopted by our city planners.

It is recommended that immediate steps be taken to survey and analyse our cities with a view to identifying areas, which areas will be the subject of urban redevelopment programmes.

In accordance with the provisions of the relevant legislation, these areas could be designated Comprehensive Development Areas (CDAs). As in other more developed countries, private sector developers could be induced

through incentives to get involved in these developments.

### COMMUNITY MANAGEMENT

Community Management is the process through which communities (housing projects, neighbourhoods) take the responsibility for the management and maintenance of their physical and social environment.

The proper and effective introduction of this process into the housing programme will ensure that homeowners will develop an understanding of community management, leading to the proper maintenance of their physical environment, and the promotion of social interaction. This is absolutely essential to an

## CRITICAL SUCCESS FACTORS TO MEET TARGETS

effective community building programme.

Additionally, the economic value created in the physical assets of housing communities through proper maintenance is in part motivated by community pride, and more than compensates for the cost of implementing these programmes.

A cursory review of the existing public housing programme and many private housing projects shows an absence of community management programmes.

The Sub-Committee strongly recommends that a detailed community management component be an inherent part of any housing programme. This is an important step in the building of sustainable communities.

Immediate action should be taken on the preparation of the necessary documentation, standards and procedures for the creation of community management structures and the training of community managers.

### IMPLEMENTING AGENCIES

A critical element in the success of any major housing programme is a rational structure of efficient, well organised, well directed, implementing agencies, operating within an enlightened, cohesive and well coordinated set of guidelines.

At present, in Trinidad and Tobago, the following agencies seem to be the main players in the implementation

process for the production of housing:

- The Ministry of Housing;
- The National Housing Authority;
- The Land Settlement Agency;
- The Urban Development Company of Trinidad and Tobago;
- The Sugar Industry Labour Welfare Committee;
- Non-Governmental Organisations;
- Private Sector Developers; And
- Private Individuals

The following is a brief synopsis of the role of each of the government and quasi-government agencies involved in housing:

- The National Housing Authority (NHA) is a Statutory Authority of the

## CRITICAL SUCCESS FACTORS TO MEET TARGETS

Government of Trinidad and Tobago. The main responsibilities of the NHA are:

- Managing the rental housing estates owned by the government, including building maintenance and the collection of rents;
  - Developing new housing, mainly for the low-income group;
  - Administering the allocation of housing to qualified applicants; and
  - Administering the existing mortgage portfolio.
- The Sugar Industry Labour Welfare Committee (SILWC) is an agency of the Ministry of Housing formed in 1948 to improve the living conditions of sugar workers. It is funded by a levy on sugar exports and

offers the following main services:

- The disbursement of housing loans for first time construction and repairs / renovations to existing houses;
  - The acquisition of lands from Caroni (1975) Limited and the development of these lands into housing settlements for its' client group; and
  - The maintenance of the housing settlements of the committee.
- The Land Settlement Agency (LSA) was established after the enactment of the State Land (Regularisation of Tenure) Act 1998 to regularise the tenure and improve the living conditions of squatters and tenants on State Land

and to prevent further squatting.

- The Urban Development Corporation of Trinidad and Tobago (UDeCOTT) was established as a non-statutory body in 1994 to be retained by the Government to handle design work, construction management and other services in respect of development projects throughout Trinidad and Tobago. Some of the aims of UDeCOTT are as follows:
- To carry on the business of real estate development.
  - To effect the regeneration of commercial, industrial and residential spaces in rural and urban areas.
  - To plan and carry out urban renewal programmes.

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- To create and restore urban areas.
- The number of private developers capable of handling large scale developments (over 100 units per annum) is very small. At present, only one developer consistently produces over 100 units per annum. One other developer produces approximately 40 units per year on an intermittent basis. In the main, housing is produced by the private sector with the small developers producing less than 10 or 20 units per year, again on an intermittent basis. It is estimated that a substantial contribution to housing construction is carried out by private owners through the use of small contractors.

- The recurrent costs incurred by the Ministry of Housing and its Agencies for 2002 was \$81.7 million. The development costs were \$33.1 million.<sup>5</sup>
- It is apparent that the cost of administration of the public housing programme (costs related to the Ministry of Housing, NHA, LSA, SILWC and UDeCOTT) is extremely inefficient when expressed in terms of cost per unit produced. It is estimated that \$0.71 out of every dollar spent on housing is spent on administrative costs.
- The following are the recommendations of the

<sup>5</sup> Government of Trinidad and Tobago Treasury Statements and Appropriation Accounts of Ministries and Departments. Public Accounts of Trinidad and Tobago for Financial Year 2002, Government Printery, Trinidad. October 1, 2001 to September 30, 2002.

Sub-Committee regarding the Implementing Agencies:

- The role of the public sector as a developer for housing should be reviewed with a view to creating mechanisms and systems which produce housing at far reduced overhead costs. In this regard, far greater attention should be paid to utilising the private sector as developers in housing. This follows the model used in developed countries.
- Attention should be immediately paid to the creation of a local environment that would encourage the growth of a well organised sector of large, medium and small scale private developers. These developers would form the basis of the implementation of the

## CRITICAL SUCCESS FACTORS TO MEET TARGETS

housing programme whilst operating within policy guidelines, direction and support of the public sector and its agencies.

- This Sub-Committee feels that the private sector can perform considerably more efficiently in the production of housing than government and quasi-government organisations. A substantial proportion of the vast sums of money now spent on administration in the public sector organisations could be diverted to fund direct construction thereby substantially augmenting the housing programme.

### LOCAL GOVERNANCE

The role of local governance bodies, that is, the Regional Corporations and Municipalities, must be seen as central to the successful implementation of a National Housing Policy, from the point of view of the assessment of community requirements leading to community and housing design considerations, and the implementation and management of the actual communities.

Local government bodies should play a leading role and should have their terms of reference expanded and their legal framework modified to embrace the wider needs of the development and management of communities.

Immediate steps should be taken to review existing legislation and to enable local government to contribute to the development of the housing programme.

### ENLIGHTENED ATTITUDES

A major problem hindering the success of the proposed housing programme is the prevalence of inappropriate attitudes of major stakeholders in the housing process. These stakeholders are the:

- Political directorate;
- Public sector agencies;
- Private sector organisations – developers, financial institutions, legal fraternity, real estate brokerages and design professionals; and



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- The prospective homeowner

Political expediency, lack of customer service orientation, deficiencies in social consciousness, and unrealistic and unaffordable demands are among the many attitudes displayed by the stakeholders which hinder the efficient process of the development of the housing sector.

There is an urgent need to develop, promote and gain acceptance for visionary thinking, which could organise cohesive and coordinated stakeholder

action for the purpose of achieving the acceptable goals of the housing programme.

Developing and implementing National Action Programmes aimed at building awareness and acceptance of the goals of the Housing Programme can achieve Attitudinal change.

### INTERRELATIONSHIPS WITH OTHER SECTORS

The recommendations of the Housing Sub-Committee cannot be implemented in isolation. The work of a

number of other sub-committees will contribute to the success of the housing vision. The main ones are:

- The Regional Development and Sustainable Communities Sub-Committee;
- The Infrastructure Sub-Committee;
- The Finance Sub-Committee; and
- The Environment Sub-Committee.

## STRATEGIES AND PROGRAMMES

### INTRODUCTION

It is estimated that Trinidad and Tobago requires 90,000 additional units of adequate

housing to meet the needs of its residential population by the year 2020. These units are required to be built over the period in the phases

illustrated by Table 27, below (figures rounded to the nearest hundred):

**Table 27: Housing Requirement Schedule To 2020**

Year	Number of Units Required
2004 - 2006	39,800
2007 - 2009	16,600
2010 - 2012	9,100
2013 - 2015	9,200
2016 - 2018	9,300
2019 - 2020	6,000
<b>Total</b>	<b>90,000</b>

From an assessment of available resources, it is obvious that the country cannot achieve the required production levels in the first three years of the programme.

It is estimated from an analysis of these resources

that an initial production level of 6,000 units per year can be considered a reasonably achievable level. Hence the following schedule sets out the recommended construction programme to 2020.

It should be noted that in assessing the availability of resources, the cost of providing all ancillary facilities and utilities, inclusive of land, in order to service these housing units were taken into consideration.

## STRATEGIES AND PROGRAMMES

Table 28 shows the recommended construction schedule for 2004 – 2020.

**Table 28: Recommended Construction Schedule**

Year	Number of Units Required	Number of Units Proposed	Cumulative Shortfall
2004	26,500	5,000	21,500
2005	6,600	6,000	22,100
2006	6,700	6,000	22,800
<b>Sub-Total 2004 - 2006</b>	<b>39,800</b>	<b>17,000</b>	<b>22,800</b>
2007	6,800	6,000	23,600
2008	6,800	6,000	24,400
2009	3,000	6,000	21,400
<b>Sub-Total 2007 - 2009</b>	<b>16,600</b>	<b>18,000</b>	<b>21,400</b>
2010	3,000	6,000	18,400
2011	3,000	6,000	15,400
2012	3,100	6,000	12,500
<b>Sub-Total 2010 - 2012</b>	<b>9,100</b>	<b>18,000</b>	<b>12,500</b>
2013	3,000	6,000	9,500
2014	3,100	6,000	6,600
2015	3,100	6,000	3,700
<b>Sub-Total 2013 - 2015</b>	<b>9,200</b>	<b>18,000</b>	<b>3,700</b>
2016	3,100	6,000	800

## STRATEGIES AND PROGRAMMES

Year	Number of Units Required	Number of Units Proposed	Cumulative Shortfall
2017	3,100	4,000	0
2018	3,100	3,000	0
<b>Sub-Total 2016 - 2018</b>	<b>9,300</b>	<b>13,000</b>	<b>0</b>
2019	3,000	3,000	0
2020	3,000	3,000	0
<b>Sub-Total 2019 - 2020</b>	<b>6,000</b>	<b>6,000</b>	<b>0</b>

The recommended construction schedule indicates that by the end of 2016, the total demand for housing units will be fully satisfied.

It should be noted that surplus construction capacity after 2016 would be absorbed by diverting resources to other construction sectors.

### **MAJOR BOTTLENECKS TO THE ACHIEVEMENT OF THE PROGRAMME**

- Major bottlenecks to the achievement of the Programme are:
  - Identification of building sites and preliminary approval;
  - Design and final approvals of proposed development; and

- Sourcing of mortgage finance.

Table 29 shows the revised financing requirements based on the recommended construction schedule and Table 30 shows the land required for the recommended construction.

## STRATEGIES AND PROGRAMMES

**Table 29: Revised Financing Requirements for Recommended Construction Schedule**

Trinidad and Tobago	Number of Dwelling Units	Total Funding Required (\$TTBn)	Funding from Budget Allocation (5% of Budget) (\$TTBn)	Funding required from Financial Sector (\$TTBn)	Funding of Financial Sector as % of Total Financial Sector
2004	5,000	1.20	1.00	0.20	1.3%
2005	6,000	1.44	1.00	0.44	2.9%
2006	6,000	1.44	1.00	0.44	2.9%
2007	6,000	1.44	1.00	0.44	2.9%
2008	6,000	1.44	1.00	0.44	2.9%
2009	6,000	1.44	1.00	0.44	2.9%
2010	6,000	1.44	1.00	0.44	2.9%
2011	6,000	1.44	1.00	0.44	2.9%
2012	6,000	1.44	1.00	0.44	2.9%
2013	6,000	1.44	1.00	0.44	2.9%
2014	6,000	1.44	1.00	0.44	2.9%
2015	6,000	1.44	1.00	0.44	2.9%
2016	6,000	1.44	1.00	0.44	2.9%
2017	4,000	0.96	0.50	0.46	3.1%
2018	3,000	0.72	0.25	0.47	3.1%
2019	3,000	0.72	0.25	0.47	3.1%
2020	3,000	0.72	0.25	0.47	3.1%
<b>Total</b>	<b>90,000</b>	<b>\$21.60</b>	<b>\$14.25</b>	<b>\$7.35</b>	

## STRATEGIES AND PROGRAMMES

**Table 30: Land Required for Recommended Construction Schedule**

Trinidad and Tobago	Number of Dwelling Units	Land Area Required hectares (average site density 48.69du/h)	Total Land Required including open space etc hectares (average site density 37.45du/h)
2004	5,000	103	134
2005	6,000	123	160
2006	6,000	123	160
2007	6,000	123	160
2008	6,000	123	160
2009	6,000	123	160
2010	6,000	123	160
2011	6,000	123	160
2012	6,000	123	160
2013	6,000	123	160
2014	6,000	123	160
2015	6,000	123	160
2016	6,000	123	160
2017	4,000	82	107
2018	3,000	62	80
2019	3,000	62	80
2020	3,000	62	80
<b>Total</b>	<b>90,000</b>	<b>1,848</b>	<b>2,403</b>

## STRATEGIES AND PROGRAMMES

- Revision of the necessary enabling legislation.
- The mobilisation of the necessary construction management structures and resources.
- The setting up or streamlining of the necessary implementing agencies and processes.
- The setting up of community management structures and systems.

### SHORT-TERM PROGRAMME – 2004 TO 2006

**Table 31: Recommended Housing Production 2004 –2006**

Year	Number of Units
2004	5,000
2005	6,000
2006	6,000

**Table 32** shows the strategies, actions, results/indicators, responsibilities and costs for the short term.

## STRATEGIES AND PROGRAMMES

**Table 32: Strategies, Actions, Results/Indicators, Responsibilities and Costs for Short –Term 2004-2006**

Strategies	Actions	Necessary Timeframe	Results / Indicators	Responsibility	Estimated Costs
Refine and develop the findings of the Vision 2020 Housing Sub-Committee and incorporate it into Government's programme	Strengthen the existing committee. Properly resource it and establish mechanisms for it to formulate and monitor the National Housing Policy.	2003-2004	An effective, relevant and achievable housing programme.	Office of the Prime Minister	\$800,000
Develop a comprehensive information system.	The restructuring and institutional strengthening of the Central Statistical Office and the Lands and Surveys Department, to cause them to accept and carry out their role as the main suppliers of accurate and timely information for the planning process.	2003-2004	Accurate and timely information for decision-making and policy development	Ministry of Planning and Development	\$10,000,000



## STRATEGIES AND PROGRAMMES

Strategies	Actions	Necessary Timeframe	Results / Indicators	Responsibility	Estimated Costs
Identify immediately available sites in keeping with rational national settlement planning guidelines. (Approved in principle)	Formulate a National Settlement Policy and Plan. Identify specific sites.	2003- 2004	A list of an adequate number of approved sites prioritised for development.	Ministry of Planning and Development in conjunction with the Ministry of Housing	\$100,000
Expedite the approvals process.	Restructure in terms of thinking, attitude and mechanics of operation, the approving agencies in alignment with the need for the country to develop housing. Rationalise the processes within the approving agencies for dealing expeditiously with applications.	2003-2005	An efficient, effective and timely approval process.  It is suggested that a maximum time of 9 months for full processing of large scale developments.	Minister of Planning and Development	\$1,500,000

## STRATEGIES AND PROGRAMMES

Strategies	Actions	Necessary Timeframe	Results / Indicators	Responsibility	Estimated Costs
Simplify legal documentation necessary for real estate purchase and transfer of property and minimize E-transaction costs.	Revise the TCP and EMA Acts and other relevant legislation.  Standardise legal documentation. Review of the proposed Mortgage Bill 2000 with a view to its enactment and implementation.	2003-2004	At the other end of the approval spectrum, a period of not more than 3 months is allowed for the full processing of small scale developments.  Quicker closing of transactions. Reduced legal costs. More accurate database. Revised Mortgage Act.	Ministry of the Attorney General	\$1,000,000

## STRATEGIES AND PROGRAMMES

Strategies	Actions	Necessary Timeframe	Results / Indicators	Responsibility	Estimated Costs
Source long-term, fixed rate funding at affordable rates.	Implement recommendations shown in Chapter 4 of this report.	2003-2004	An adequate flow of low-cost mortgage funding.	Ministry of Finance	
Implement measures to increase the availability and quality of human and material resources to facilitate the required supply of housing.	Accurately identify through surveys information relating to the shortfall of the type and quantum of skills, competencies and material and equipment resources needed. Expand and accelerate present training programmes to meet the demand at all levels.	2003-2004	A ready supply of high quality, affordably priced labour and materials.	Ministry of Labour	

## STRATEGIES AND PROGRAMMES

Strategies	Actions	Necessary Timeframe	Results / Indicators	Responsibility	Estimated Costs
	Encourage contractors and developers in accordance with existing tax incentives to initiate on the job training programmes.			Ministry of Science, Technology and Tertiary Education	
	Encourage the establishment of additional plant capacity to supply the materials needed for the housing programme.			Ministry of Trade and Industry	
	Establish within the NHA a unit with specific responsibility for the training of small contractors in construction and business management.			Ministry of Housing	



## STRATEGIES AND PROGRAMMES

Strategies	Actions	Necessary Timeframe	Results / Indicators	Responsibility	Estimated Costs
Enhance and increase the pool of existing design professionals available to the housing industry.	<p>Create a scholarship programme at the undergraduate and graduate level for training in community design specifically.</p> <p>Create a Chair in Architecture and Planning at the UWI, St. Augustine Campus.</p> <p>Package community design briefs to a scale and level of challenge sufficient to attract the design professional.</p> <p>Establish programmes for the production and mass distribution of housing designs to meet the needs of the low</p>	2003-2004	<p>Increase in the number of design professionals available for housing.</p> <p>10 new scholarships awarded in 2004.</p> <p>Faculty of Architecture and Planning.</p> <p>Better community design.</p>	<p>Ministry of Science, Technology and Tertiary Education</p> <p>Ministry of Housing</p>	

## STRATEGIES AND PROGRAMMES

Strategies	Actions	Necessary Timeframe	Results / Indicators	Responsibility	Estimated Costs
	and middle-income homeowner. Establish a website in the Ministry of Housing for this purpose.				
Obtain information with respect to the current capability and shortfall in contracting capacity.	Review and establish a single Register of Contractors. Establish a Contractors Licensing Act.	2003  2004-2006	A detailed profile of registered contractors.	Trinidad and Tobago Contractors Association in conjunction with the Ministry of Housing	
Accelerate the process of regularising squatters.	Update the necessary surveys to identify the quantum and nature of squatting in the country	2003-2006	Identification of the quantity and nature of the squatting problem	Ministry of Housing	

