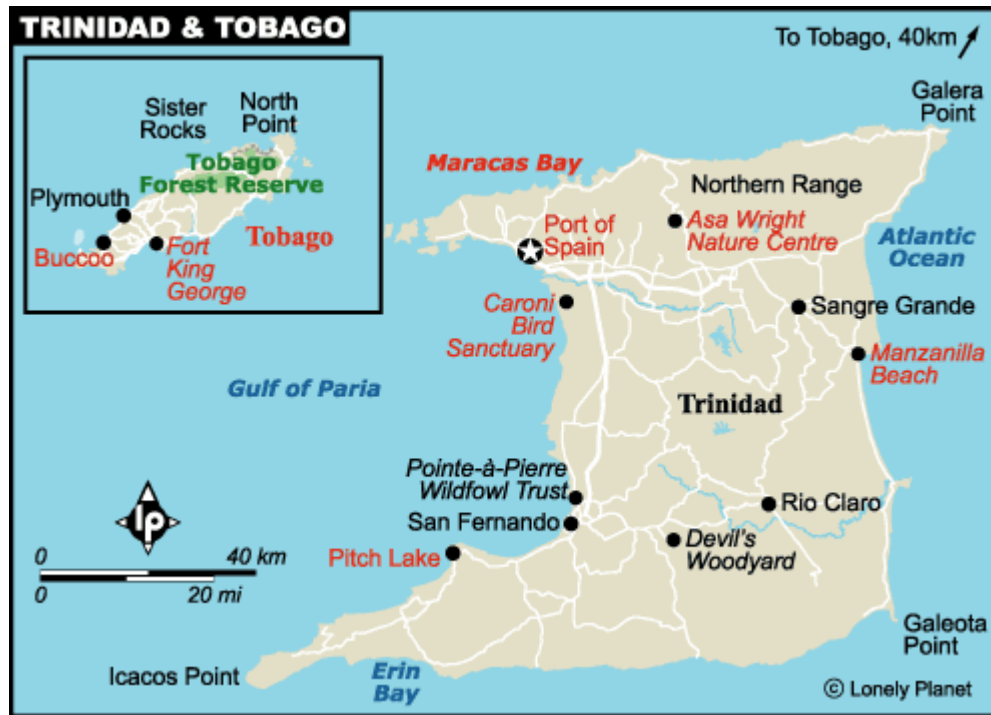


FAO - NUTRITION COUNTRY PROFILES

TRINIDAD AND TOBAGO



FOOD AND AGRICULTURE ORGANIZATION
OF THE UNITED NATIONS

Note for the reader

The objective of the Nutrition Country Profiles (NCP) is to provide concise analytical summaries describing the food and nutrition situation in individual countries with background statistics on food-related factors. The profiles present consistent and comparable statistics in a standard format. This pre-defined format combines a set of graphics, tables and maps each supported by a short explanatory text. Information regarding the agricultural production, demography and socio-economic level of the country are also presented.

In general, data presented in the NCP are derived from national sources as well as from international databases (FAO, WHO...).

Technical notes giving detailed information on the definition and use of the indicators provided in the profile can be obtained from ESNA upon request. An information note describing the objectives of the NCP is also available.

Nutrition Country Profile of Trinidad and Tobago
prepared by the Caribbean Food and Nutrition Institute (CFNI) and Mr. Michael Ennis for the Food and Agriculture Organization of the United Nations (ESNA, FAO).

The designations employed and the presentation of material in this publication do not imply the expression of any opinion whatsoever on the part of the Food and Agriculture Organization of the United Nations concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers.

FAO, 2003



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-General Map of Trinidad and Tobago

Graphs, tables and maps can be visualised by clicking on the words in bold and underline, only in the “Full profile” pdf file.

SUMMARY

The 1997-98 clinic data are suggesting that underweight prevalence among children 1-4 years is low (2.3%). There has been no significant change since 1988, when underweight was 2.2% for children 0-5 years. Stunting prevalence was also low (1.9%) while prevalence for wasting (6.2%) was moderate among children 0-5 years (**Table 4a**). Data from a 1976 survey showed a much higher prevalence of undernutrition, but the criterion used was different from that used in 1988-90.

From unpublished (1999) data, among adolescents 13-19 years only 4.6% were found to be overweight with a greater proportion of males than females. In addition, another 6.3% were at risk of becoming overweight with equal proportions between males and females (**Table 4b**).

While obesity may not be a problem among children and adolescents, among adults it is a cause for serious concern. In the adult population 20 years and older, 16.8% are obese, with the prevalence among women being almost twice as high as men. Another 31.4% of this population are overweight, the prevalence being slightly higher in women than in men. Approximately 6% of the adults suffer from chronic energy deficiency (**Table 4c**).

Iron appears to be the micronutrient deficiency of concern in Trinidad and Tobago. The most recent data relate mainly to pregnant women, and were mostly obtained from antenatal clinic records. The prevalence was 17.2% in 1990 (< 10g/dL), reflecting a steady increase since 1987 (**Table 5**). Wide variations were found at different clinics between 1973 and 1980. Lower prevalence levels, on average, were reported in 1979-1990 than in 1973-1978. The government supplementary program may account for the decrease. Among pregnant women who attended the Port of Spain general hospital in 1975-76, a greater proportion of East Indians than Africans was anaemic. Data for other vulnerable groups (lactating women, pre-school and school children) were not readily available. However, in 1989-90, of 457 first year primary school children 61.1% were found to be anaemic (< 120g/L).

No recent national surveys on food consumption have been carried out in Trinidad and Tobago since 1970 that could help explain the nutritional status of the different age groups. The 3.2% increase in the contribution of fat to dietary energy supplies (DES) between 1964-66 and 1996-98, along with a reduction in the level of physical activity over the same period, may be contributing to the prevalence of overweight and obesity.

Among the Trinidad and Tobago population, approximately 22% were reported to be living below the poverty line in 1995, half of whom were classified as "extremely poor". This implies that economic access to food, especially among this group may be a major cause of the nutritional problems that they face. Children, the elderly, pregnant and lactating women in such households are among the most vulnerable to malnutrition, including micronutrient deficiencies.