## STRATEGIES AND PROGRAMMES

Strategies	Actions	Necessary Timeframe	Results / Indicators	Responsibility	Estimated Costs
Redevelopment and revitalisation of urban areas for the accommodation of residential population	<p>Revise existing legislation to facilitate the regularisation process.</p> <p>Modify current administrative structures.</p> <p>Establishment of a national urban redevelopment policy.</p>	2003-2004	<p>Appropriate revised legislation.</p> <p>Establishment of a well-resourced squatter regularisation unit.</p> <p>The continuation and acceleration of modified squatter regularisation action in priority areas.</p> <p>National Policy on Urban Development elaborated at Central Government level and</p>	<p>Office of the Prime Minister in conjunction with Min. of Planning and Development</p>	

## STRATEGIES AND PROGRAMMES

Strategies	Actions	Necessary Timeframe	Results / Indicators	Responsibility	Estimated Costs
	<p>Within the policy framework above, the comprehensive identification of areas for urban redevelopment.</p> <p>Declaration of these areas as Comprehensive Development Areas (CDAs) in accordance with TCP Act.</p> <p>Refocus and institutionally strengthen UDeCOTT for the purpose of effectively carrying out urban redevelopment including social sensitisation.</p>	<p>2003-2004</p> <p>2003-2006</p> <p>2003-2004</p>	<p>setting a framework of guidelines, inclusive of incentives for stimulating local area action, both public and private, in the area of urban redevelopment.</p> <p>A priority list of areas for urban redevelopment in our major cities and boroughs, which have been declared as CDAs.</p>	<p>Ministry of Planning and Development in conjunction with the City and Borough Governments</p> <p>Office of the Prime Minister</p>	



## STRATEGIES AND PROGRAMMES

Strategies	Actions	Necessary Timeframe	Results / Indicators	Responsibility	Estimated Costs
Establish strong community based organisations with residential communities, for the purpose of instilling pride in the	The creation of redevelopment sites to accommodate 6,800 residential units distributed in the following manner: Port of Spain – 5,000 units San Fernando – 1,000 units Remaining boroughs – 800 units	2003-2006	The creation of a competent and efficient institution dedicated to urban redevelopment	Office of the Prime Minister	
	Establish clear-cut guidelines for the creation of community management structures – legal, environmental, social and financial.	2003-2004	A set of guidelines and standard procedures for the operation of communities.	Ministry of Housing	

## STRATEGIES AND PROGRAMMES

Strategies	Actions	Necessary Timeframe	Results / Indicators	Responsibility	Estimated Costs
surroundings and encouraging high level of maintenance in our communities.	Create a function within the housing programme with the responsibility and capability for implementing and monitoring this programme.	2003-2004	The establishment of the Community Management Unit within the housing programme.		
An enlightened, coordinated, comprehensive approach to implementing the housing policy at the most economical cost.	Institute programmes to train an entire cadre of Community Managers.  Review the performance of the existing agencies in terms of cost effective delivery of the housing solution.	2003-2005	Empowered communities for sustainability.	Ministry of Housing	

## STRATEGIES AND PROGRAMMES

Strategies	Actions	Necessary Timeframe	Results / Indicators	Responsibility	Estimated Costs
	<p>Set guidelines and quality performance criteria – physical, social, financial and environmental - for evaluating these organisations.</p> <p>The clear-cut separation in the implementing role in the housing programme of the public sector as the policy maker, facilitator, monitor and performance evaluator and the private sector as the developer and executing agent of the community-building programme.</p>		<p>The reduction of costs related to the administration and timely delivery of the public housing programme.</p>		



## STRATEGIES AND PROGRAMMES

Strategies	Actions	Necessary Timeframe	Results / Indicators	Responsibility	Estimated Costs
An enlightened, coordinated, comprehensive approach to implementing the housing policy at the most economical cost.	<p>Review the performance of the existing agencies in terms of cost effective delivery of the housing solution.</p> <p>Set guidelines and quality performance criteria – physical, social, financial and environmental - for evaluating these organisations.</p> <p>The clear-cut separation in the implementing role in the housing programme of the public sector as the policy maker, facilitator, monitor and</p>	2003-2004	<p>The establishment of efficient and effective organisations to implement the housing programme.</p> <p>The reduction of costs related to the administration and timely delivery of the public housing programme.</p>	Ministry of Housing	

## STRATEGIES AND PROGRAMMES

Strategies	Actions	Necessary Timeframe	Results / Indicators	Responsibility	Estimated Costs
Utilise the initiative, knowledge and resources of our local populations in the formulation and implementation of National Housing Policy.	<p>performance evaluator and the private sector as the developer and executing agent of the community-building programme.</p> <p>Review existing legislation with a view to identifying its capability of encouraging local participation and modify accordingly.</p> <p>Devolve authority for planning and implementing community development to the local government authorities.</p>	2003-2006	Revised legislation empowering local government authorities to assume their expanded terms of reference.	Office of the Prime Minister in conjunction with Ministry of Local Government	

## STRATEGIES AND PROGRAMMES

Strategies	Actions	Necessary Timeframe	Results / Indicators	Responsibility	Estimated Costs
	Structure, train and resource the local authorities to be able to carry out the planning and implementing role in community development.		An empowered well resourced and properly oriented local government system capable of contributing substantially to the National Housing Programme.		



## STRATEGIES AND PROGRAMMES

### CONCLUSION

This section of the report details strategies, actions, results/indicators, responsibilities and costs for the short term only.

Although strategies and actions identified can be seen as continuing throughout the entire planning and implementation period, it is felt that elaboration of

actions, results/indicators and costs for the medium and long terms would demand further analysis and information and therefore, should await the outcome of the actions recommended in the short-term, before definitive action is recommended.

In conclusion, the strategies and actions identified for the

short-term sets the policy direction for achieving our housing vision for 2020. It is felt that provided that an appropriate institutional structure is created which is intelligent, flexible and committed to the highest standards of operations, the medium and long -term programmes will continue as a natural extension of the short-term recommendations.







# APPENDICES





## SCOPE OF WORK

The Scope of Work as defined in the appointment documentation states that the Housing Sub-Committee will:

### Review and Analysis

- Undertake a detailed review and analysis of the existing situation and identify the needs of the population both current and projected to the year 2020 relative to the Housing Sector at both the national and sub-national levels inclusive of Tobago. This work should take account of (i) domestic conditions, including a review of key statistics, population dynamics, the policy environment, the legal, regulatory and institutional frameworks, all current and planned initiatives / investments;

- and (ii) the international environment. The analysis should also cover critical issues, including:
  - Affordability of housing for all groups especially the low-income earners and vulnerable groups;
  - Quality of housing;
  - Quantity of housing;
  - Squatter regularisation;
  - Adequate infrastructure;
  - Institutional strengthening and capacity building;
  - The planning approval process; and
  - Development of research and data culture in the Housing Sector.
- Undertake analyses of global and regional (CARICOM) trends and make projections in order to identify the opportunities and threats; and

- Identify the best practices that could be tailored to our circumstances, the pitfalls to be avoided, the opportunities to be pursued, and the critical success factors by reviewing the experiences of comparator countries.

### Strategic Positioning of the Housing Sector

- Articulate the vision for the Housing Sector;
- Define the overall objectives and provide quantifiable targets for achievement by the year 2020;
- Define the overall objectives and provide quantifiable targets for achievement over the period 2004-2006 and 2007-2009 at the national and sub-national levels inclusive of Tobago;

## APPENDIX I

- Articulate the strategies that should be pursued for 2004-2006 and 2007-2009 at the national and sub-national levels inclusive of Tobago. The studies should also address cross-sectoral issues such as environment, HIV/AIDS, disaster preparedness, gender, poverty alleviation, sustainable communities, science and technology and linkages with other sectors of the economy;

### **Institutional Framework**

- Identify the policy, legislative and

institutional/organisational arrangements required to achieve the objectives for the Housing Sector;

### **Implementation**

- Establish indicators / performance milestones and targets for the Housing Sector to the year 2020. These indicators/performance milestones should be established for every three-year period beginning in 2006; and
- Develop an Action Plan that contains a prioritised matrix of activities for the public and private sector

communities, an intervention timetable and estimates of implementation costs for the first three years. The Action Plan should also identify the most critical activities that should be undertaken as well as those activities that can be easily implemented;

### **Consultations/**

### **Stakeholders' Participation**

- Organise and conduct stakeholder consultations to ensure the widest possible participation in the process.

**DERIVING A HOUSING INDEX**

**Introduction**

As there are no specific housing indicators included in the United Nation’s Human Development Index (HDI), the Vision 2020 Housing Sub-Committee sought to develop a Housing Index that would be used for assessing the performance of the local Housing Sector and would facilitate comparison with other countries. The Index is based on the Credo on Housing developed by the Sub-Committee. The components are as follows:

- Space;
- Ownership;
- Affordability;
- Durability;
- Utilities;
- Access to Employment;
- Access to Finance;
- Access to Education;

- Access to Employment; and
- Crime rate of Community.

**Space**

The Space Index is comprised of two sub-components and attempts to measure physical space and privacy. The sub-components are:

- The Floor Area Index; and
- The Number of Persons per Room.

Floor Area Index is the median space per person in square metres. The number of persons per room is the median number of rooms in a dwelling unit divided by the median household size.

Overall, it is more desirable to have a high Floor Area Index and a low number of persons per room. For each country, there may be targeted ratios that would depend on cultural norms, and availability of resources.

**Ownership**

This index is defined by the percentage of ownership and the percentage of rental of housing (house and land). It may not be desirable to have 100% ownership and therefore a target of 70% ownership and 30% rental has been suggested for Trinidad and Tobago by the Housing Sub-Committee. There are other categories of tenure, for example, squatting.

## APPENDIX II

### Affordability

Affordability is measured by two ratios: the median house price to median annual household income, and the median annual rent price to median annual household income. A low ratio for each measure is desirable.

### Durability

This index is the percentage of all dwelling units that are permanent structures.

### Utilities

The indices are as electricity, water and telephone services, as well as the availability of solid waste disposal from the premises and availability of sewage disposal. For these utilities, 100% is desirable.

### Access to Transportation

The lower the travel time, the more desirable.

### Access to Finance

Two measures are used:

- A measure of overall financial development or 'Financial Depth'. This is measured by the ratio of broad money (M2) to the GDP of the country; and
- A measure of access to the mortgage market - The lowest mortgage interest rate available.

Traditional measures of the performance of the overall financial sector are based on the notion that the more developed the financial sector, the more efficiently it performs. There is the temptation to conclude that if the financial sector is efficient overall, then the mortgage sub-sector is also operating efficiently.

This may not necessarily be the case as it is access to the

financial market, in particular to the mortgage market, that is the key consideration.

According to Angel (2000), the conditions in the mortgage market are usually measured by the prevailing interest rates, rate of arrears, negative equity, the extent of mortgage insurance, and secondary mortgage markets. Some of the actual indicators are:

- The housing credit to portfolio;
- The credit to value ratio;
- The mortgage rate to prime rate difference; and
- The mortgage arrears rate.

These are in turn dependent on the provisions for financing the housing sector.

## APPENDIX II

### **Access to Education**

This is a composite measure of the availability of school places at the primary, secondary and tertiary levels. The higher the percentage the better.

### **Access to Employment**

This is the reported unemployment rate for the country.

The lower the rate, the more desirable.

### **Crime Rate of Community**

This is the percentage of persons in the country affected by all types of crime.

The lower the rate the better.

## APPENDIX III

### HOUSING INDICATORS FOR COMPARATOR COUNTRIES

#### Sources of Data

All Statistics for European Union Countries except Crime Statistics: Housing Statistics in the European Union 2002 - Compiled by Barbara Sak & Michael Raponi.

International Centre for Research and Information on the Public and Cooperative Economy (CIRIEC)- University of Liege, Belgium.

Crime Statistics for all countries except Trinidad & Tobago: UN Human Development Indicators 2003.

All Education Enrolment Statistics: UN Human

Development Indicators 2003.

All Statistics for Australia except Crime Statistics and Education Enrolment Statistics: Australia Bureau of Statistics Census 2001.

All Statistics for USA except Crime Statistics: US Census Bureau 2001 National American Housing Survey.

All Statistics for Canada except Crime Statistics: Statistics Canada Census 2001.

All Statistics for Japan except Crime Statistics: Japan Statistics Bureau, Ministry of Public Management, Home Affairs, Posts and Telecommunications.

All Statistics for New Zealand except Crime Statistics: Statistics New Zealand Census 2001.

Statistics for Trinidad & Tobago: Central Bank of Trinidad and Tobago Quarterly Statistical Digest, March 2003.

Trinidad & Tobago Electrification Rate: T&TEC December 2002 Residential Connections.

Trinidad & Tobago Telephone Rate: TSTT June 2002 Residential Connections.



## APPENDIX III

3 Tenure		4 & 5 Affordability		6 Access to Utilities		7 Access to Schools, Employment and Transport				8 Access to Finance		9 Crime Rates		
3a	3b	4a	5a	6a	6b	6c	6d	6e	7a	7b	7c	8a	8b	9a
Percent Ownership	Percent Rental	House Price to Income Ratio	Rent to Income Ratio	Water	Electricity	Telephone	Solid Waste Disposal	Sewage Disposal	Combined Primary, Secondary & Tertiary Gross Enrolment Ratio (%)	Unemployment Rate	Travel Time to Work (minutes per trip)	Lowest Mortgage Interest Rates	Financial Depth	Total Crime % of Population Victimized
39	44	6		100			100	100	113	5.9		5.6	0.4543	24.7
66.2	26.3		23.3%	100			100	100	114	6.7			0.6331	30.1
53	47	7.8	18%	100	100	100	100	100	99	3		4.7		25.2
74	23								107	7		5.65		21.4
70	29.2	2.4	28.9%	100	100	100		100	94	4.7	21	6	0.4867	21.1
64.6	35.4		24.0%	100	100	100	91.9	100	94	7.2			0.6647	23.8
		5.6	3.0%	100	100	99.2	100	100	83	5	45		1.2299	15.2
51	45								98	4.7		3.9		23
78	16	3.6	6.9%	100	100	100			91	4.2		4.3		15
69	31	4.7	15.6%	100	100	100	100	100	112	5.5	24		0.6342	26.4
58	31								103	9.8		5.27		19.1
70	26							100	73	2.4		4.85		
56	41			100					92	4.9			0.3897	18.8
54	38								91	9.5		6.25		21.4

## APPENDIX III

3 Tenure		4 & 5 Affordability		6 Access to Utilities		7 Access to Schools, Employment and Transport				8 Access to Finance		9 Crime Rates		
3a	3b	4a	5a	6a	6b	6c	6d	6e	7a	7b	7c	8a	8b	9a
Percent Ownership	Percent Rental	House Price to Income Ratio	Rent to Income Ratio	Water	Electricity	Telephone	Solid Waste Disposal	Sewage Disposal	Combined Primary, Secondary & Tertiary Gross Enrollment Ratio (%)	Unemployment Rate	Travel Time to Work (minutes per trip)	Lowest Mortgage Interest Rates	Financial Depth	Total Crime % of Population Victimized
43	57	2.6		99.9					89	7.9		5.7		
83	11						100		92	14.1	32	5.613		
67.8	28		28.1%						99	5.3				29.4
68	25	3.5							82	10.5				24.6
64	28								93	4.1		6.4		15.5
74	20								81	11.1		3.7		
80	10	6.3	25%	86	88.3	95		88	67	12.2		6	0.43	
63.2947	31.6789	4.525	18.4%	99.99	100	99.87	98.84	100	95	6.675	30.5	5.2256	0.6418	22.1688
11.6337	11.4769	1.8599	9.5%	0.0316		0.3266	3.0615		11.0215	3.0012	10.7238	0.8701	0.2797	4.6581
74.9285	20.2021	2.6651	28.0%						83.9785	9.6762	41.2238	6.0957	0.9215	17.5106
80	20	3.5 - 4.5	25%	100	100	100	100	100	100	5	30	6		

**HOUSING DEMAND/NEED ANALYSIS 2000 – 2020**

**Demand for Housing**

The total demand for housing in a country depends on the following major factors:

- Existing population
- Existing housing stock
- Population growth rates
- Size of household or family units
- Condition of housing stock leading to replacement

Relevant to total demand is the geographical distribution of this demand and its relationship to household income.

**Growth Rate in Population**

The CSO in 1997 projected the population from 1990 to 2020. One of the main assumptions was an approximate 10% increase in population over the census

period. In 2002, the CSO reported that the population had in fact grown by 4% over the census period 1990 to 2000. This is approximately 0.4% growth per annum. However, the Household Size declined from 4.03 to 3.68 over the period, leading to a 14% growth in number of households.

Two scenarios are possible, one using the approximate 1% projected by the CSO in 1990, or the reconciled rate of 4% from the preliminary 2000 Census. Each rate gives wide disparity in population projections and has implications for strategic planning.

- In Scenario 1, the actual growth in population from 1990 to 2000 is used to project the population

to year 2020. This is a flat rate of approximately 0.4% per annum or 4% for every projected census date.

- Scenario 2 is based on the parameters as defined from the 1990 census and the projections made for 1990 to 2020. These projections are adjusted for 2000 based on the actual 2000 Census estimates. This meant a 5% reduction in the baseline population as at 2000 as compared to the 1990 estimate of the 2000 population. This reduction was repeated for each projection period to 2020.

## APPENDIX IV

Table 1 shows the projected population for Trinidad and Tobago from 2000 to 2020. There is a difference in 2020 of 140,306 persons or an approximate 10% difference in population.

**Table 1: Population Projections 2000 to 2020 for Two Scenarios**

Year	Scenario 1: Population Projections (0.4% annual growth rate)	Scenario 2: Population Projections (1% annual growth rate)
2000	1,262,366	1,262,366
2001	1,267,415	1,275,287
2002	1,272,485	1,288,208
2003	1,277,575	1,301,128
2004	1,282,685	1,314,049
2005	1,287,816	1,326,970
2006	1,292,967	1,339,711
2007	1,298,139	1,352,453
2008	1,303,332	1,365,194
2009	1,308,545	1,377,936
2010	1,313,779	1,390,677
2011	1,319,034	1,403,358
2012	1,324,311	1,416,038
2013	1,329,608	1,428,719
2014	1,334,926	1,441,399
2015	1,340,266	1,454,080
2016	1,345,627	1,466,783
2017	1,351,010	1,479,485
2018	1,356,414	1,492,188
2019	1,361,839	1,504,890
2020	1,367,287	1,507,593

Sources: CSO Census 1990 and 2000

### Household Size and Number of Households

The number of households was also projected. The target household size was derived from the average household size of several developed locations in Trinidad as follows:

## APPENDIX IV

**Table 2: Household Size For Developed Locations In Trinidad**

Location	Household Size
Trincity/ Dinsley	3.35
Diamond Vale	3.39
Bon Air West Development	3.88
Goodwood Gardens	3.15
Gulf View (San Fernando)	3.53
Bayshore	3.37
Valsayn	3.43

Source: 1997/1998 “Household Budgetary Survey”

These selected locations have a mean household size of 3.44 and a standard deviation of 0.22. The Housing Sub-Committee recommended

that based on these findings, the target household size for 2020 should be 3.40. The household size decreased from 4.03 in 1990 to 3.678 in

2000 - a decline of 0.035 per year. Using this rate of decline, the 3.4 target will be achieved in the year 2008 as shown in Table 3.

**Table 3: Household Size – 2000 to 2020**

Year	Household Size
2000	3.6784
2001	3.6434
2002	3.6084
2003	3.5734
2004	3.5384
2005	3.5034
2006	3.4684

## APPENDIX IV

Year	Household Size
2007	3.4334
2008	3.3984
2009	3.4000
2010	3.4000
2011 - 2020	3.4000

Using household size projected for each year, the number of households was projected for both scenarios as shown in Table 4.

**Table 4: Population and Household Projections 2000 to 2020 for two Scenarios**

Year	Scenario 1: Population Projections (0.4% annual growth rate)	Scenario 1: Estimated Number of Households	Scenario 2: Population Projections (1% annual growth rate)	Scenario 2: Estimated Number of Households
2000	1,262,366	343,180	1,262,366	343,180
2001	1,267,415	347,863	1,275,287	350,023
2002	1,272,485	352,642	1,288,208	356,999
2003	1,277,575	357,520	1,301,128	364,111
2004	1,282,685	362,501	1,314,049	371,364
2005	1,287,816	367,586	1,326,970	378,762
2006	1,292,967	372,781	1,339,711	386,258
2007	1,298,139	378,087	1,352,453	393,906
2008	1,303,332	383,509	1,365,194	401,712
2009	1,308,545	384,866	1,377,936	405,275
2010	1,313,779	386,406	1,390,677	409,023
2011	1,319,034	387,951	1,403,358	412,752

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Year	Scenario 1: Population Projections (0.4% annual growth rate)	Scenario 1: Estimated Number of Households	Scenario 2: Population Projections (1% annual growth rate)	Scenario 2: Estimated Number of Households
2012	1,324,311	389,503	1,416,038	416,482
2013	1,329,608	391,061	1,428,719	420,211
2014	1,334,926	392,625	1,441,399	423,941
2015	1,340,266	394,196	1,454,080	427,671
2016	1,345,627	395,773	1,464,783	430,818
2017	1,351,010	397,356	1,475,485	433,966
2018	1,356,414	398,945	1,486,188	437,114
2019	1,361,839	400,541	1,496,890	440,262
2020	1,367,287	402,143	1,507,593	443,410

There is a difference in number of households of 41,267 between the two projected scenarios.

### New Demand for Housing

CSO 2002 reported that the number of dwelling units in 2000 was 353,097 with approximately 5% vacant leaving 335,442 occupied

dwelling units for 343,180 households in Trinidad and Tobago. There was therefore a deficit of 7,738 dwelling units in 2000.

The projected new demand for housing is presented in Tables 5 and 6 for Scenario 1 and Scenario 2.

The average new demand for housing over the period 2000 to 2020 for scenario 1 is approximately 3,335 new units per annum, while for scenario 2, this is approximately 5,398 new units per annum.

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**Table 5: New Demand for Housing - Scenario 1**

Year	Population (0.4% growth)	Household Size	Number of Households	Occupied Dwelling Units (estimated)	New Household Formation	Cumulative New Dwelling Units Needed (Demand)
2000	1,262,366	3.678	343,180	335,442	-	7,738
2001	1,267,415	3.643	347,863	-	4,683	12,421
2002	1,272,485	3.608	352,642	-	4,779	17,200
2003	1,277,575	3.573	357,520	-	4,878	22,078
2004	1,282,685	3.538	362,501	-	4,981	27,059
2005	1,287,816	3.503	367,586	-	5,086	32,144
2006	1,292,967	3.468	372,781	-	5,194	37,339
2007	1,298,139	3.433	378,087	-	5,306	42,645
2008	1,303,332	3.4	383,333	-	5,246	47,891
2009	1,308,545	3.4	384,866	-	1,533	49,424
2010	1,313,779	3.4	386,406	-	1,539	50,963
2011	1,319,034	3.4	387,951	-	1,546	52,509
2012	1,324,311	3.4	389,503	-	1,552	54,061
2013	1,329,608	3.4	391,061	-	1,558	55,619
2014	1,334,926	3.4	392,625	-	1,564	57,183
2015	1,340,266	3.4	394,196	-	1,571	58,754
2016	1,345,627	3.4	395,773	-	1,577	60,331
2017	1,351,010	3.4	397,356	-	1,583	61,914
2018	1,356,414	3.4	398,945	-	1,589	63,503
2019	1,361,839	3.4	400,541	-	1,596	65,099
2020	1,367,287	3.4	402,143	-	1,602	66,701



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**Table 6: New Demand For Housing - Scenario 2**

Year	Population (1% growth)	Household Size	Number of Households	Occupied Dwelling Units (estimated)	New Household Formation	Cumulative New Dwelling Units Needed (Demand)
2000	1,262,366	3.6784	343,180	335,442	-	7,738
2001	1,275,287	3.6434	350,023		6,843	14,581
2002	1,288,208	3.6084	356,999		6,976	21,557
2003	1,301,128	3.5734	364,111		7,112	28,669
2004	1,314,049	3.5384	371,364		7,253	35,922
2005	1,326,970	3.5034	378,762		7,398	43,320
2006	1,339,711	3.4684	386,258		7,496	50,816
2007	1,352,453	3.4334	393,906		7,648	58,464
2008	1,365,194	3.4	401,712		7,806	66,270
2009	1,377,936	3.4	405,275		3,563	69,833
2010	1,390,677	3.4	409,023		3,747	73,581
2011	1,403,358	3.4	412,752		3,730	77,310
2012	1,416,038	3.4	416,482		3,730	81,040
2013	1,428,719	3.4	420,211		3,730	84,769
2014	1,441,399	3.4	423,941		3,730	88,499
2015	1,454,080	3.4	427,671		3,730	92,229
2016	1,464,783	3.4	430,818		3,148	95,376
2017	1,475,485	3.4	433,966		3,148	98,524
2018	1,486,188	3.4	437,114		3,148	101,672
2019	1,496,890	3.4	440,262		3,148	104,820
2020	1,507,593	3.4	443,410		3,148	107,968

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As noted, the difference between Scenario 1 and Scenario 2 is 41,267 households with Scenario 2 62% higher than Scenario 1.

### Replacement Demand

In the 1990 census, the CSO estimated the condition of dwelling units using the Material of Outer Walls as the defining factor.

Table 7 summarises the CSO findings.

**Table 7: Condition of Housing 1990**

Material of Outer Wall	Number of Houses
Brick	105,248
Concrete	54,684
Wood and Concrete	21,427
Wood and Brick	8,994
Wood	76,332
Wattle/Adobe/Tapia	2,811
Other	1,169
Not stated	1,206
<b>Total</b>	<b>271,871</b>

Source: CSO 1996

While there was no data on the condition of housing in the year 2000, it was reported by Angel (2000) that there was approximately 91.3% permanent housing. Angel

(2000) did not elaborate on what permanent housing meant, in particular whether this was related to the material of outer wall. In addition, Angel (2000) did

not clearly state whether this was for the entire country or the Port-of-Spain corridor. Since most of the data reported by Angel referred to the corridor of Port of Spain,

## APPENDIX IV

then reference to permanent housing probably refers to the Port-of-Spain corridor. If so, then this may hold true for the East West corridor to Arima as well, or certainly up to Arouca, as well as along the Southern Corridor to San Fernando.

While it is generally agreed that the condition of housing in Trinidad and Tobago has improved and is of good quality, there is no data that could be interrogated to draw reasonable conclusions on the quality of housing.

Since Angel's reference to the condition is the only reference and 91.3% (a very

specific %) is quoted, then Angel's (2000) estimate will be used to calculate replacement need.

Of the 353,097 dwelling units existing in 2000, approximately 322,378 are permanent, while 30,719 are non-permanent. These units have to be replaced to keep pace with existing demand for housing. The Housing Sub-Committee has assumed that the replacement of these units will take place at an equal rate over the years to 2020.

The Sub-Committee has also assumed that all housing units built in the future will

be permanent structures.

Repair and maintenance of permanent structures will therefore continue to be a feature of the housing sector.

The number of housing units that need to be replaced every year is 1,463. This has been rounded to the nearest hundred (1,500 units) for purposes of this report.

Table 8 shows the Annual and Cumulative Replacement Demand to 2020.

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**Table 8: Replacement of Existing Housing Stock, 2000 – 2020**

<b>Year</b>	<b>Replacement Demand for Non-Permanent Housing</b>	<b>Cumulative Replacement Demand for Housing</b>
2000	1,500	1,500
2001	1,500	3,000
2002	1,500	4,500
2003	1,500	6,000
2004	1,500	7,500
2005	1,500	9,000
2006	1,500	10,500
2007	1,500	12,000
2008	1,500	13,500
2009	1,500	15,000
2010	1,500	16,500
2011	1,500	18,000
2012	1,500	19,500
2013	1,500	21,000
2014	1,500	22,500
2015	1,500	24,000
2016	1,500	25,500
2017	1,500	27,000
2018	1,500	28,500
2019	1,500	30,000
2020	1,500	31,500

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### Total Demand

The Housing Sub-Committee is of the view that Scenario 1 is the more realistic projection of the housing demand to 2020, as it reflects

actual 2000 Census figures and population growth estimates based on the country's actual growth rate between 1990 and 2000.

Table 9 shows the total demand for housing to 2020 based on the 0.4% population growth estimate of Scenario 1.

**Table 9: Total Demand for Housing, 2000 to 2020**

Year	Annual New Demand for Housing	Annual Replacement Demand For Housing	Total Annual Demand for Housing
2000	7,738	1,500	9,238
2001	4,683	1,500	6,183
2002	4,779	1,500	6,279
2003	4,878	1,500	6,378
<b>Sub-Total 2000 - 2003</b>	<b>22,078</b>	<b>6,000</b>	<b>28,078</b>
2004	4,981	1,500	6,481
2005	5,086	1,500	6,586
2006	5,194	1,500	6,694
<b>Sub-Total 2004 - 2006</b>	<b>15,261</b>	<b>4,500</b>	<b>19,761</b>
2007	5,306	1,500	6,806
2008	5,246	1,500	6,746
2009	1,533	1,500	3,033
<b>Sub-Total 2007 - 2009</b>	<b>12,085</b>	<b>4,500</b>	<b>16,585</b>
2010	1,539	1,500	3,039
2011	1,546	1,500	3,046
2012	1,552	1,500	3,052
<b>Sub-Total 2010 - 2012</b>	<b>4,637</b>	<b>4,500</b>	<b>9,137</b>
2013	1,558	1,500	3,058

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Year	Annual New Demand for Housing	Annual Replacement Demand For Housing	Total Annual Demand for Housing
2014	1,564	1,500	3,064
2015	1,571	1,500	3,071
<b>Sub-Total 2013 - 2015</b>	<b>4,693</b>	<b>4,500</b>	<b>9,193</b>
2016	1,577	1,500	3,077
2017	1,583	1,500	3,083
2018	1,589	1,500	3,089
<b>Sub-Total 2016 - 2018</b>	<b>4,749</b>	<b>4,500</b>	<b>9,249</b>
2019	1,596	1,500	3,096
2020	1,602	1,500	3,102
<b>Sub-Total 2019 - 2020</b>	<b>3,198</b>	<b>3,000</b>	<b>6,198</b>
<b>Grand Total 2000 - 2020</b>	<b>66,701</b>	<b>31,500</b>	<b>98,201</b>

### **Demand for Housing by Location**

The CSO 1998 Household Budgetary Survey provided an estimate of the population by administrative areas, income distribution, household size and household distribution. However, there was no data on the age structure of the population at that date. Age is important for planning purposes as it

has implications for the type of services that are needed. Since household information is available, it will be assumed that household size is a surrogate for age structure and family structure.

Small households are represented predominately by the elderly, young families, and single persons.

A balanced community is one where there is equity in the age and income distribution. There should therefore be a mix of household sizes to achieve a balance.

The household distribution in Trinidad and Tobago in 1998 is shown in Table 10, and will be used as the template for the mix of household sizes required for sustainable communities.

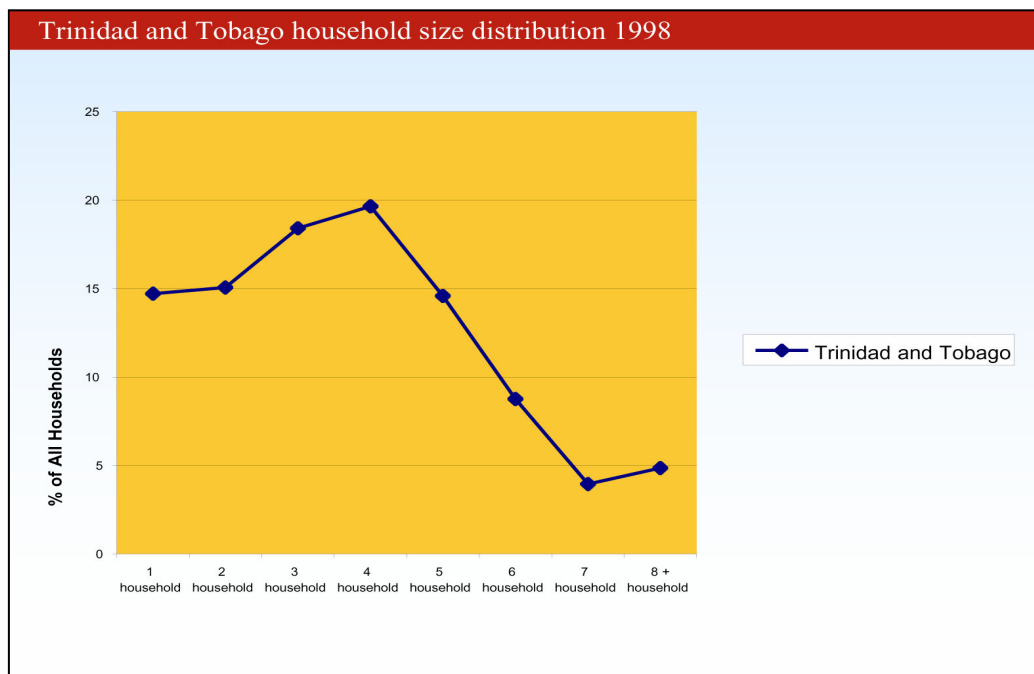
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**Table 10: Household Distribution for Trinidad and Tobago**

Household Size	% of all Households
1	14.72
2	15.06
3	18.42
4	19.65
5	14.59
6	8.76
7	3.96
8 +	4.85

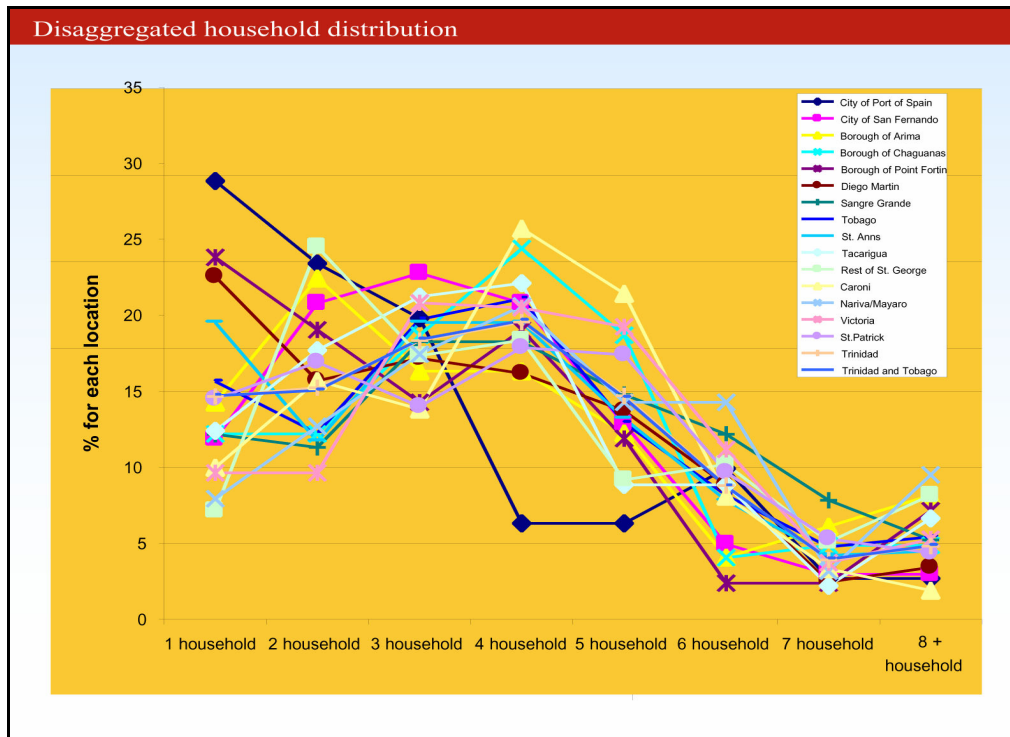
Source: 1997/1998 “Household Budgetary Survey”

The following charts show distribution of households by household size and location.