TABLE 1: GENERAL STATISTICS OF TRINIDAD AND TOBAGO

Last updated: 25/08/2003

Indicator (\$)	Year	Unit	Indicator (\$)	Year	Unit																								
A. Land in use for agriculture			G. Average Food Supply																										
1. Agricultural land	1995	ha per person	0,105																										
2. Arable and permanent crop land	1995	ha per person	0,097																										
B. Livestock			1. Dietary Energy Supply (DES)																										
1. Cattle	1996-98	thousands	35	1998-2000	Kcal/caput/day																								
2. Sheep & goats	1996-98	thousands	71		2721																								
3. Pigs	1996-98	thousands	31																										
4. Chickens	1996-98	millions	10																										
C. Population			<p>Percentage of DES by major food groups</p> <table border="1"> <thead> <tr> <th>Food Group</th> <th>Percentage</th> </tr> </thead> <tbody> <tr><td>Cereals (excl. beer)</td><td>36%</td></tr> <tr><td>Sweeteners</td><td>21%</td></tr> <tr><td>Vegetable oils</td><td>12%</td></tr> <tr><td>Animal Fats</td><td>6%</td></tr> <tr><td>Meat & offals</td><td>6%</td></tr> <tr><td>Fish & seafood</td><td>6%</td></tr> <tr><td>Milk & Eggs</td><td>3%</td></tr> <tr><td>Other</td><td>3%</td></tr> <tr><td>Starchy roots</td><td>2%</td></tr> <tr><td>Pulses, nuts, oilcrops</td><td>4%</td></tr> <tr><td>Fruits & Vegetables</td><td>4%</td></tr> </tbody> </table> <p>Note: Value not indicated if below 1%</p>			Food Group	Percentage	Cereals (excl. beer)	36%	Sweeteners	21%	Vegetable oils	12%	Animal Fats	6%	Meat & offals	6%	Fish & seafood	6%	Milk & Eggs	3%	Other	3%	Starchy roots	2%	Pulses, nuts, oilcrops	4%	Fruits & Vegetables	4%
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1. Total population	2000	thousands	1294																										
2. 0-5 years	2000	% of total pop.																											
3. 6-17 years	2000	% of total pop.																											
4. 18-59 years	2000	% of total pop.																											
5. >= 60 years	2000	% of total pop.	9,6																										
6. Rural population	2000	% of total pop.	25,9																										
7. Annual population growth rate, Total	2000-2005	% of total pop.	0,5																										
8. Annual population growth rate, Rural	2000-2005	% of rural pop.																											
9. Projected total population in 2030	2030	thousands	1442																										
10. Agricultural population	2000	% of total pop.	8,7																										
11. Population density	1995	pop. per sq Km	246,0																										
D. Level of Development			% Energy from:																										
1. GNP per capita, Atlas Method	2001	current US\$	5540	2. Protein	1998-2000 % of total energy																								
2. Human Development Index rating (new)	2000	min[0] - max[1]	0,805	3. Fat	1998-2000 % of total energy																								
3. Incidence of poverty, Total	1992	% of population	21																										
4. Incidence of poverty, Rural or Urban	...	% of population	...	4. Proteins	1998-2000 g/caput/day																								
5. Life expectancy at birth (both sexes)	2000	years		5. Vegetable products	1998-2000 % of total proteins																								
6. Under-five mortality rate	2000	per 1,000 live births	20	6. Animal products	1998-2000 % of total proteins																								
E. Food Trade			H. Food Inadequacy																										
1. Food Imports (US \$)	1996-98	% of total imports	9,6	1. Total population "undernourished"	1995-97 millions																								
2. Food Exports (US \$)	1996-98	% of total exports	5,3	2. % population "undernourished"	1995-97 % of total pop.																								
3. Cereal Food Aid (100 MT)	1996-98	% of cereals imports no data available § see References for data sources used																									
F. Indices of Food Production			See Technical Notes for definitions used.																										
1. Food Production Index	1996-98	1989-91=100	101,7																										
2. Food Production Index Per Capita	1996-98	1989-91=100	96,9																										

TRINIDAD

I. OVERVIEW

1. Geography

Trinidad and Tobago is a twin-island State situated at the southern end of the Caribbean chain of islands, and off the northeast coast of Venezuela. The landmass covers 5,128 km² with Trinidad occupying 4,828 km² and Tobago 300 km². The highest peak (Mt. Aripo, 940 m) is in the northern range of Trinidad, north east of the capital, Port-of-Spain, with a central ridge in Tobago (**General Map**).

Trinidad and Tobago has a tropical climate with an average daily temperature of approximately 28° Celsius. The dry season extends over the period January to May, while the rainy season occurs between June and December. The average annual rainfall varies from over 2500 mm in the northeast and central areas to less than 1250 in the south western regions.

The country is a democratic republic within the British Commonwealth having gained its independence in August 1962. Tobago is administered separately by the Tobago House of Assembly, which was established in 1980. Trinidad is currently organised into 13 administrative areas or Regional Corporations as set up under the 1981 Regional Corporation Act. Most official data, however, continue to be reported by the original eight Counties and three Municipal Corporations (including Tobago) because there have been delays in establishing all of the Regional Corporations.