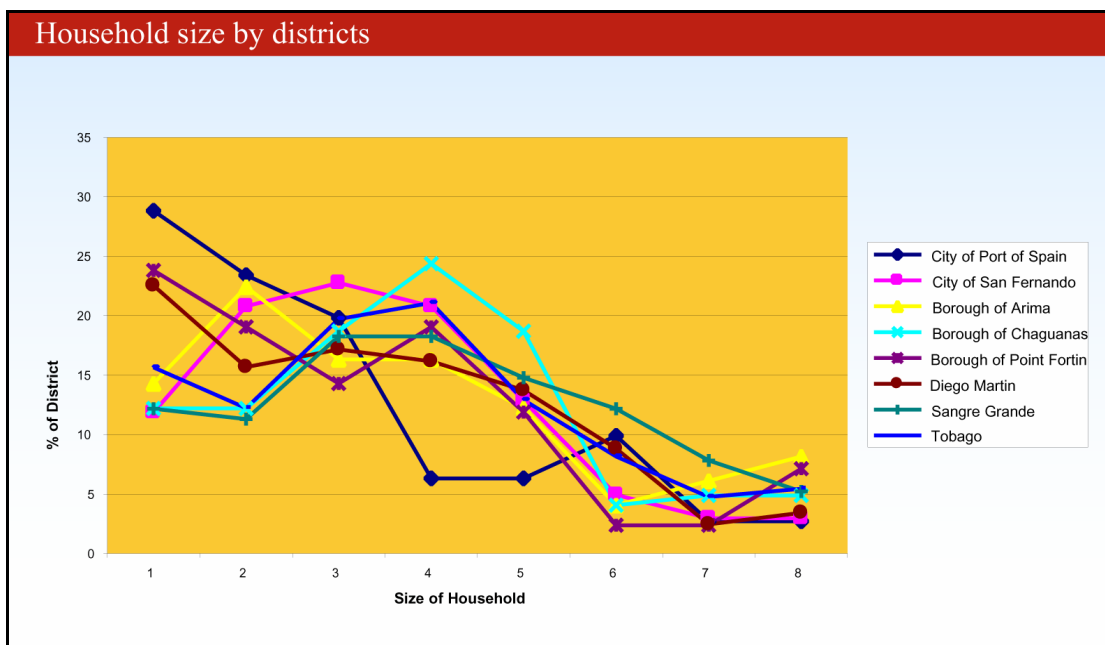


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The distribution by region and borough is shown below.



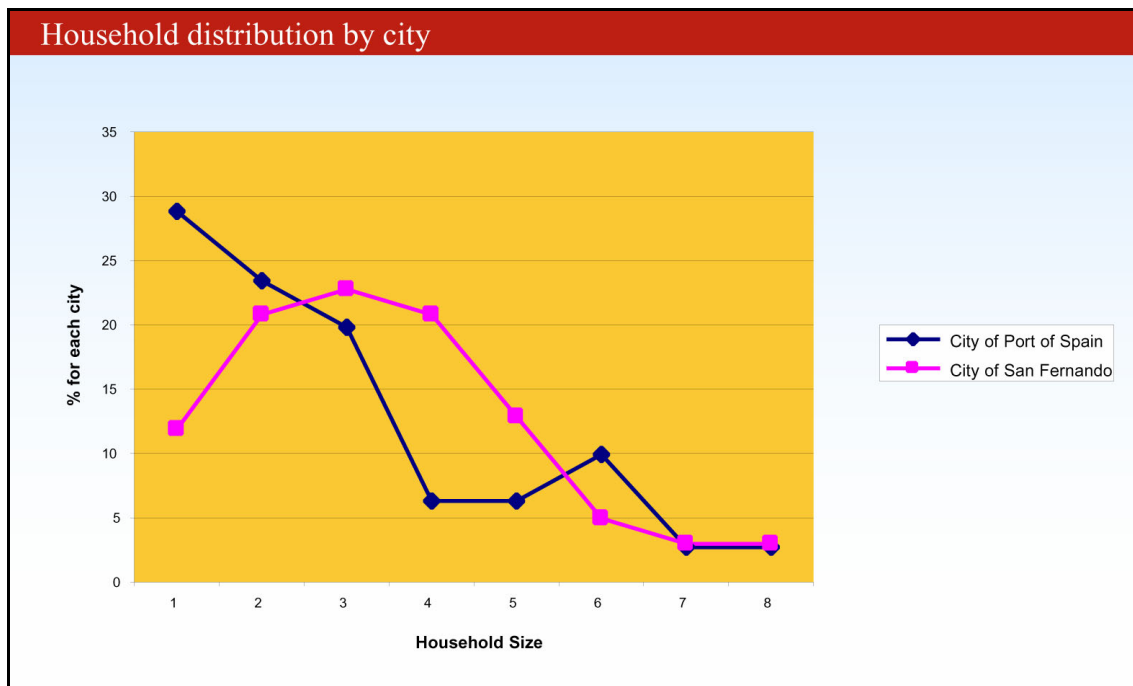
Selected locations are shown below for ease of comparison.



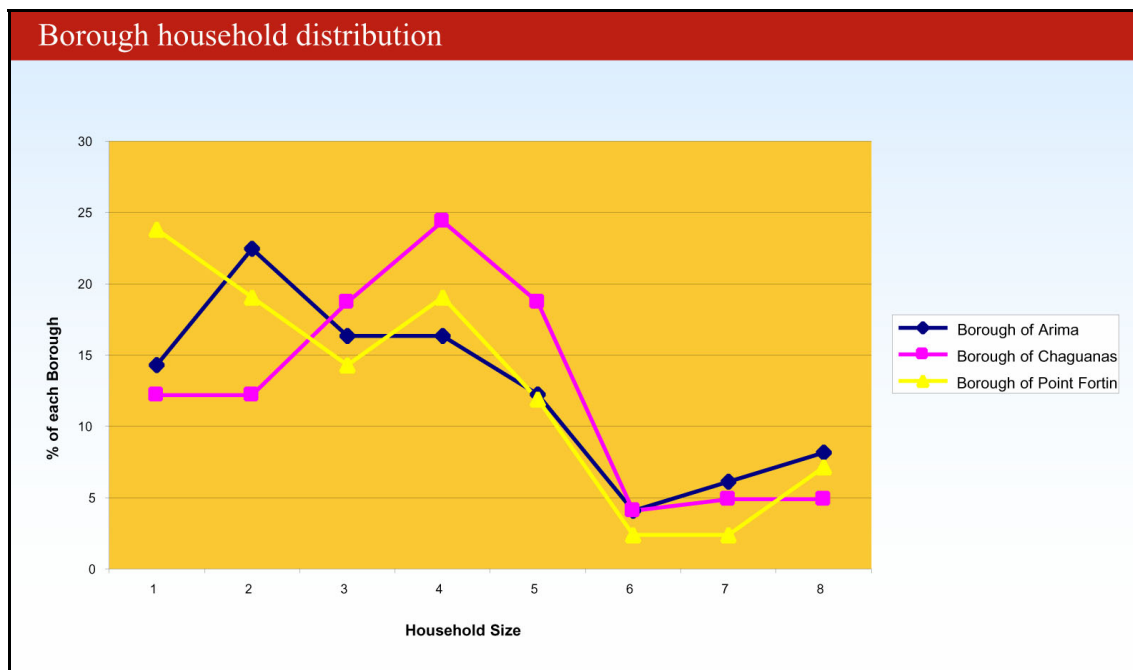


## APPENDIX IV

The two main cities are shown below.



The distribution in the boroughs is shown below.



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The data shows marked differences in household distribution in Trinidad and Tobago. To achieve a balanced community, there is need for policy measures aimed at achieving the target household distribution. In addition to household distribution, the age of the head of household should also be considered to determine whether it is an ageing or young household.

This is particularly important for new developments that may be compared with existing, older communities. The former will have a predominance of couples and

single persons, while the later will constitute the geriatric population. It is the households with young couples, for example, where changes or increases in the size of households on account of children are expected.

No recent data (within the last 5 years) was available in regard to the age of the head of the household and the number of rooms, particularly the number of bedrooms in dwelling units. This is a serious deficiency. However, in the absence of data, it will be assumed that the household size is a proxy for the quantity of sleeping

accommodation (number of bedrooms or beds).

### **Demand by Size of Dwelling Unit**

The next step is to determine the category of need that is defined by sleeping accommodation. Eight categories of households are identified by size of household, from 1 to 8.

Table 11 shows the size of dwelling unit required for each household size.

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**Table 11: Household Size and Size of Dwelling Unit**

Size of Household	Number of Bedrooms in Dwelling Units	Number of Dwelling Units
1 and 2	1	13,863
3	2	3,791
4	3	4,485
5	4	5,906
6	5	2,923
7	6	1,848
8+	7 +	2,274

Source: 1997/1998 “Household Budgetary Survey”

The demand analysis will focus on the 1 to 3 bedroom dwelling units on the assumption that the household size of five (5) and above can be accommodated

in larger units by room additions, or alternatively by reduction in household size by the separation of multiple families.

The estimated demand for dwelling units in the one to three bedroom category by region is shown in Table 12.

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**Table 12: Housing Demand by Dwelling Type and Location**

Region	Total Demand for Housing	One Bedroom	Two Bedroom	Three Bedroom
City of Port of Spain	63	23	19	21
City of San Fernando	6,442	1,004	1,757	3,681
Arima Borough	3,278	675	1,060	1,543
Chaguanas Borough	6,500	1,175	1,175	4,150
Point Fortin Borough	939	293	235	411
Diego Martin	6,924	2,181	1,518	3,225
SanJuan/Laventille	9,845	2,735	1,641	5,469
Tunapuna/Piarco	27,573	4,651	6,645	16,277
Couva/Tabaquite/Talparo	9,135	1,400	2,200	5,535
Mayaro/RioClaro	816	110	176	529
Sangre Grande	4,140	840	780	2,520
Princes Town	5,777	918	918	3,940
Penal/Debe	4,124	944	1,102	2,078
Siparia	5,779	1,323	1,544	2,911
Tobago	6,868	1,564	1,224	4,080
<b>Trinidad and Tobago</b>	<b>98,201</b>	<b>19,838</b>	<b>21,993</b>	<b>56,370</b>

### **Demand by Income Category**

The next step is to determine the demand by income category. The CSO 1998 Household Budgetary Survey gives the income distribution for households by location, as shown in Table 13.

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**Table 13: Income Distribution for Households by Monthly Income and Location**

<b>Administrative Area</b>	<b>Less than \$1,000</b>	<b>\$1,000 to \$1,999</b>	<b>\$2,000 to \$2,999</b>	<b>3,000 to \$3,999</b>	<b>\$4,000 to \$4,999</b>	<b>\$5,000 to \$5,999</b>	<b>\$6,000 to \$6,999</b>
Port of Spain	2,334	3,356	2,334	1,897	1,605	1,022	729
San Fernando	877	2,776	3,068	2,045	584	1,315	1,753
Arima Borough	291	146	1,311	582	874	437	582
Chaguanas Borough	1,021	2,335	2,190	2,480	2,335	1,314	1,752
Point Fortin Borough	1,170	1,609	1,316	585	878	146	146
Diego Martin	2,335	5,112	4,382	3,649	2,627	1,168	1,314
St. Ann's	5,545	11,235	9,194	7,148	3,795	2,920	2,775
Tacarigua	1,458	5,109	5,109	3,357	3,209	3,648	2,041
Rest of St. George	1,168	2,921	2,775	3,067	1,168	584	876
Caroni	1,897	6,420	5,253	6,129	3,647	2,482	1,168
Nariva Mayaro	876	2,628	2,774	876	584	730	438
St. Andrew St. David	3,502	3,794	3,064	2,042	1,314	730	584
Victoria	7,447	9,493	10,076	6,573	4,090	2,774	2,337
St. Patrick	5,107	6,421	6,273	2,772	3,210	1,752	1,314
Tobago	1,021	1,896	3,648	3,211	3,503	1,896	1,313
Trinidad	35,037	63,349	59,134	43,208	29,921	21,009	17,824
Trinidad and Tobago	36,068	65,239	62,768	46,432	33,426	22,924	19,115

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<b>Administrative Area</b>	<b>\$7,000 to \$7,999</b>	<b>\$8,000 to \$8,999</b>	<b>\$9,000 to \$9,999</b>	<b>\$10,000 to \$10,999</b>	<b>\$11,000 to \$11,999</b>	<b>\$12,000 to \$12,999</b>	<b>More than \$13,000</b>
Port of Spain	437	876	-	146	146	146	1,168
San Fernando	584	730	-	292	292	-	438
Arima Borough	728	582	291	437	146	-	728
Chaguanas Borough	1,167	730	293	145	583	293	1,314
Point Fortin Borough	146	-	146	-	-	-	-
Diego Martin	1,897	876	730	1,460	146	292	3,798
St. Ann's	1,020	1,166	729	437	437	437	1,749
Tacarigua	1,022	1,751	1,313	729	439	1,022	2,774
Rest of St. George	584	292	292	-	146	146	292
Caroni	1,168	438	876	147	438	147	438
Nariva Mayaro	146	146	-	-	-	-	-
St. Andrew St. David	146	146	292	146	730	146	146
Victoria	1,020	874	437	291	437	146	1,020
St. Patrick	583	731	876	293	293	145	438
Tobago	1,604	875	438	438	438	292	875
Trinidad	10,649	9,330	6,274	4,536	4,247	2,928	14,317
Trinidad and Tobago	12,252	10,227	6,726	4,976	4,667	3,226	15,169

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Based on the distribution of income by location, the location of housing units by region is estimated as shown in Table 14.

**Table 14: Proposed Distribution of Total Demand by Income Category and Region**

Region	Total Units	Low Income Units	Middle Income Units	High Income Units
City of Port of Spain	30,881	17,293	9,573	4,015
City of San Fernando	12,352	6,917	3,829	1,606
Arima Borough	2,573	1,441	798	335
Chaguanas Borough	13,382	7,494	4,148	1,740
Point Fortin Borough	823	461	255	107
Diego Martin	8,235	4,612	2,553	1,071
San Juan/ Laventille	8,235	4,612	2,553	1,071
Tunapuna/Piarco	10,294	5,764	3,191	1,338
Couva/Tabaquite/ Talparo	3,706	2,075	1,149	482
Mayaro/Rio Claro	823	461	255	107
Sangre Grande	823	461	255	107
Princes Town	823	461	255	107
Penal/Debe	823	461	255	107
Siparia	823	461	255	107
Tobago	3,603	2,018	1,117	468
<b>Total</b>	<b>98,201</b>	<b>54,993</b>	<b>30,442</b>	<b>12,766</b>

## APPENDIX V

### HOUSEHOLD SIZE – SELECTED AREAS

Administrative Area	Population	Number Of Households	Number Of Dwelling Units	Household Size
Trincity/Dinsley	9,459	2,823	2,856	3.35
Diamond Vale	5,794	1,710	1,718	3.39
Bon Air West Development	5,881	1,517	1,504	3.88
Goodwood Gardens	1,350	29	468	3.15
Gulf View (San Fernando)	3,594	1,019	1,093	3.53
Bayshore	678	201	212	3.37
Valsayn	2,936	856	872	3.43

Source: CSO Census 2000



**LEGISLATION AFFECTING MORTGAGE TRANSACTIONS**

- |   |   |  |
|---|---|--|
| <ul style="list-style-type: none"> <li>▪ Banking Act Ch. 79:01 of the Laws of Trinidad and Tobago (repealed by Financial Institutions Act);</li> <li>▪ Bills of Exchange Act, Ch. 82:31 of the Laws of Trinidad and Tobago;</li> <li>▪ Bills of Sale Act, Ch. 82:32 of the Laws of Trinidad and Tobago;</li> <li>▪ Building Societies Act, Ch. 33:04 of the Laws of Trinidad and Tobago;</li> <li>▪ Caribbean Development Bank Act, Ch. 79:05 of the Laws of Trinidad and Tobago;</li> <li>▪ Caribbean Investment Corporation Act, Ch. 70:03 of the Laws of Trinidad and Tobago;</li> <li>▪ Caribbean Investment Fund Act, 1999;</li> </ul> | <ul style="list-style-type: none"> <li>▪ Central Bank Act, Ch. 79:02 of the Laws of Trinidad and Tobago;</li> <li>▪ Conveyancing and Law of Property Ordinance, Ch. 27 No. 12;</li> <li>▪ Co-operative Societies Act;</li> <li>▪ Finance Act, 1963;</li> <li>▪ Financial Institutions Act, 1993;</li> <li>▪ Foreign Investment Act, 1990;</li> <li>▪ Home Mortgage Bank Act, Ch. 79:08 of the Laws of Trinidad and Tobago;</li> <li>▪ Housing Act, Ch. 33:01 of the Laws of Trinidad and Tobago;</li> <li>▪ International Financial Organisations, Ch. 70:02 of the Laws of Trinidad and Tobago;</li> <li>▪ Limitation of Certain Actions Act, 1997;</li> </ul> | <ul style="list-style-type: none"> <li>▪ Limitation of Personal Actions Ordinance, Ch. 5 No. 6;</li> <li>▪ Proceeds of Crime Act, 2000;</li> <li>▪ Real Property Ordinance;</li> <li>▪ Real Property Limitation Ordinance;</li> <li>▪ Registrar General Act, Ch. 19:03 of the Laws of Trinidad and Tobago;</li> <li>▪ Registration of Deeds Act, Ch. 19:06 of the Laws of Trinidad and Tobago;</li> <li>▪ Registration of Titles to Land, Act;</li> <li>▪ Remedies of Creditors Act, Ch. 8:09 of the Laws of Trinidad and Tobago;</li> </ul> |
|---|---|--|

**ESTIMATES OF MATERIALS FOR HOUSE CONSTRUCTION**

**Introduction**

In calculating the quantum of materials needed and the cost of materials, two approaches were used:

- The bill of quantities currently being used by the NHA in their cost estimates for a two-bedroom 48.6 square metre house; and
- A bill of quantities extrapolated from the NHA list for the target housing unit sizes recommended for developed country status.

The following assumptions were used in calculating the

materials required for the national housing programme:

- Floor area index - 27.3 square metres.
- Classification of units by bedrooms:
  - One-bedroom;
  - Two-bedroom;
  - Three-bedroom.
- Total number of units to be constructed - 98,201.
- The total number of units to be constructed by classification are as follows:
  - One-bedroom – 19,837;
  - Two-bedroom – 21,997;
  - Three-bedroom -56,367.

- Construction is to be phased over the period 2000 to 2020.
- No incremental construction (all units to be completed within year of commencement of construction. On average this is within 3 months of commencement).
- Most construction to be done between January 1st to June 1st(during the dry season),
- Materials estimated do not include materials for maintenance, renovations/repair, and upgrade, or materials for infrastructure.

## APPENDIX VII

### Material Estimates for Two-Bedroom House

The following tables (Tables 1 to 3) show the estimates of materials needed for housing construction and their costs based on quantities used in NHA estimates for a two-bedroom (48.6 sq. m.), single-family house.

**Table 1: Estimates of Electrical Items for a Two-Bedroom Unit**

Item	Unit	2 bedroom Quantity	Rate	2 bedroom Cost
Panel Box (6 circuit combination)	each	1	\$ 123.00	\$ 123.00
Meter Box	each	1	\$ 93.15	\$ 93.15
Single Switch	each	2	\$ 4.95	\$ 9.90
Two Way Switch	each	3	\$ 8.95	\$ 26.85
Double Outlets	each	8	\$ 11.95	\$ 95.60
2" x 4" Electrical Box	each	5	\$ 5.50	\$ 27.50
Wall Light	each	6	\$ 45.00	\$ 270.00
4" x 4" Electrical Box	each	1	\$ 5.35	\$ 5.35
Ceiling Light	each	1	\$ 60.00	\$ 60.00
1/2" PVC Conduit	length	10	\$ 5.33	\$ 53.30
3/4" PVC Conduit	length	5	\$ 9.11	\$ 45.55
1.5mm Electrical Wire	roll	1	\$ 51.70	\$ 51.70
2.5mm Electrical Wire	roll	1	\$ 87.40	\$ 87.40
<b>Total Cost</b>				<b>\$ 949.30</b>

## APPENDIX VII

**Table 2: Estimates of Plumbing Items for a Two-Bedroom Unit**

Item	Unit	2 bedroom Quantity	Rate	2 bedroom Cost
Water Closet	each	1	\$1,250.00	\$ 1,250.00
Kitchen Sink (SB50)	each	1	\$ 450.00	\$ 450.00
Kitchen Tap	each	1	\$ 175.00	\$ 175.00
1/2" Angle Valve	each	3	\$ 20.85	\$ 62.55
Ceramic Face Basin	each	1	\$ 600.00	\$ 600.00
Shower Rose & Tap with Fittings	each	1	\$ 185.00	\$ 185.00
Wash Tub	each	1	\$ 350.00	\$ 350.00
Garden Tap	each	1	\$ 45.00	\$ 45.00
2" CO OWV Waste	each	6	\$ 1.94	\$ 11.64
4" CO OWV Sewer	each	2	\$ 5.07	\$ 10.14
2" OWV Pipe	length	3	\$ 53.58	\$ 160.74
4" OWV Pipe	length	4	\$ 104.55	\$ 418.20
4" WC Connector	each	1	\$ 35.00	\$ 35.00
2" Tee PVC	each	12	\$ 7.91	\$ 94.92
4" Tee PVC	each	2	\$ 66.00	\$ 132.00
2" 90 degree Elbow	each	3	\$ 2.76	\$ 8.28
4" 90 degree Elbow	each	2	\$ 9.55	\$ 19.10
4" x2" Reducer	each	2	\$ 9.40	\$ 18.80
4"x2" reducing Wye	each	2	\$ 32.84	\$ 65.68
1/2" PVC Pipe Pressure	length	2	\$ 18.10	\$ 36.20
3/4" PVC Pipe Pressure	length	4	\$ 23.35	\$ 93.40
2" PVC Wye	each	1	\$ 23.99	\$ 23.99
1/2" PVC Tee	each	2	\$ 0.90	\$ 1.80

## APPENDIX VII

Item	Unit	2 bedroom Quantity	Rate	2 bedroom Cost
3/4" Tee	each	3	\$ 1.34	\$ 4.02
3/4" 90 elbow	each	4	\$ 1.04	\$ 4.16
1/2" Female Adapter PVC	each	4	\$ 4.78	\$ 19.12
6" PVC Gutter	length	30	\$ 13.00	\$ 390.00
4" Down Pipe	length	20	\$ 5.27	\$ 105.40
Short Stop End	each	1	\$ 10.95	\$ 10.95
45 degree Elbow	each	4	\$ 10.95	\$ 43.80
90 degree Elbow	each	2	\$ 10.95	\$ 21.90
6" Gutter Bracket	each	16	\$ 6.90	\$ 110.40
4" Bracket	each	6	\$ 4.30	\$ 25.80
<b>Total</b>				<b>\$ 4,982.99</b>

## APPENDIX VII

**Table 3: Estimates of Structural Items for a Two-Bedroom Unit**

Item	Unit	2 bedroom Quantity	Rate	2 bedroom Cost
3000 psi Concrete	cubic yards	18	\$ 490.00	\$ 8,820.00
Plastering Sand	cubic yards	15	\$ 40.00	\$ 600.00
Cement	bag	105	\$ 34.00	\$ 3,570.00
4x8x16 Concrete Block	block	1390	\$ 2.24	\$ 3,113.60
65 BRC	roll	1	\$ 600.00	\$ 600.00
R5 Rebar	length	24	\$ 3.40	\$ 81.60
R10 Rebar	length	88	\$ 9.50	\$ 836.00
T 12 Rebar	length	157	\$ 12.50	\$ 1,962.50
T 16 Rebar	length	46	\$ 22.50	\$ 1,035.00
Composite Flooring System	sq.ft	523	\$ 9.00	\$ 4,707.00
1418 Zed Purlins	feet	225	\$ 4.63	\$ 1,041.75
18" Ridge Cap 26 g (10')	feet	34	\$ 5.31	\$ 180.54
Rascia Sheet 26g	feet	120	\$ 4.50	\$ 540.00
Roofing Screws 3" Dome Head	each	320	\$ 1.40	\$ 448.00
Gypsum Ceiling (supply & install)	sq.ft	456	\$ 7.00	\$ 3,192.00
28g Aluzinc Sheet	feet	222	\$ 5.35	\$ 1,187.70
36" Solid Core Flush Door	each	2	\$ 325.00	\$ 650.00
32" Hollow Core Flush Door	each	2	\$ 160.00	\$ 320.00
28" Hollow Core Flush Door	each	1	\$ 160.00	\$ 160.00
4' x3' Louvre Window	each	4	\$ 54.95	\$ 219.80
2'x1.5' Louvre Window	each	1	\$ 30.00	\$ 30.00

## APPENDIX VII

Item	Unit	2 bedroom Quantity	Rate	2 bedroom Cost
4"x24" Louvre Blade	each	80	\$ 4.60	\$ 368.00
36" Aluminium Door Frame ext.	each	2	\$ 155.00	\$ 310.00
32" Aluminium Door Frame int.	each	2	\$ 135.00	\$ 270.00
28" Aluminium Door Frame int.	each	1	\$ 135.00	\$ 135.00
Yale Cylindrical Lock Keyed	each	2	\$ 49.95	\$ 99.90
Yale Cylindrical Lock Privacy	each	3	\$ 69.95	\$ 209.85
12"x12" Non-Skid Ceramic Tile	each	523	\$ 8.95	\$ 4,680.85
Concrete Primer	gallon	8	\$ 55.00	\$ 440.00
Emulsion Paint	gallon	16	\$ 75.00	\$ 1,200.00
2" x 4" x16' RPP	length	62	\$ 61.33	\$ 3,802.46
3/4 " Form Ply	sheet	31	\$ 150.00	\$ 4,650.00
2" pp Nails	box	1	\$ 79.95	\$ 79.95
2 1/3 pp Nails	box	1	\$ 79.95	\$ 79.95
3" pp Nails	box	1	\$ 79.95	\$ 79.95
<b>Total Structural</b>				<b>\$ 49,701.40</b>
<b>Electrical</b>				<b>\$ 949.30</b>
<b>Plumbing</b>				<b>\$ 4,982.99</b>
<b>Sub-Total</b>				<b>\$ 55,633.69</b>
<b>10% Contingency</b>			<b>\$ 5,563.37</b>	
<b>15% Vat</b>			<b>\$ 9,179.56</b>	
<b>Grand Total</b>				<b>\$ 70,376.62</b>

## APPENDIX VII

### Target House Sizes

### Recommended for

### Developed Country Status

Several unit sizes defined by number of bedrooms and floor area were explored as follows:

- The Ministry is currently constructing

48.6sq.m.(523sq.ft.) Two-Bedroom Units.

- The Honourable Minister of Housing has indicated that the Two-Bedroom Units should have a floor area of 60.4sq.m. (650sq.ft.).
- Using the target floor area index recommended for

Trinidad and Tobago by 2020 (see Table 3, pg 28), the developed country benchmark for housing unit sizes is as follows:

**Table 4: Developed Country Target Housing Unit Sizes**

Unit by Number of Bedrooms	Optimum Range of persons per unit	Lower Limit of Floor area (sq. metres)	Optimum Limit of floor area (sq.metres)	Average Unit Size (sq.metres)	Average Unit Size (sq.ft.)
One Bedroom	1 to 2	27.3	54.6	41.0	440.8
Two Bedroom	2 to 3	54.6	81.9	68.3	734.6
Three Bedroom	3 to 4	81.9	109.2	95.6	1,028.5

The estimates of materials for the housing unit sizes defined above for the National Housing Programme are shown in Tables 5 to 7.



## APPENDIX VII

**Table 5: Electrical Items Required for National Housing Programme**

Item - Electrical	Unit	1 Bedroom	2 Bedroom	3 Bedroom	Total
Panel Box (6 Circuit Combination)	each	19,837	21,997	56,367	98,201
Meter Box	each	19,837	21,997	56,367	98,201
Single Switch	each	39,673	43,994	169,102	252,769
Two Way Switch	each	59,510	65,991	281,837	407,338
Double Outlets	each	158,693	175,976	676,408	1,011,077
2" x 4" Electrical Box	each	99,183	109,985	450,939	660,107
Wall Light	each	119,020	131,982	507,306	758,308
4" x 4" Electrical Box	each	19,837	21,997	112,735	154,569
Ceiling Light	each	19,837	21,997	112,735	154,569
1/2" PVC Conduit	length	198,366	219,970	868,058	1,286,394
3/4" PVC Conduit	length	99,183	109,985	434,029	643,197
1.5mm Electrical Wire	roll	19,837	21,997	86,806	128,640
2.5mm Electrical Wire	roll	19,837	21,997	86,806	128,640

## APPENDIX VII

**Table 6: Plumbing Items Required for National Housing Programme**

Item - Plumbing	Unit	1 Bedroom	2 Bedroom	3 Bedroom	Total
Water Closet	each	19,837	21,997	112,735	154,569
Kitchen Sink (SB50)	each	19,837	21,997	56,367	98,201
Kitchen Tap	each	19,837	21,997	56,367	98,201
1/2" Angle Valve	each	19,837	21,997	112,735	154,568
Ceramic Face Basin	each	19,837	21,997	112,735	154,569
1/2" Angle Valve	each	39,673	43,994	225,469	309,136
Shower Rose & Tap With Fittings	each	19,837	21,997	112,735	154,569
Wash Tub	each	19,837	21,997	112,735	154,568
Garden Tap	each	19,837	21,997	112,735	154,568
2" CO OWV Waste	each	119,020	131,982	676,408	927,410
4" CO OWV Sewer	each	39,673	43,994	225,469	309,137
2" OWV Pipe	length	59,510	65,991	338,204	463,705
4" OWV Pipe	length	79,346	87,988	450,939	618,273
4" WC Connector	each	19,837	21,997	112,735	154,568
2" Tee PVC	each	238,039	263,964	1,352,817	1,854,820
4" Tee PVC	each	39,673	43,994	225,469	309,137
2" 90 degree Elbow	each	59,510	65,991	338,204	463,705
4" 90 degree Elbow	each	39,673	43,994	225,469	309,137
4"x2" Reducer	each	39,673	43,994	225,469	309,137
4"x2" Reducing Wye	each	39,673	43,994	225,469	309,137
1/2" PVC Pipe Pressure	length	39,673	43,994	225,469	309,137
3/4" PVC Pipe Pressure	length	79,346	87,988	450,939	618,273

## APPENDIX VII

Item - Plumbing	Unit	1 Bedroom	2 Bedroom	3 Bedroom	Total
2" PVC Wye	each	19,837	21,997	112,735	154,568
1/2" PVC Tee	each	39,673	43,994	225,469	309,137
3/4" Tee	each	59,510	65,991	338,204	463,705
3/4" 90elbow	each	79,346	87,988	450,939	618,273
1/2" Female Adapter PVC	each	79,346	87,988	450,939	618,273
6" PVC Gutter	length	595,098	659,911	3,382,042	4,637,051
4" Down Pipe	length	396,732	439,940	2,254,695	3,091,367
Short Stop End	each	19,837	21,997	112,735	154,568
45 degree Elbow	each	79,346	87,988	450,939	618,273
90 degree Elbow	each	39,673	43,994	225,469	309,137
6" Gutter Bracket	each	317,386	351,952	1,803,756	2,473,094
4" Bracket	each	119,020	131,982	676,408	927,410

**Table 7: Structural Items Required for National Housing Programme**

Structural Items	Unit	1 Bedroom	2 Bedroom	3 Bedroom	Total
3000 psi Concrete	cubic yards	422,906	556,305	2,804,019	3,783,230
Plastering Sand	cubic yards	250,834	329,955	1,663,119	2,243,908
Cement	bag	1,755,837	2,309,688	11,641,836	15,707,361
4x8x16 Concrete Block	block	23,243,935	30,575,863	154,115,728	207,935,526
65 BRC	roll	16,722	21,997	110,875	149,594
R5 Rebar	length	401,334	527,929	2,660,991	7,202,264
R10 Rebar	length	1,471,558	1,935,738	9,756,967	13,164,263
T 12 Rebar	length	2,625,394	3,453,533	17,407,316	23,486,243

## APPENDIX VII

Structural Items	Unit	1 Bedroom	2 Bedroom	3 Bedroom	Total
T 16 Rebar	length	769,224	1,011,863	5,100,233	6,881,320
Composite Flooring System	sq.ft	8,745,740	11,504,444	57,987,429	78,237,613
1418 Zed Purlins	feet	3,762,507	4,949,330	24,946,791	33,658,628
18" Ridge Cap 26 G (10')	feet	568,557	747,899	3,769,737	5,086,193
Rascia Sheet 26g	feet	2,006,671	2,639,643	13,304,955	17,951,268
Roofing Screws 3" Dome Head	each	5,351,122	7,039,048	35,479,880	47,870,050
Gypsum Ceiling (Supply & Install)	sq.ft	7,625,349	10,030,643	50,558,829	68,214,821
28g Aluzinc Sheet	feet	3,712,341	4,883,339	24,614,167	33,209,847
36" Solid Core Flush Door	each	39,673	43,994	112,735	196,402
32" Hollow Core Flush Door	each	19,837	43,994	169,102	232,933
28" Hollow Core Flush Door	each	19,837	21,997	112,735	154,569
4' x3' Louvre Window	each	79,346	87,988	338,204	505,538
2'x1.5' Louvre Window	each	19,837	21,997	112,735	154,569
4"x24" Louvre Blade	each	1,586,928	1,759,762	6,989,554	10,336,244
36" Aluminium Door Frame Ext	each	39,673	43,994	112,735	196,402
32" Aluminium Door Frame Int	each	19,837	43,994	169,102	232,933

## APPENDIX VII

Structural Items	Unit	1 Bedroom	2 Bedroom	3 Bedroom	Total
28" Aluminium Door Frame Int	each	19,837	21,997	112,735	154,568
Yale Cylindrical Lock Keyed	each	39,673	43,994	112,735	196,402
Yale Cylindrical Lock Privacy	each	39,673	65,991	281,837	387,501
12"x12" Non-Skid Ceramic Tile	each	12,287,764	16,163,743	81,472,337	109,923,845
Concrete Primer	gal	187,958	247,247	1,246,231	1,681,435
Emulsion Paint	gal	375,916	494,493	2,492,462	3,362,871
2" x 4" x16' RPP	length	1,456,676	1,916,161	9,658,289	13,031,125
3/4 " Form Ply	sheet	728,338	958,080	4,829,144	6,515,562
2" pp Nails	box	23,495	30,906	155,779	210,179
2 1/3 pp Nails	box	23,495	30,906	155,779	210,179
3" pp Nails	box	23,495	30,906	155,779	210,179

Recognising that the target housing sizes are an average, an estimated 33% additional materials are expected to be

needed for selected structural items for above average size houses.

Table 8 shows the estimated increase in requirements for selected structural items.