2. Population

The population of Trinidad and Tobago was estimated to be 1,294,000 in 2000, with 74.1% being urban dwellers. The level of urbanization is expected to increase to 83.1% of the predicted 1,442,000 population by 2030 (UN, 2002). Among the population in 2000, 9.6% were 60 years and older and 25.1% were below 15 years old. Between 2000 and 2005 the average annual growth rate is estimated at 0.45% (UN, 2001). The population growth has slowed since the mid 1980s (from 1.27% in 1985-1989 to less than 1% in 2000) partly due to declines in the total fertility rates (from 2.1 in 1997 to 1.6 in 2000) and a decrease in crude birth rates per 1,000 persons (from 16.6 in 1997 to 13.5 in 2000). In addition, the crude death rate per 1,000 persons has also declined (7.2 in 1997 to 6.0 in 2000) (PAHO, 2002). The population density has increased steadily over the years, from 189.28 persons per km² in 1970 to 246 in 1995 (FAOSTAT, 1999).

The revised 1995 mid-year population estimate was 1,259,971 based on the 1990 census population of 1,238,800 and an average annual population growth rate of 1.1% over the period 1990–1994 (down from 1.27% in the 1985–1989 period). The slowing of population growth during this period was also due in part to declines in the total fertility and crude birth rates, a stable crude death rate, and stabilised emigration (estimated at 131,918) between 1980 and 1990. These trends were also reflected in a more constrictive-shaped population pyramid: 33.5% of the population was under 15 years of age and 6% were over 65. Based on these trends, the expectation is that by 2015 the age group under 15 years old would

fall to 23.9%, with the group over age 65 increasing to 7.5% of the total population (PAHO/WHO, 1999.a).

The ethnic composition has an almost equal proportion (approximately 40%) of persons of African (high concentration in Tobago and St. George) and East Indian descent (living mainly in Caroni and Victoria). The remaining 20% is made up of persons of mixed ethnicity (18.5%) and less than 2% of the other groups (Caucasian, Chinese and others) (PAHO/WHO, 1999.b). People of East Indian descent predominate in rural and more agriculturally oriented areas (PAHO, 2002).

3. Level of development: poverty, education and health

In 1996, 35.9% of the population was classified as poor based on a poverty line of US\$ 100 per capita set by the Ministry of Social Development. Among the counties, the lowest level (8.3%) was in Diego Martin, and the highest (56.3%) in Rio Claro/Mayaro. The highest levels of poverty were seen among the unemployed, particularly in female headed households and those with least education (PAHO, 2002). The human development index rating (a composite measurement of the country's achievement in terms of life expectancy, health, knowledge and living standard) was 0.805 in 2000, slightly up from 0.797 in 1997 (UNDP, 2002). Over the period of Trinidad's economic recession (1982–1989), the available data indicate an increase in the levels of poverty—from 3.5% of households in 1981 to 14.8% in 1988. Estimates of 1995 indicate that poverty levels continued to increase from 1988 to levels of 21%–22% of the population, with a further widening in the distribution of income. About half of these are individuals who were classified as extremely poor—those unable to afford the cost of a minimum food basket (PAHO/WHO, 1999.a).

There has been a steady and significant improvement in the level of educational attainment in the population. In 1970, approximately 8% of the population had no education, but this was reduced to about 3% by 1990. Between 1980 and 1990 there was a steady increase in the percentage of both men and women achieving secondary (from 32.7% to 44.4%) and tertiary (from 2.2% to 2.9%) education levels. The adult literacy rates also testify to sustained achievement (96% and 97.8% for 1980 and 1997, respectively) (PAHO/WHO, 1999.a & PAHO, 2002). There are, however, growing concerns about functional literacy (PAHO/WHO, 1999.a).

In 1998, the life expectancy at birth was 73.9 years (UN, 1999), while for the period 2000-2005, it is predicted to be 72.5 for men and 77.2 for women (UN, 2001). The infant mortality rate and that of children under 5 years old were estimated at 17 and 20 per 1000 live births, respectively, in 2000 (UNICEF, 2002). In 1995, the maternal mortality ratio was 65 per 100,000 live births (UNICEF, 2003).