## APPENDIX VII

**Table 8: Additional Requirements For Selected Structural Items**

Structural Items	Unit	Total	Total with 33% added for above average house sizes
3000 psi Concrete	cubic yards	3,783,230	5,043,045
Plastering Sand	cubic yards	2,243,909	2,991,130
Cement	bag	15,707,360	20,937,911
4x8x16 Concrete Block	block	207,935,527	277,178,057
65 BRC	roll	149,594	199,409
R5 Rebar	length	3,590,254	4,785,808
R10 Rebar	length	13,164,264	17,547,963
T 12 Rebar	length	23,486,243	31,307,162
T 16 Rebar	length	6,881,320	9,172,799
Composite Flooring System	sq.ft	78,237,612	104,290,737
1418 Zed Purlins	feet	33,658,628	
18" Ridge Cap 26 G (10')	feet	5,086,193	
Rascia Sheet 26g	feet	17,951,268	
Roofing Screws 3" Dome Head	each	47,870,049	
Gypsum Ceiling (Supply & Install)	sq.ft	68,214,820	
28g Aluzinc Sheet	feet	33,209,847	
36" Solid Core Flush Door	each	196,402	
32" Hollow Core Flush Door	each	232,933	
28" Hollow Core Flush Door	each	154,568	
4' x3' Louvre Window	each	505,539	
2'x1.5' Louvre Window	each	154,568	
4"x24" Louvre Blade	each	10,336,244	
36" Aluminium Door Frame Ext	each	196,402	

## APPENDIX VII

<b>Structural Items</b>	<b>Unit</b>	<b>Total</b>	<b>Total with 33% added for above average house sizes</b>
32" Aluminium Door Frame Int	each	232,933	
28" Aluminium Door Frame Int	each	154,568	
Yale Cylindrical Lock Keyed	each	196,402	
Yale Cylindrical Lock Privacy	each	387,501	
12"x12" Non-Skid Ceramic Tile	each	109,923,845	146,528,485
Concrete Primer	gal	1,681,435	2,241,354
Emulsion Paint	gal	3,362,871	4,482,707
2" x 4" x16' RPP	length	13,031,125	17,370,490
3/4 " Form Ply	sheet	6,515,562	8,685,245
2" pp Nails	box	210,179	280,169
2 1/3 pp Nails	box	210,179	280,169
3" pp Nails	box	210,179	280,169

## APPENDIX VIII

### LIST OF CONTRACTORS

#### Trinidad & Tobago

#### Contractors Association (TTCA)

#### Approved Sponsors/

#### Financial Members as at July, 2003

- |   |   |   |
|---|---|---|
| 1. Aanensen & Company                               | 14. Caribbean Chemical Agencies Limited                 | 28. De Freitas Consulting Services Limited                  |
| 2. Abel Bestcrete                                   | 15. Caribbean Mineral Agency Limited                    | 29. DIPCON Engineering Services Limited                     |
| 3. Adam's Project Management & Construction Limited | 16. Caribbean Steel Mills Limited                       | 30. Eastern Engineering & Marketing Services (1994) Limited |
| 4. Agostini Interiors                               | 17. Carillion (Caribbean) Limited                       | 31. Emile Elias & Company Limited                           |
| 5. Alescon Readymix                                 | 18. Central Concrete & Pumps Limited                    | 32. ENDECO (Trinidad) Limited                               |
| 6. Ali Meahjohn Limited                             | 19. Central Concrete Products Limited                   | 33. Felix Dickson Building Contractor                       |
| 7. Allan Stollmeyer Design & Construction           | 20. Century Eslon Limited                               | 34. Francis-Lau Construction Company Limited                |
| 8. Asphalt Road Surfaces Company Limited            | 21. Columbia Marketing & Contracting Company            | 35. Frank Moutett Limited                                   |
| 9. B. Wears & Sons Limited                          | 22. Comfort Engineering Limited                         | 36. Gadget Automation Systems and Services Limited          |
| 10. Beaver Construction Limited                     | 23. Complete Construction & Maintenance Services        | 37. Glenco Construction & Maintenance Services Limited      |
| 11. Berger Paints Trinidad Limited                  | 24. Contractors & Decorators Limited                    | 38. GML Contractors   |
| 12. Capital Signal Company Limited                  | 25. Coosal's Construction Company Limited               | 39. Gopeesingh General Contractors Limited                  |
| 13. Carib Asphalt Pavers Limited                    | 26. Correia's Air Conditioning & Refrigeration Services | 40. Haniff Mohammed & Sons Limited                          |
|   | 27. Danny's Enterprises Company Limited                 | 41. Harricrete Limited                                      |



## APPENDIX VIII

- |  |  |  |
|--|--|--|
| 42. Home Construction Limited                          | 56. NH International Caribbean Limited           | 73. Seereeram Brothers Limited                 |
| 43. Hookmally Ali Limited                              | 57. O.J. Supplies & Services Limited             | 74. Sissons Paints Limited                     |
| 44. INTACO (W.I.) Limited                              | 58. OLAB Construction Limited                    | 75. Solex Construction Limited                 |
| 45. John Williams Construction Company Limited         | 59. P.T.F. Mining Limited                        | 76. Structural & Mechanical Agencies Limited   |
| 46. Johnny Q Equipment Rentals                         | 60. Penta Paints Caribbean Limited               | 77. SUNCO Engineering Services Company Limited |
| 47. Junior Sammy Contractors                           | 61. Plumbing Solutions Limited                   | 78. Super Industrial Services Limited          |
| 48. JUSAMCO Pavers Limited / Readymix Limited          | 62. Premix Concrete Limited                      | 79. Syne's Contracting & Industries Limited    |
| 49. Kee Chanona Limited                                | 63. Pres-T-Con Limited                           | 80. TOTAL Home                                 |
| 50. Lake Asphalt of T'dad & T'bgo (1976) Limited       | 64. PSL Construction Limited                     | 81. TRACMAC                                    |
| 51. Lancelot & Shirley Smith Company Limited           | 65. R.K. Plummer & Associates Limited            | 82. Trinidad Aggregate Products Limited        |
| 52. Lange Ballast Contractors Limited                  | 66. Raghunath Singh & Company Limited            | 83. Trinidad Asphalt & Metal Roofing Limited   |
| 53. Lutchmeesingh's Transport Contractors              | 67. Readymix (W.I.) Limited                      | 84. Trinidad Cement Limited                    |
| 54. Mootilal Moonan Engineering & Construction Limited | 68. Refinery & Industrial Fabricators Limited    | 85. Trinidad Contractors Limited               |
| 55. National Quarries Company Limited                  | 69. Ropa Supplies Limited                        | 86. Trinidad Pest Control                      |
|  | 70. S & M Contractors Limited                    | 87. Trinity Asphalt Pavers Limited             |
|  | 71. Scaffolding Manufacturers (Trinidad) Limited | 88. Weathershield Systems Caribbean Limited    |
|  | 72. SCL (Trinidad) Limited                       | 89. Weldfab Limited                            |

## APPENDIX VIII

90. Wil Envi-Con Limited

91. Williams Foundry  
Limited

### **National Housing Authority**

1. ALICO Limited
2. Ashana Civil  
Mechanical  
Contractors Limited
3. Basco's Hardware &  
General Building  
Contractor
4. Beede's Construction  
Company Limited
5. Building Concepts and  
Construction Limited
6. C & C Enterprises
7. Carl King Company  
Limited
8. Central Project  
Management Limited

9. DOC'S Homes  
Limited

10. Douglas Contractors

11. Gasco Limited

12. H. Lewis Construction

13. Kabel Limited

14. Komas Company  
Limited

15. L.C.B. Contractors  
Limited

16. Maharaj & Associates  
Contracting Agency

17. Mattzack Company  
Limited

18. Mitchell's  
Construction  
Company Limited

19. N.H. International  
Limited

20. Oilfield & Marine  
Sales & Services  
Limited

21. P. R. Contracting  
Limited

22. Pace Construction  
Services Limited

23. Proeng Services  
Limited

24. Rainbow Construction

25. Seventh Level  
Consultants

26. Thermal Impac  
Affordable Homes  
Company Limited

27. Trinity Housing

28. Winchester Industries  
International Limited

## APPENDIX VIII

### UDeCOTT

- |  |  |  |
|--|--|--|
| 1. A & H Landscaping & Beautification Services         | 14. Alleyne Construction Limited / Alleyne Construction Specialist / Alleyne's Home Construction | 27. AZTEC Design Services Limited                        |
| 2. A & J Maintenance Services                          | 15. Alpha Engineering and Design Limited   | 28. B Castillo's Finishing Touches and Cleaning Services |
| 3. A.G'S Contracting & Maintenance Services            | 16. Andrew Manwaring & Sons Limited (AMS)  | 29. B & S Construction Company Limited                   |
| 4. A.P.R. Associates Limited                           | 17. Annup Babwah Contractors   | 30. B. Gosine  |
| 5. AAJMS: A&A Janitorial & Maintenance Services        | 18. Antelope Construction Company Limited  | 31. Baldeosingh Enterprises Limited                      |
| 6. Aber Equipment Rentals and Services Limited         | 19. Appoinius & Associate (A&A)  | 32. BASCO'S Hardware and General Building Contractor     |
| 7. ABRI General Contractors                            | 20. ARATEE Limited   | 33. Beresford Ramie & Sons                               |
| 8. ACHE Metal Company                                  | 21. ARCHISYS Limited   | 34. Betty Painting Contractors Services                  |
| 9. Adam's Project Management & Construction Limited    | 22. Ariste and Business Agents (A.B.A) Limited   | 35. Birch Construction Company Limited                   |
| 10. Advanced Plumbing and Environmental Systems (APES) | 23. Arjay Building Services  | 36. BJ'S General Construction & Maintenance Services     |
| 11. Alexis Stewart                                     | 24. Arrow Enterprises Limited  | 37. BK Enterprises                                       |
| 12. ALICO Limited                                      | 25. ASTA Engineers Limited   | 38. BK Hardware Limited                                  |
| 13. All Interiors Limited                              | 26. ATLAS Engineering Limited  | 39. BLESS Construction Company                           |
|  |  | 40. Blue Tick Incorporation Limited                      |
|  |  | 41. Brian Edwards  |

## APPENDIX VIII

- |  |  |  |
|--|--|--|
| 42. Bridgeman's Classic Services                 | 57. Chris Joseph & Associates                          | 69. C.W.R. Construction & Services Company Limited         |
| 43. Builders Incorporated Limited                | 58. Chung J. Bhukal Civil & Structural Engineering and | 70. D'Tile Doctor  |
| 44. Building Consultancy Design and Construction | 59. Clapoon Services Limited                           | 71. D.A. Samuels Construction                              |
| 45. BULL Fabricators Limited                     | 60. Clyde Chadee Company Limited                       | 72. D.W.G.C Company Limited                                |
| 46. C.A.P Enterprises Company Limited            | 61. Coatings & Services Limited                        | 73. DAD'S Industries Limited                               |
| 47. C.I.D.K Construction                         | 62. Complete Construction & Maintenance Services       | 74. Danny's Enterprises Company Limited                    |
| 48. C.W. Rainbow's End Limited                   | 63. Constructec Engineering Development Limited        | 75. David A. Noray Associates General Building Contractors |
| 49. C.W.A. Limited General Contractors           | 64. Construction Services & Supplies Limited           | 76. De Leon Construction & Maintenance Company Limited     |
| 50. Caribbean Welders Company Limited            | 65. Contech Limited                                    | 77. DIPCON Engineering Services Limited                    |
| 51. Carnival 9000 Limited                        | 66. Cooper's Electrical Services Limited               | 78. Diversified Management Services Limited                |
| 52. Central Finest General Construction Limited  | 67. Cudjoe Construction & Industrial Services Limited  | 79. DOC'S Homes Limited                                    |
| 53. Central Services Limited                     | 68. Cudjoe's Plumbing and Steel Contractors Limited    | 80. Donawa Construction Limited                            |
| 54. Chandra Ramkissoon                           |  | 81. Dredging and Land Reclamation                          |
| 55. Christopher Boland Engineering               |  |  |
| 56. Choon's Construction Company Limited         |  |  |

## APPENDIX VIII

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|--|--|--|
| 82. E.W.A.C & Company Limited                                  | 97. Francis Bobb General Contractors                         | 109. Frederickstad Holding Company Limited       |
| 83. EAL Engineering Agencies Limited                           | 98. Farrell West Indies Limited                              | 110. G. Ramsahai & Company Limited               |
| 84. Eastern Engineering & Marketing Services (1994) Limited    | 99. FCR Company Limited                                      | 111. G.K.H. Cleaning & Maintenance Services      |
| 85. ECHO Enterprises Limited                                   | 100. Felix Electrical Contractor                             | 112. G.S. Marketing and Fabricators              |
| 86. Edwards and Associates Plumbing and Construction Limited   | 101. FIBRELUME   | 113. Garib General Contractors Limited           |
| 87. Electrical and Technical Services Electrical & Instruments | 102. Final Touch Home & Building Supplies                    | 114. GASCO Limited                               |
| 88. Electronics Surgeon Services Limited                       | 103. FLEMCO Services Limited                                 | 115. General Construction & Maintenance Company  |
| 89. ELWIS Construction   | 104. Floyd Noel Construction & Maintenance Services          | 116. General Technology Company Limited          |
| 90. Engineering Agencies Limited                               | 105. Food Safety & Environmental Management Services Limited | 117. GEO Services Contracting Company Limited    |
| 91. ENVIROTEC Limited  | 106. Francis-Lau Construction Company Limited                | 118. GEOFRA Enterprises                          |
| 92. EQUATOR Limited  | 107. Franklyn & Errol Electrical Services Company Limited    | 119. George L. Pierre General Contractor         |
| 93. F & H Engineering Services Limited                         | 108. Frank's General Contractors Limited                     | 120. GITTS General Services Limited              |
| 94. FABCON Limited   |  | 121. Global Building & Engineering Works Limited |
| 95. FABRITECH Limited  |  | 122. Global Engineering Services Limited         |
| 96. Faith Construction   |  |  |

## APPENDIX VIII

123. Godwin General Building Contractors	138. Hookmally Ali Limited	151. JENBRI Enterprises Limited
124. Goldman International Limited	139. Houston Construction & Maintenance	152. Jewel Construction Enterprises Company Limited
125. GORTOY Construction Company Limited	140. Houston Petroleum Services Limited	153. JIL'S Cleaning & Maintenance Services
126. Grencore Engineering Services	141. Husband's Construction Limited	154. Johnson Construction Company Limited
127. GREGS Enterprises Limited	142. I.E. Contracting Limited	155. Johnston International Limited
128. Gulf Homes Limited	143. I.S.C.O. (Inspection Services Company Limited	156. Joseph Badrie & Sons
129. H. Jaimungal	144. Infrastructural Development Concepts Limited	157. JTJ Contractors Limited
130. H. Lewis Construction Limited	145. J.C. Contractors Limited	158. K & H Contracting Limited
131. Harry Persad & Sons Limited	146. J.M.C. Construction Services Limited	159. K & I Realtors
132. Haseeb Mohammed	147. Jaisuree Enterprises Limited	160. K.B.K'S Transport & General Contracting Limited
133. Haynes Plumbing '1990' Limited	148. Jaraham Construction Limited	161. K.S. Holder
134. HDF'A Quality Finishes	149. Jath Construction Limited	162. KABEL Limited
135. Hendy Construction Limited	150. JB Contracting Company Limited	163. Kalika Prashad General Contracting Company Limited
136. Henry John Construction		164. KARIK Systems
137. Henry Pierre – Architect/ Urban Design Associates		165. KATNA Construction
		166. KDD'S Enterprises Limited

## APPENDIX VIII

- |   |   |   |
|---|---|---|
| 167. Keystone Construction Company Limited            | 182. Locust Plumbing & General Services Limited       | 197. Mathison Construction Services Limited           |
| 168. KGD General Construction Company Limited         | 183. Logan Contracting and Transport Services Limited | 198. Matticka Engineering Limited                     |
| 169. Kirts and Associates                             | 184. M & N Electrical & Networking Limited            | 199. Mattzack Company Limited                         |
| 170. KRC Limited                                      | 185. M.G.K. Contractors                               | 200. Maverick Construction Limited                    |
| 171. KTM Enterprise                                   | 186. M.H. Enterprises                                 | 201. MB Miracle Brite Maintenance Company             |
| 172. Kurton Enterprises                               | 187. M.K. Riley Construction Enterprises              | 202. Mc Lynn Hinds Construction Services Limited      |
| 173. Lands, Estates Agencies Plus                     | 188. M.S.R Construction Limited                       | 203. Mechanical & Electrical Engineers Limited        |
| 174. Landscape Designs                                | 189. M.T. and E. Ramsamooj Civil Engineering Services | 204. Mechanical Industrial Design                     |
| 175. Laventille Community Consultants Company Limited | 190. MAB Interiors & Services                         | 205. Melvin M. Williams & Associates                  |
| 176. Laventille Youths Development Company Limited    | 191. MAC VIRO   | 206. Metaluxuries                                     |
| 177. LBC Contractors Limited                          | 192. Maharaj & Associates Contracting Agencies        | 207. Ministry of Public Utilities and the Environment |
| 178. Lennox Carter Construction                       | 193. Maintenance Systems International Limited        | 208. Mitch & Associates General Contractors Limited   |
| 179. Leo Joseph General Contractors Limited           | 194. Make Klean Services                              |   |
| 180. Leonard J. Holder & Associates                   | 195. Markscon Limited                                 |   |
| 181. Lewis Plumbing and Design                        | 196. Maslin Debique Enterprise                        |   |

## APPENDIX VIII

209. Mobile Service Limited	222. Northern Designs and Development Limited	236. Plumbing and Steel Contractors Limited
210. MODCON Services Company Limited	223. NRD General Contracting & Landscaping Company Limited	237. Plumbing Design & Installations Limited
211. Moonilal Ramit & Company Limited	224. Office Center Limited	238. Power Tech Petro Environment Company Limited
212. Moore's General Contractors Limited	225. OLAB Construction Limited	239. Prakash Maharaj Maintenance & Landscaping Services
213. Mootilal Ramhit & Sons Contracting Limited	226. Olympus General Contractors	240. PRASTECH Limited
214. Namalco Construction Services Limited	227. P.E.C.H General Contractors Limited	241. PRD Holding Limited
215. Neptune Contractors and Sons	228. Pacific Construction Company Limited	242. Prestige Pro Building Construction
216. New Lands Developers & General Contractors Company	229. PARATECH Limited	243. Prime Equipment Rentals Limited
217. Newel Lewis Broadbridge Associates Limited	230. Patrick Gordon's Construction Limited	244. Pro Con Company Limited Civil Engineering Contractors
218. Nichols Plumbing Construction	231. Paul Alfred General Contractors Limited	245. Professional Coatings Limited (PCL)
219. NINUG Automotive & Industrial Services Limited	232. PCCL Construction Limited	246. Project & Maintenance Limited
220. N'Namdi Construction Limited	233. Pharry Hardware & Construction	247. Projects & Construction Management Services (PCMS)
221. Norbert Dominique	234. Phoenix Welding and Fabricating Limited	248. Quality Ceiling
	235. Plumbing Industrial Enterprises & Services Limited	



## APPENDIX VIII

249. Quality Environmental Services Limited	262. RHINO Construction Company	274. SBMS: Super Building and Maintenance Services Limited
250. Quintana Sales & Services Limited	263. Richard Allaman & Mulrains Construction	275. Scaffold Professionals Limited (Scaff-Pro)
251. R.E. Matthews & Associates (REMA) Limited	264. Rodney's General Contracting	276. Seeram B. Dhanesar
252. R.K. Plummer & Associates Limited	265. Roofman Limited	277. Sharoz Enterprises Limited
253. R.W. Construction Services	266. Rooks Oilfield & Engineering Supplies Limited	278. Shelbourne Construction Company Limited
254. Radial Enterprises / General Contracting	267. Roosevelt Jerome & Sons Company Limited	279. Shrewsbreey & Associates
255. Rage General Contractors & Procurement Limited	268. Rudra General Contractors	280. Simon Peters Construction and Landscaping
256. Ramkie Eneral Contractors Company	269. S. Baksh General Contractor & Equipment Rentals Limited	281. SKYLON Construction Limited
257. Rampersad Moonan Limited	270. S. Jagmohan & Sons Limited	282. Smally Cleaning & Maintenance Services
258. Raylenco Enterprise Limited Building & Civil Contractor	271. Sam Charles Painting Works & General Contractor	283. SOLID Construction
259. RBL Specialized Services Limited	272. Sandra Khan	284. SOLUTECH Limited
260. Reynold Associates Limited	273. Sarge's Home Maintenance Company Limited	285. Southern Electrical Services
261. Reynold Williams Contractor		286. Southern Exploration & Production Company Limited
		287. Spoil Me

## APPENDIX VIII

288. St Clair's & St Clair's Contracting Services	301. Terry Construction and Trading Limited	313. Urban Architecture Systems Limited (URBASYS)
289. Steve Briggs Engineering	302. The Roof Crew Construction and Maintenance Service	314. Ultimate Construction Services Limited
290. Sullivan Maintenance Services	303. Thiberon Industrial Services	315. V.L. Campbell and Brothers Limited
291. SUNCO Engineering Services Company Limited	304. Tomahawk General Contractors	316. VEECO Enterprises
292. Super Industrial Services Limited	305. Total Construction Limited	317. VERSA TECH Services Limited
293. Swirl Engineering & Construction (Tobago) Company	306. Total Solutions Surveying Services Limited	318. VIKAB Engineering Consultants Limited
294. T & Z Marketing Limited	307. Tramway Marketing Limited	319. VMW Engineering Limited
295. T.M. Constructions	308. Trinidad Geophysical Enterprises Limited	320. Wahtuse Enterprise
296. T.N. Ramnauth & Company Limited	309. Trinidad Utility Contractors	321. WELD IT
297. Tarran's Construction and Fabricating Establishment	310. Trinity Asphalt Pavers Limited	322. Wellington & Associates
298. Teak Springs Enterprises Limited	311. Unique Design & Construct Services Company Limited	323. West & Associates
299. Telisford Pope Construction Company	312. United Construction Limited	324. Wilfred Lee Ying & Company Limited
300. Tennerson Fox Development Limited		325. Wilfred Redhead Construction
		326. Will-De Gale Maintenance Services
		327. WIN-B Contractors
		328. Winchester Industries International Limited

## APPENDIX VIII

329. Workers Construction Enterprises Limited  
330. World-Wide Contracting Services  
331. Y B T T Contractors

### **NATIONAL INSURANCE PROPERTY DEVELOPMENT COMPANY LIMITED**

### **LARGE CONTRACTORS - \$10 MILLION & OVER**

#### **General Contractors**

1. Agostini's Limited
2. Beaver Construction Limited
3. Caledonian West Indies Limited
4. Coosal's Construction Company Limited
5. DAMUS Limited
6. General Earthmovers Limited
7. GORTOY Construction Company Limited
8. Haniff Mohammed & Sons Limited
9. HK Steel Limited

10. Home Construction Limited
11. John Williams Construction Company Limited
12. Kee Chanona Limited
13. L. John Williams Construction Company Limited
14. Lange Ballast Contractors Limited
15. Management & Construction Consultants Limited
16. Moosai Development Company Limited
17. NH International Caribbean Limited
18. Northern Construction Limited
19. R.K. Plummer & Associates Limited
20. Rainbow Construction Limited
21. Seereeram Brothers Limited
22. Steel Structures T&T Limited

23. SUNCO Engineering Services Company Limited
24. T.N. Ramnauth & Company Limited
25. Trinidad Contractors Limited
26. United Engineering Services Limited

#### **Interiors**

1. Tridium Caribbean limited

#### **Road Works / Paving**

1. Carib Asphalt Pavers Limited
2. Dipcon Engineering Services Limited
3. Lutchmeesingh's Transport Contractors Limited
4. Rhagunath Singh & Company Limited

#### **Oilfield**

1. API Pipeline Construction Company Limited

## APPENDIX VIII

### Electrical Services

1. ANSA Technologies
2. Electrical Trading Company Limited
3. United Electrics Limited

### MEDIUM

### CONTRACTORS - \$1 MILLION - \$10 MILLION

### Plumbing Services

1. Cudjoe's Plumbing and Steel Contractors Limited
2. Plumbing and Steel Contractors Limited

### Electrical Services

1. Franklyn & Errol Electrical Services Company Limited
2. Illuminat
3. Lezama Electrical Services Limited
4. Mohammed's Electrical Company Limited
5. Steve's Electrical
6. TATEC
7. Trintec Electrical Services Limited

### Lifts

1. Bruce Elevators Services Limited
2. R.B.P. Lifts

### Air Conditioning Services

1. Climate Control
2. Comfort Engineering Limited
3. Correia's Air Conditioning & Refrigeration Services Limited
4. Ice Connection Industries Limited
5. Precision Air Control

### Security Services

1. Cole & Associates
2. Diversified Management Services Limited
3. Frank Moutett Limited
4. SAFETEC Limited

### Procurement & Construction

1. PCCL Construction Limited

### Electrical Instrumentation

1. D2F Technical Limited

### Electrical/Electronic Systems

1. Caribbean Integrated Systems Limited (CARISYS)

### Aluminium Glass Works

1. Interior Exterior Aluminium Decorators Limited

### Welding/Metal Works

1. Kennicon Engineering Limited

### Concrete/Steel Work

1. Chung J. Bhukal Civil & Structural Engineering / General

### Suppliers/Business

### Interiors

1. B.S. Hosein Limited
2. Office Center Limited

## APPENDIX VIII

### **Insulation Services**

1. Caribbean Insulation Services Limited

### **Blasting & Painting**

1. Wilcox Enterprises Limited
2. B.G. Blasting & Coatings Limited
3. Mike Phillip Limited

### **Road Works/Paving**

1. Ali Meahjohn Limited
2. Civil & General Contractors Limited
3. Construction Trades Limited
4. Mootilal Moonan Engineering & Construction (T & T) Limited
5. RICON Limited
6. SAISCON Limited
7. S. Jagmohan Engineering & Sons Limited
8. SIV Construction Services Limited

9. Premier Road Maintenance Company Limited
10. Thanu Mungal

### **Roofing**

1. DAMUS Roofing Systems Limited
2. Roofing & Siding Systems Limited
3. Weathershield Systems Caribbean Limited

### **Scaffolding**

1. 21<sup>st</sup> Century Scaffolding Limited
2. Safeway Access & Support Systems Limited

### **Landscaping**

1. Undercover Limited

### **Fabrication/Welding**

1. Refinery & Industrial Fabricators Limited
2. South M. Oilfield Supplies & Inspection Services Limited
3. WELDFAB Limited

### **Oilfield**

1. ESSKAY Construction Services Limited
2. General Diesel Limited
3. NSK Maintenance Services Limited
4. Plant Engineering & Maintenance Services Limited
5. Plant Hire & Sales International Limited

### **Janitorial Services**

1. Century 21 Janitorial Services & Company Limited

### **Glass & Aluminium Supplies**

1. Delta Glass Limited
2. Caribbean Glass Specialists Limited

### **Telecommunications Systems**

1. Illuminat

## APPENDIX VIII

### Transportation

1. Amalgamated Sanitation Company Limited

### General Contractors

1. Affordable Hardware Supplies Limited
2. Amalgamated Engineering Services Limited
3. Anadem General Contractors
4. Andrew Manwaring & Sons Limited (AMS)
5. Arjay Building Services
6. ASTA Engineers Limited
7. ATLAS Engineering Limited
8. AZTEC Design Services Limited
9. B & P Industries
10. Baron Developers Limited
11. BASCO'S Hardware and General Building Contractor
12. Bencon Construction Limited

13. BULL Fabricators Limited
14. Busy Builders Limited
15. C & H Associates
16. C.G. Construction and Woodworking
17. Central General Engineering & Maintenance Limited
18. Coatings & Services Limited
19. Construction and Designs Limited
20. Construction Services & Supplies Limited
21. Construction Systems Limited
22. Contractors & Decorators Limited
23. Cudjoe's Construction & Industrial Services Limited
24. Dane Orosco Services
25. De Leon Construction Company Limited
26. Double H Construction & Supplies Limited
27. E. Williams Supplies and Services Limited

28. Edward & Associates Piling & Construction Limited
29. ENDECO (Trinidad) Limited
30. ENVIROTEC Limited
31. F & H Engineering Services Limited
32. Fortune's Construction Industrial Maintenance & Scaffolding Company Limited
33. Frederick Engineering Limited
34. GEO Services Contracting Company Limited
35. GEO Technologies Limited
36. Gordon Winter Company Limited
37. GOWCON Limited
38. H. Lewis Construction Limited
39. Hammer Construction Limited
40. Harry Persad & Sons Limited

## APPENDIX VIII

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|---|--|--|
| 41. Hendy Construction Limited                      | 56. Metal-X Engineering Limited                    | 73. R. Mahabir & Sons                              |
| 42. Henry John Construction Company Limited         | 57. Modern Fabricators Company Limited             | 74. R2K Engineering Company Limited                |
| 43. Hookmally Ali Limited                           | 58. Mootilal Ramhit & Sons Contracting Limited     | 75. RIGZ General Contracting Limited               |
| 44. HUNZA Construction Company Limited              | 59. Multi-Built Construction & Maintenance Company | 76. Saran Sampath Limited                          |
| 45. Hydro-Technology Systems Limited                | 60. N & J Contracting Limited                      | 77. Scalex Construction Company Limited            |
| 46. J.B. Contracting Company Limited                | 61. N’Namdi Construction Limited                   | 78. Shacon Limited                                 |
| 47. Joe White Contracting Company Limited           | 62. NEWCO Contractors                              | 79. Shade General Contractors Limited              |
| 48. Johnson Contracting Company Limited             | 63. NM Construction (Caribbean) Limited            | 80. Shaw-Jer Enterprises Limited                   |
| 49. Junior Sammy Contractors Company Limited        | 64. OLAB Construction Limited                      | 81. SKYLON Construction Limited                    |
| 50. K. Gosine & Company                             | 65. P.R. Contracting Limited                       | 82. Solex Construction Limited                     |
| 51. K.R.C. Limited                                  | 66. Pace Construction Services Limited             | 83. Structural & Mechanical Agencies Limited       |
| 52. K.S. Chinpire Contracting Services Limited      | 67. PCCL Construction Limited                      | 84. Syne’s Contracting & Industries Limited        |
| 53. LRS Ramcharan Hardware and Construction Limited | 68. Peter Hudlin Limited                           | 85. Teem Engineering Systems Limited               |
| 54. M.S.R. Construction Limited                     | 69. PMQ Limited                                    | 86. Theo Richards General Contractors Limited      |
| 55. Matticka Engineering Limited                    | 70. Pythagoras Construction Limited                | 87. Thermal Impac Affordable Homes Company Limited |
|   | 71. Q.U.I.E.C.F. Limited                           |  |
|   | 72. Quantum Construction Limited                   |  |

## APPENDIX VIII

88. Trinidad Central Land Developer
89. Trinidad Geophysical Enterprises Limited
90. Triple Bique Company Limited
91. UNICOM
92. Uniform Building Contractors Limited
93. V & R Trading Incorporated V.I.C. Limited
94. WBF Services Limited
95. West and Associates

### **CONTRACTORS**

### **REGISTRATION**

### **SMALL CONTRACTORS**

### **- \$100,000 - \$1 MILLION**

1. A & A Building Enterprises
2. Albert & Norbert Dominique
3. Aldwin Quaccos
4. Ali Hardware & General Supplies
5. Alleyne Construction Specialist

6. Alves Easteel Industries Limited
7. Alytp Enterprises Limited
8. Anghelo Hick
9. Asson and Sons General Contractors and Wastewater Limited
10. Aurora Construction Company
11. B&S Construction Company Limited
12. Baldeosingh Enterprises Limited
13. Blue Tick Incorporation Limited
14. Boat Lake General Contracting Services Limited
15. Building Maintenance Services Limited
16. C.W.R. Construction & Services Company Limited
17. Cabfloor Enterprises Limited
18. CAP Enterprises Company Limited
19. Capricorn Construction Company Limited

20. Carl Company Limited
21. Central Marketing Limited
22. Central Services Limited
23. Clearcut Environmental Services Company Limited
24. CME Services Limited
25. Commissioning and Company Limited
26. Community Home Repairs and General Construction
27. Complete Installation and Plumbing Services
28. Construction Services & Supplies Limited
29. Curlan Worrel & Associates
30. David A. Noray Associates
31. David Dookharan
32. DHT Building Contractor
33. DMM Enterprises Limited
34. Do Com Electrical Services Limited
35. Dyna Tech Construction Limited



## APPENDIX VIII

- |  |   |   |
|--|---|---|
| 36. East Side Developers Company Limited           | 55. Iquan Construction & Plumbing Company Limited   | 72. Mikey Seecharan                                     |
| 37. Edkis Company                                  | 56. J.B. Contracting Company Limited                | 73. Moosai's Hardware                                   |
| 38. Edward Caesar and Sons Limited                 | 57. Jath Construction Limited                       | 74. N & J Contracting Limited                           |
| 39. El-Bay Company Limited                         | 58. Jessie Jeanville                                | 75. New Horizon Building and Maintenance Limited        |
| 40. Electra Services                               | 59. Joseph Duncan Construction                      | 76. O.J. Supply & Services Limited                      |
| 41. Elwis Construction                             | 60. K & H Contracting                               | 77. OMEGA Construction                                  |
| 42. Equator Limited                                | 61. K B S Construction and Services Company Limited | 78. Oslyn Harry   |
| 43. Farrow General Contractors Limited             | 62. K Built Contracting Limited                     | 79. P.G. Construction & Land Surveyors                  |
| 44. G.A. Electrical & General Building Contractors | 63. Kaiz General Contractors Limited                | 80. Pacific Construction                                |
| 45. GASCO Limited                                  | 64. Kenneth Francois                                | 81. Perfection Services Limited                         |
| 46. Gemini Architectural Coatings Limited          | 65. KG's Construction and Woodworking               | 82. Perito Services Limited                             |
| 47. Ghandi Rohan Persad                            | 66. Lall's Hardware                                 | 83. Pri-O-Tec Limited                                   |
| 48. Global Enterprises Limited                     | 67. Low Cost Homes Limited                          | 84. Procurement Sales and Maintenance Services          |
| 49. Guaico's Hardware & General Supplies           | 68. Maintenance Systems Limited                     | 85. Projects & Construction Management Services Limited |
| 50. H.D.F.'s Quality Finishes                      | 69. Master Craft Woodworking                        | 86. Pry Enterprises Limited / DEVCON                    |
| 51. Harry Moonoo                                   | 70. Mendoza Enterprises                             | 87. Quick Electronics & Research Limited                |
| 52. Hosein's Contracting                           | 71. Metal Creation                                  | 88. Ria John Construction Company Limited               |

## APPENDIX VIII

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|---|--|--|
| 89. Roger Solutions Limited                       | 106. Sundar's General Contractor & Woodwork Shop   | 121. VMW Engineering Limited                               |
| 90. Roosevelt Jerome & Sons Company Limited       | 107. Super Building & Maintenance Services Limited | 122. W.A. Building and General Contractors Company Limited |
| 91. Royal Marshall Services Limited               | 108. T&H Construction Company Limited              | 123. Wayne Martin Construction                             |
| 92. Rudra General Construction                    | 109. T&Z Marketing                                 | 124. Wayne Maynard   |
| 93. S&M Construction Company Limited              | 110. Tech Contract (TCT) Limited                   | 125. Y2K Construction Company                              |
| 94. S.R.I. Construction                           | 111. Terry Construction & Trading Limited          | 126. YATZEL General Contractors Limited                    |
| 95. SEBEC Construction and Maintenance            | 112. Thermal Impac Caribbean Limited               | <b>Security Systems</b>                                    |
| 96. SHAROZ Enterprises Limited                    | 113. Thiberon Industrial Services                  | 1. Supreme Services Technologies Limited                   |
| 97. SL Limited                                    | 114. Thomas Construction Company Limited           | <b>Maintenance Services</b>                                |
| 98. Sledge Contracting                            | 115. Top Class Construction                        | 1. Columbia Marketing & Contracting Company Limited        |
| 99. SMI Industries Limited                        | 116. Top Mark Limited                              | 2. Super Building & Maintenance Services Limited           |
| 100. Solid Construction Company Limited           | 117. Total Contracting Services Limited            | <b>Painting</b>  |
| 101. Sooklal's Construction                       | 118. Trevor Morgan                                 | 1. Profcoat Limited  |
| 102. South East Maintenance Services              | 119. Turnkey Industries Caribbean Limited          |  |
| 103. Southern Builders General Contractors        | 120. Upkeep Solutions Limited                      |  |
| 104. Springtech Industries Limited                |  |  |
| 105. St Clair's & St Clair's Contracting Services |  |  |

## APPENDIX VIII

### **Welding / Metal Works**

1. Manrakhan's Metals
2. Refinery & Industrial Fabricators Limited

### **Roofing**

1. VAL Sales Limited

### **Swimming Pools**

1. Kaufman Swimming Pools & Spas

### **Road Works/Paving**

1. Danny's Enterprises Company Limited

### **Transport**

1. G.M.K. Excavating & Transport Limited
2. Total Contracting Services Limited
3. R. Lalla & Company Limited
4. Harilal Transport

### **Civil Works**

1. Earth Masters & General Contractors Company Limited

2. G.M.K. Excavating & Transport Limited
3. R. Lalla & Company Limited
4. Premier Contracting Services Limited

### **Plumbing Services**

1. Anthony J. Short & Associates
2. T.R. Plumbing Services Limited
3. Complete Installation & Plumbing Services

### **Air Conditioning Services**

1. A.C. Engineering Company Limited
2. Cooling Edge Limited
3. Servair Limited
4. Service Xperts Limited
5. Tropic Air Conditioning Limited

### **Electrical Services**

1. Cooper's Electrical Services Limited
2. D.A.P. Electrical

3. Delta Electrical Contractors
4. Deux Elect Company Limited
5. Do Com In. Electrical Services Limited

### **Project Management**

1. VITAJ Planning Construction & Maintenance

### **Scaffolding**

1. Scaffolding Manufacturers (Trinidad) Limited

### **Landscape Designs**

1. Landscape Designs

### **Structural Inspection**

1. Caribbean Inspection & Metallurgical Services Limited

### **Interiors**

1. Business Equipment and Interiors

## APPENDIX VIII

### **PETTY CONTRACTORS – UNDER \$100,000**

#### **Plumbing Services**

1. Andrews Plumbing

#### **Electrical Services**

1. Electrical & Instrument Control Services Limited
2. Elimelech Cable Company
3. Herdis Pollanais Electrical
4. TEK Engineering Limited
5. Up To Date Electrical Services

#### **Painting**

1. Paint Rite Painting Firm

#### **General Construction**

1. A'costa
2. Andre Atwater
3. Basdeo Jattan & Sons
4. Bernadette Borris
5. Bowlah Construction
6. CALYX
7. Cantrin Construction
8. Chandra Ramkissoon

9. Charin Associates B.C. Construction Limited
10. CODMAC Limited
11. D & B Engineering Company Limited
12. DAD's Enterprises Limited
13. Dexxcon Construction and Maintenance Services and Supplies Company Limited
14. E.J's Building and Maintenance Services
15. Edward Nottingham
16. Elliot Fridy
17. F.N. Construction Maintenance Services Limited
18. Fairways Construction Company Limited
19. Familia Enterprises Limited
20. Franklyn Construction
21. GPC Services
22. Interior Woodworkers
23. Junior Charles
24. Kerwins Welding Works

25. KP Contract Services and Supplies
26. Lenny Lutchman
27. LE's Construction
28. Levia's Colour Coating
29. Los Caballeros Company Limited
30. Main Secure Company Limited
31. Mark Construction Services
32. Mitch & Associates
33. Oilfield & Marine Sales & Services Limited
34. Paul Alfred Building and Renovations Services
35. Philrens Construction Company Limited
36. PMC Enterprises Limited
37. Quality Environmental Services Limited
38. Samcoll Construction Company
39. Sheldon Sandiford
40. Strong Link Contractors
41. Superior Contractors Company Limited

## APPENDIX VIII

- 42. T & M Enterprise
- 43. Toylyn Limited
- 44. Trinidad Utility  
Contractors
- 45. V & B Enterprise

- 46. W & E Contracting  
Company

### **Road Works**

- 1. Asphalt Processors  
Company Limited

### **Welding**

- 1. Joe's Welding Works

### **Maintenance**

- 1. Keep Clean





# FRAMEWORK FOR ACTION





## FRAMEWORK FOR ACTION

### VISION

**By the year 2020, every citizen of Trinidad and Tobago will have access to an adequate level of housing.**

“Adequate housing” has been defined as not merely the provision of housing units, but the creation of quality communities provided with all facilities and utilities and with access to employment and which are well planned and socially and economically balanced.