Noncommunicable diseases cause the greatest impact on the health sector by increasing health service demand, increasing disability and by curtailing the ability to choose a provider. Diabetes Mellitus is increasing in prevalence; it is the third leading cause of death in males and the second leading cause of death in females (second leading cause of death overall). The high prevalence rates of diabetes and hypertension are contributing factors to heart disease, which is the leading cause of death in Trinidad and Tobago (PAHO/WHO, 1999.a; PAHO, 2002). A primary contributing factor to the level of chronic noncommunicable diseases in the country is the high prevalence of obesity and pre-obesity (overweight). An unpublished study conducted by CFNI in 1999, examining physical activity in Trinidad and Tobago, found that the prevalence of pre-obesity (31.4%) and obesity (16.8%) is similar to that of other Caribbean countries. More females (21.1%) are obese than males (10.7%), but the rates of pre-obesity are similar between men and women. Almost 40% of the women have a waist-to-hip ratio that is above the WHO standard (CFNI, 1999 (unpublished)).

Communicable diseases are still important causes of death and morbidity in the country, causing 7% of deaths in 1995. During that same year they were the second most frequent cause of admission to acute-stay-hospitals (PAHO/WHO, 1999.a). The incidence of HIV/AIDS is on the rise, and could become a significant burden on the health system in the near future (PAHO, 2002).

Seven (7) hospitals, 101 health centres and approximately 400 private practitioners readily provide health care throughout the country. At the point of access government centres are free, including diagnostic and pharmaceutical supplies. Notwithstanding this more persons seek care in the private sector than at the government health centres (PAHO/WHO, 1999.b).

4. Agricultural production, land use and food security

Agriculture makes only a small contribution to the overall economy. In 1999, agriculture has been estimated to contribute 1.9% to GDP, down from 2.9% and 2.5% in 1979 and 1989 respectively (World Bank, 2000). The total agricultural land was shared in 0.105 hectare per caput in 1995 down from 0.113 hectare in 1970, and included 0.097 hectare per caput of arable and permanent crop/meadow land in 1995, down from 0.103 hectare in 1970. Interestingly the agricultural population in 2000 was only 8.7% (down from 9.8% in 1995), compared to countries like Belize (30.5%), Jamaica (20.6%) and Guyana (17.6%) (FAOSTAT, 1999; 2002).

Although the per caput dietary energy supply (DES) has consistently been greater than the per caput energy requirements, and while food availability should not be a problem for most of the population, a small group of persons (especially those living in economically depressed areas) is likely to have difficulty securing adequate food. This is because of their socio-economic status, being classified as "extremely poor" (PAHO/WHO, 1999.b).

5. Economy

Since the 1960s, the economy has been characterised by heavy dependence on the production and export of petroleum and gas. The government is currently trying to diversify the economy, as there were grave consequences when the government had to adjust its budgetary allocations when oil prices dropped in 1998. In 2000, the oil and gas sector accounted for 26% of the country's revenue. The non-oil and gas sectors have shown steady growth over the period 1994-1999, resulting in the creation of 60,000 jobs (PAHO, 2002). Although the gas and oil sector has seen a decrease in its contribution to GDP, this has been off-set to some extent by the increased contribution of the service sector (World Bank, 2000).

Trinidad and Tobago's gross national product (GNP) was US\$ 5,540 in 2001, increasing from US\$ 4,250 in 1997 (World Bank, 2002). Per capita GNP peaked in 1982 at US\$ 6,600, followed by sharp contractions until 1988, when the government implemented an economic reform program. The lowest per capita GNP of US\$ 3,160 was recorded in 1989. Since then there has been steady improvement—primarily due to measures of trade and currency liberalisation; diversification strategies in agriculture, manufacturing (non-oil), and tourism; and restructuring, divestment, and liquidation of a number of State enterprises (PAHO/WHO, 1999.a).