A “developed country” housing profile was defined for Trinidad and Tobago. Major elements in the housing profile were a

household size of 3.4 persons, a floor area index of 27.3 square metres and house price to income ratios of 3.5:4.5. Additionally, 100% of houses should be supplied with basic utilities and amenities.

### SUMMARY

It is estimated that in order to achieve this Vision for Housing, the country must build ninety thousand (90,000) housing Units with related facilities and utilities within the said community structure by 2020.

Additionally, in meeting this need or demand, size and cost

of house as well as geographical location must be taken into consideration. It should be noted that the provision of housing must be regarded as a major element in guiding urban policy and that a substantial element of housing should be constructed in our cities, with specific emphasis on Port-of-Spain in order to counteract the present dysfunctional sub-urbanisation trend.

This would achieve at the same time, much needed urban re-development, and would also provide housing sites at high densities in proximity to existing employment opportunities and infrastructure.

**GOAL 1:** To establish an effective legal, regulatory, financial and structural framework to support housing development in the country.

Objectives	Measures/Indicators	Prioritised Strategies/Actions	Time	Owner	Linkages
1.1.Refine and develop the findings of the Vision 2020 Housing Sub-Committee and incorporate these findings into the Government's housing programme.	% of Vision 2020 recommendations incorporated into Government's housing programme.	1.1.1 Adopt and implement the Vision 2020 housing credo (See the Report of the Housing Sub-Committee)	P0	Office of the Prime Minister.	
		1.1.2 Strengthen the existing Housing Sub-Committee and resource it properly.	P0		



Objectives	Measures/Indicators	Prioritised Strategies/Actions	Time	Owner	Linkages
1.2.Create the ability to access timely, reliable and accurate information with regard to the housing sector, in order to support the successful formulation of national housing strategy.	% of up-to-date information on housing indices (e.g. housing demand, household size, home-ownership, etc.)  Level of reliability, accuracy and timeliness of information	1.1.3 Establish mechanisms for the Sub-Committee to formulate and monitor National Housing Policy.  1.2.1 Review and evaluate existing data with respect to the urban and sub-urban housing sector.  1.2.2 Undertake a comprehensive housing demand analysis.	P0/ P1  P0  P0/P1	Ministry of Planning and Development in collaboration with Ministry of Housing.	Regional Development & Sustainable Communities Population.



Objectives	Measures/Indicators	Prioritised Strategies/Actions	Time	Owner	Linkages
<p>1.3.Streamline the legal and regulatory framework and ensure an effective and efficient development approval process, which involves formal co-ordination between all agencies involved in that process.</p>	<p>Length of time to fully process large scale developments.</p>	<p>1.2.3 Develop a comprehensive information system to capture relevant data in relation to the housing sector.</p> <p>1.3.1 Expedite the approval process by rationalising the process and restructuring the approving agencies, by instilling the correct attitudes and competent staffing.</p>	<p>P0/P1/P2</p> <p>P0/P1</p>	<p>Ministry of Planning and Development.</p>	<p>Law Administration &amp; Legal Affairs.</p>



Objectives	Measures/Indicators	Prioritised Strategies/Actions	Time	Owner	Linkages
	Length of time to fully process small-scale developments.	1.3.2 Implement revised TCP and EMA Acts, and other relevant legislation.	P0/P1	Ministry of Housing in collaboration with the Ministry of the Attorney General (Law Reform Commission).	
		1.3.3 Standardise legal documentation necessary for real estate purchase and transfer of property, and minimise transaction costs.	P0/P1		



Objectives	Measures/Indicators	Prioritised Strategies/Actions	Time	Owner	Linkages
		<p>1.3.4 Review the proposed Mortgage Bill 2000 with a view to its enactment and implementation.</p> <p>1.3.5 Amend the Law so that assumable and portable mortgages on residential units are permitted at minimal transfer cost, and so that the length of the mortgage term can be extended (linked to building instead of person).</p>	<p>P0/P1</p> <p>P0/P1</p>		
1.4 Establish a sound financial framework for home construction and mortgages. (To ensure	% differences between home-ownership versus rental.	1.4.1 Allocate for an initial five-year period 2% of the National Budget to funding a National Housing Programme in keeping	P0/P1		Financial Services



Objectives	Measures/Indicators	Prioritised Strategies/Actions	Time	Owner	Linkages
<p>that the housing demand is properly funded over the period, finance is needed in adequate amounts, and at affordable interest rates, and under acceptable conditions to the homeowner.)</p>	<p>Level of mortgage interest rates.            % of National Budget allocated to the National Housing Programme.</p>	<p>with developed country status. (This is in keeping with the practice in more developed countries.)            1.4.2 Source funding through the issuing of tax-free housing bonds, which will be made available for purchase by the commercial sector and individuals.</p>	<p>P2</p>	<p>Ministry of Finance</p>	



Objectives	Measures/Indicators	Prioritised Strategies/Actions	Time	Owner	Linkages
		<p>1.4.3 Mandate the financial sector to allocate for the initial five years of the National Housing Programme, 5% of their loan portfolio to mortgage funding at affordable tax-free rates accessible to a range of borrowers who fall within the lowest three deciles of households. These funds should carry an indemnity provided by the Government.</p>	P0	Ministry of Finance	





Objectives	Measures/Indicators	Prioritised Strategies/Actions	Time	Owner	Linkages
		<p>1.4.5 Encourage employers by appropriate mechanisms, including tax incentives, to provide matching funds for employees' savings accounts reserved specifically for house purchase/ construction.</p> <p>1.4.6 Offer a tax incentive (no tax on interest) to individuals (potential homeowners) to hold special Housing Savings Accounts designated for house purchase/ construction.</p>	<p>P1</p> <p>P1</p>	<p>Ministry of Finance</p> <p>Ministry of Finance</p>	



Objectives	Measures/Indicators	Prioritised Strategies/Actions	Time	Owner	Linkages
		<p>1.4.7 Allow properly structured Credit Unions to source external long-term funding for mortgage lending.</p> <p>1.4.8 Provide Mortgage Indemnity Insurance Coverage at reasonable rates.</p> <p>1.4.9 Immediately increase the level of allowable expenses incurred in house construction to qualify for the corporate tax exemption from \$250,000 to \$450,000, and thereafter, review on a regular basis.</p>	<p>P1</p> <p>P1</p> <p>P0</p>	<p>Ministry of Finance</p> <p>Ministry of Finance</p> <p>Ministry of Finance</p>	





Objectives	Measures/Indicators	Prioritised Strategies/Actions	Time	Owner	Linkages
1.6 Support local Government in expanding its terms of reference and modifying legal framework to embrace the wider needs of the development and management of communities.	Level of authority by local Government to plan and implement community development and housing programmes.	1.6.1 Review existing legislation with a view to identifying its capability of encouraging local participation and modify the legislation accordingly.	P0	Office of the Prime Minister in collaboration with Ministry of Local Government.	Regional Development & Sustainable Communities
		1.5.2 Set guidelines and quality performance criteria – physical, social, financial and environmental – for evaluating these organisations.	P0	Ministry of Housing	Governance & Institutional Structures for Development



Objectives	Measures/Indicators	Prioritised Strategies/Actions	Time	Owner	Linkages
	<p>Level of capability and capacity by local Government to plan and implement community development and housing programmes.</p>	<p>1.6.2 Devolve authority for planning and implementing community development to local Government.</p> <p>1.6.3 Structure, train and resource the local authorities to be able to carry out the roles of planning and implementing in community development.</p>	<p>P0/P1</p> <p>P1/P2</p>	<p>Ministry of Community Development.</p> <p>Ministry of the Attorney General (Law Reform Commission).</p>	<p>Governance &amp; Institutional Structures for Development</p> <p>Law Administration &amp; Legal Affairs</p>



**GOAL 2:** To ensure the availability of required resources, capability and capacity for housing design and construction.

Objectives	Measures/Indicators	Prioritised Strategies/Actions	Time	Owner	Linkages
2.1.Ensure adequate materials, labour and equipment for housing construction.	% availability of materials in view of demand.  % availability of labour in view of demand.  % availability of equipment in view of demand.	2.1.1 Identify shortfalls in the type and quantum of skills, competencies and material and equipment resources needed.	P0	Ministry of Housing in collaboration with Ministry of Labor.	Labour & Social Security.



Objectives	Measures/Indicators	Prioritised Strategies/Actions	Time	Owner	Linkages
	Level of quality of materials, labour and equipment.	2.1.2 Expand and accelerate present training programmes to meet the demand at all levels.	P0	Ministry of Housing in collaboration with Ministry of Science, Technology and Tertiary Education.	Skills Development & Training.
		2.1.3 Encourage contractors and developers in accordance with existing tax incentives to initiate the required job training.	P0/P1	Ministry of Housing in collaboration with Ministry of Labour and Ministry of Trade and Industry.	Industry & Entrepreneurship.
		2.1.4 Establish training for small contractors in construction and business management.	P0/P1		International Relations. Regional Co-operation & Trade.



Objectives	Measures/Indicators	Prioritised Strategies/Actions	Time	Owner	Linkages
		<p>2.1.5 Facilitate the use of temporary foreign skilled and unskilled labour as required.</p> <p>2.1.6 Encourage the establishment of additional plant capacity to supply the materials needed for the housing programme.</p>	<p>P0/P1</p> <p>P0/P1</p>		





Objectives	Measures/Indicators	Prioritised Strategies/Actions	Time	Owner	Linkages
<p>2.2. Encourage the development of design services which are efficient and which are relevant to the requirements of the customers they serve and the demands of the local environment – physical, social, cultural and economic.</p>	<p>Increase in number of design professionals working in the community design sector.</p>	<p>2.2.1 Create a scholarship programme at the undergraduate and graduate levels for training specifically in community design.</p>	<p>P0</p>	<p>Ministry of Housing in collaboration with Ministry of Science, Technology and Tertiary Education</p>	<p>Tertiary Education.</p>



Objectives	Measures/Indicators	Prioritised Strategies/Actions	Time	Owner	Linkages
	Number of scholarships awarded per year in the area of community design.	2.2.2 Create a Chair in Architecture and Planning at UWI, St. Augustine Campus.	P0		
	% compliance of community design in relation to a given set of guidelines and quality criteria.	2.2.3 Package community design briefs to a scale and level of challenge sufficient to attract the design professionals.	P0/P1	Ministry of Housing	Regional Development & Sustainable Communities.
		2.2.4 Establish programmes for the production and mass distribution of housing designs to meet the needs of the low and middle-income house owner.	P0/P1	Ministry of Housing	Governance.





**GOAL 3:** To create sites for new communities and improve the existing housing stock to fulfil the housing needs in the country.

Objectives	Measures/ Indicators	Prioritised Strategies/ Actions	Time	Owner	Linkages
3.1. To ensure that individual housing needs are met within an adequate level of community services (as defined by Habitat – see the report of the Vision 2020 Housing Sub-Committee.)	% community designs which meet the agreed standards.	3.1.1 Establish community design standards, which indicate the minimum level of community services in relation to housing developments (e.g. access to schools, health centres, recreation facilities, etc.).	P0/P1	Ministry of Planning & Development	Regional Development & Sustainable Communities
3.2. Ensure the availability of the right amount of land in a desirable and accessible location, serviced with the required facilities and obtainable at an affordable price.	Hectares of suitable land allocated for community development (housing and facilities) per year.	3.2.1 Formulate settlement plans at the national, regional and local level.	P0/P1	Ministry of Planning and Development in collaboration with the Ministry of Housing	Regional Development Public Utilities. Infrastructure. Environmental Management. Population.



Objectives	Measures/ Indicators	Prioritised Strategies/ Actions	Time	Owner	Linkages
	<p>% access of housing to basic facilities (water, electricity, telephone, solid waste, sewage disposal).</p> <p>% regions and communities covered by comprehensive settlement plans.</p>	<p>3.2.2 Identify immediately available sites in keeping with national settlement planning guidelines.</p>	<p>P0</p>		



Objectives	Measures/ Indicators	Prioritised Strategies/ Actions	Time	Owner	Linkages
3.3.Improve the existing housing stock and create new housing sites by implementing rational, well planned, squatter regularisation programmes.	% decrease of land occupied by squatters per year.	3.3.1 Implement policies for the immediate curtailment of further squatting activities.	P0	Ministry of Housing	Regional Development
	% up-to-date information on the quantum and nature of squatting in the country.	3.3.2 Update the necessary surveys to identify the quantum and nature of squatting in the country.	P0	Ministry of Housing in collaboration with Ministry of the Attorney General and Ministry of National Security	Law Administration & Legal Affairs.



Objectives	Measures/ Indicators	Prioritised Strategies/ Actions	Time	Owner	Linkages
		3.3.3 Revise existing legislation to facilitate the squatter regularisation process. 3.3.4 Establish a well-resourced squatter regularisation unit. 3.3.5 Continue and accelerate modified squatter regularisation action in priority areas.	P0   P0  P0		Administration of Justice.  National Security.  Poverty Alleviation & Social Services.



Objectives	Measures/ Indicators	Prioritised Strategies/ Actions	Time	Owner	Linkages
<p>3.4. Utilise the potential of our urban areas to contribute to the solution of the country's housing problem through urban redevelopment. (It is estimated that approximately 40% of the housing units (approximately 40,000), needed to meet our housing demand to 2020 can be accommodated within our urban environments.)</p>	<p>Number of residential units created through urban redevelopment.</p>	<p>3.4.1 Establish a national urban redevelopment policy.</p>	<p>P0</p>	<p>Office of the Prime Minister in collaboration with Ministry of Planning and Development</p>	<p>Regional Development &amp; Sustainable Communities.</p>





Objectives	Measures/ Indicators	Prioritised Strategies/ Actions	Time	Owner	Linkages
		<p>3.4.2 Within the policy framework above, identify areas for urban redevelopment.</p> <p>3.4.3 Declare these areas as Comprehensive Development Areas (CDAs) in accordance with TCP Act.</p>	<p>P0</p> <p>P1</p>	<p>Ministry of Planning and Development in collaboration with the City and Borough Governments.</p> <p>Ministry of Planning &amp; Development.</p>	<p>Infrastructure</p>



Objectives	Measures/ Indicators	Prioritised Strategies/ Actions	Time	Owner	Linkages
		<p>3.4.4 Refocus and institutionally strengthen UDeCOTT for the purpose of effectively co-ordinating our urban redevelopment including social sensitisation.</p> <p>3.4.5 Create redevelopment sites to accommodate approximately 40,000 residential units.</p>	<p>P1</p> <p>P1</p>	<p>Ministry of Planning &amp; Development.</p>	<p>UDeCOTT</p>



Objectives	Measures/ Indicators	Prioritised Strategies/ Actions	Time	Owner	Linkages
3.5.Establish a national rural improvement strategy.	Number of residential units created through rural development.	3.5.1 Develop a national rural improvement strategy and plan.	P1	Ministry of Planning and Development in collaboration with the Ministry of Local Government and the Ministry of Housing.	Regional Development. Public Utilities. Infrastructure. Agriculture. Youth, Sport & Recreation. Health. Education. Culture & Attitudes. Environment.



Objectives	Measures/ Indicators	Prioritised Strategies/ Actions	Time	Owner	Linkages
		3.5.2 Utilise existing agencies, such as the Sugar Industry Labour Welfare Committee, in collaboration with strengthened local Government.			



**GOAL 4:** To ensure active involvement and enlightened attitudes of stakeholders in the housing development process.

Objectives	Measures/Indicators	Prioritised Strategies/Actions	Time	Owner	Linkages
<p>4.1.Introduce Community Management into the housing programme. (Community Management is the process through which communities (housing projects, neighbourhoods) take the responsibility for the management and maintenance of their physical and social environment.)</p>	<p>% of communities which embraced community management.                      # of community managers trained per year.                      # of community managers per community.</p>	<p>4.1.1 Establish clear-cut guidelines for the creation of community management structures – legal, environmental, social and financial.</p>	<p>P0</p>	<p>Ministry of Housing</p>	<p>Regional Development &amp; Sustainable Communities</p>



Objectives	Measures/Indicators	Prioritised Strategies/Actions	Time	Owner	Linkages
		<p>4.1.2 Create a function within the National Housing Programme with the responsibility and capability for implementing and monitoring this Programme.</p> <p>4.1.3 Institute programmes to train an entire cadre of Community Managers.</p>	<p>P0</p> <p>P1</p>		<p>Culture &amp; Attitudes.</p>