The currency value has remained fairly stable since the floating of the dollar in 1993 (from TT\$ 5.40 = US\$ 1 to TT\$ 6.30 = US\$ 1 currently). There has been, however, slippage of about 10% between mid-1996 and mid-1997. Inflation rates, as measured by the change in the index of retail prices, declined from 3.7% in 1997 to 3.4% in 1999 (PAHO, 2002; PAHO/WHO, 1999.a). In keeping with this economic recovery, there has been a reversal of the unemployment trends because of increases in the non-oil sectors of tourism and other service industries. The labour force participation rate has only changed slightly between 1997

and 1999, with 45.9% to 46.6% for females and 74.8% to 74.9% for males. The increasing trend has been occurring since the end of the 1980s. The labour force participation rate increased from 56% in 1990 to 60% in 1995. The labour force grew from 467,700 in 1990 to 521,000 in 1995, while the unemployment rate declined from 20% in 1990 to 17% in 1995 and then to 14.2% in 1998. Unemployment rates are higher among women compared with men (PAHO/WHO, 1999.a; PAHO, 2002).

II. THE FOOD AND NUTRITION SITUATION

1. Trends in energy requirements and energy supplies

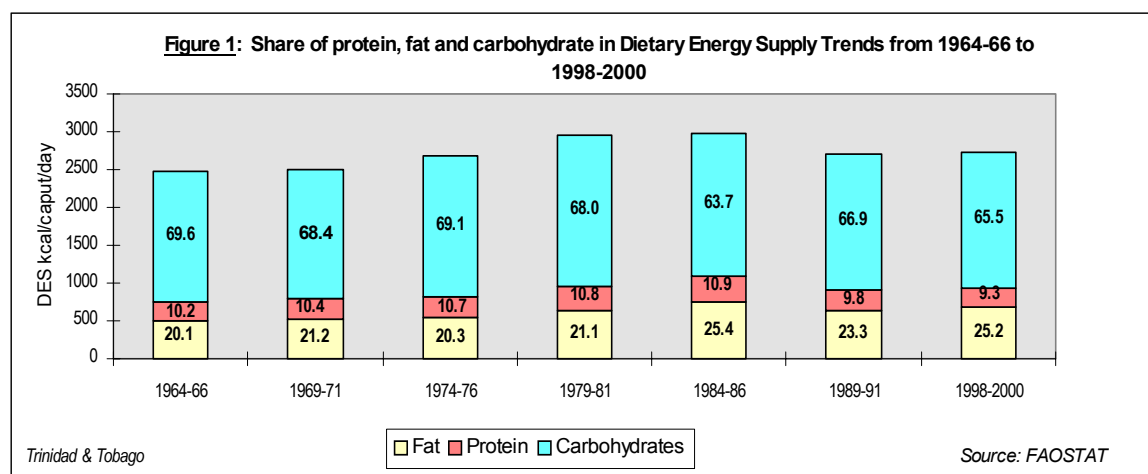
As shown in **Table 2**, between 1965 and 2000, the total population of the country increased by 44.4% and is projected to increase by 11.4% by the year 2030. There is also an increasing trend in urbanization among the population (projected to reach 83.1% by the year 2030) (UN, 2002). Per caput energy requirements increased by 4.4% between 1965 and 2000, but it is projected to decrease by 0.5% by the year 2030. This trend has been followed by an 8.7% increase in the per caput dietary energy supply (DES) over the period 1965-2000 (**Table 2**).

Table 2: Total population, urbanisation, energy requirements and dietary energy supplies (DES) per person and per day in 1965, 2000 and 2030

Year	1965	2000	2030
Total population (<i>thousands</i>)	896	1294	1442
Percentage urban (%)	63.7	74.1	83.1
Per caput energy requirements (<i>kcal/day</i>)	2125	2219	2209
Per caput DES (<i>kcal/day</i>)*	2471	2721	—

* Three-year average calculated for 1964-66 and 1998-2000 (*Source*: FAOSTAT)

The per caput DES remained significantly greater than the energy requirements over the period 1965-2000, and given the projected decrease in per caput energy requirements by the year 2030, food availability does not seem likely to become a major problem in the near future in Trinidad and Tobago (**Table 2**).



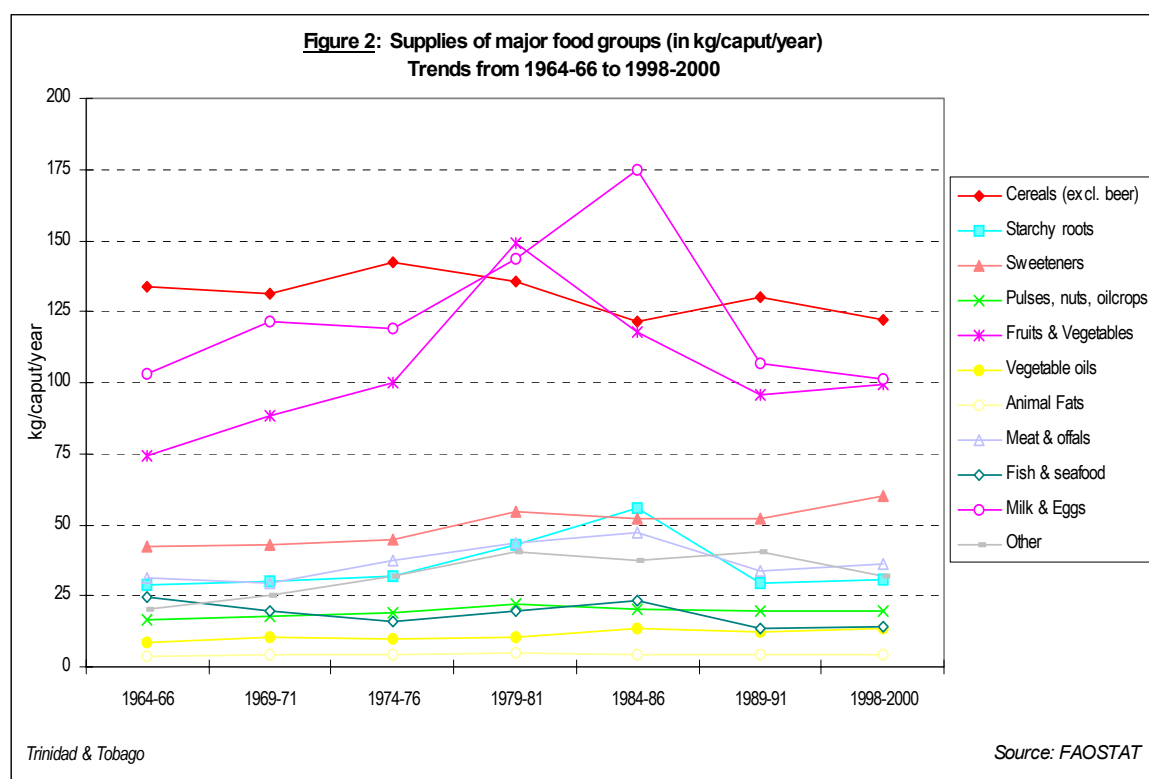
The contributions of protein, fat and carbohydrate as a percentage of DES varied continuously. The overall changes that occurred between 1964-66 and 1998-2000 were; a decrease in the contribution of carbohydrate (69.6% to 65.5%) and of protein (10.2% to 9.3%), as well as an increase in the contribution of fat (20.1% to 25.2%) (**Figure 1**).

Of interest, is the fact that DES (Kcal/caput/day) increased over the years to a high of 2972.2 in 1984-86 then decreased to the level seen in the year 2000, indicating a possible declining trend in available energy supply (FAOSTAT, 2002).

2. Trends in food supplies

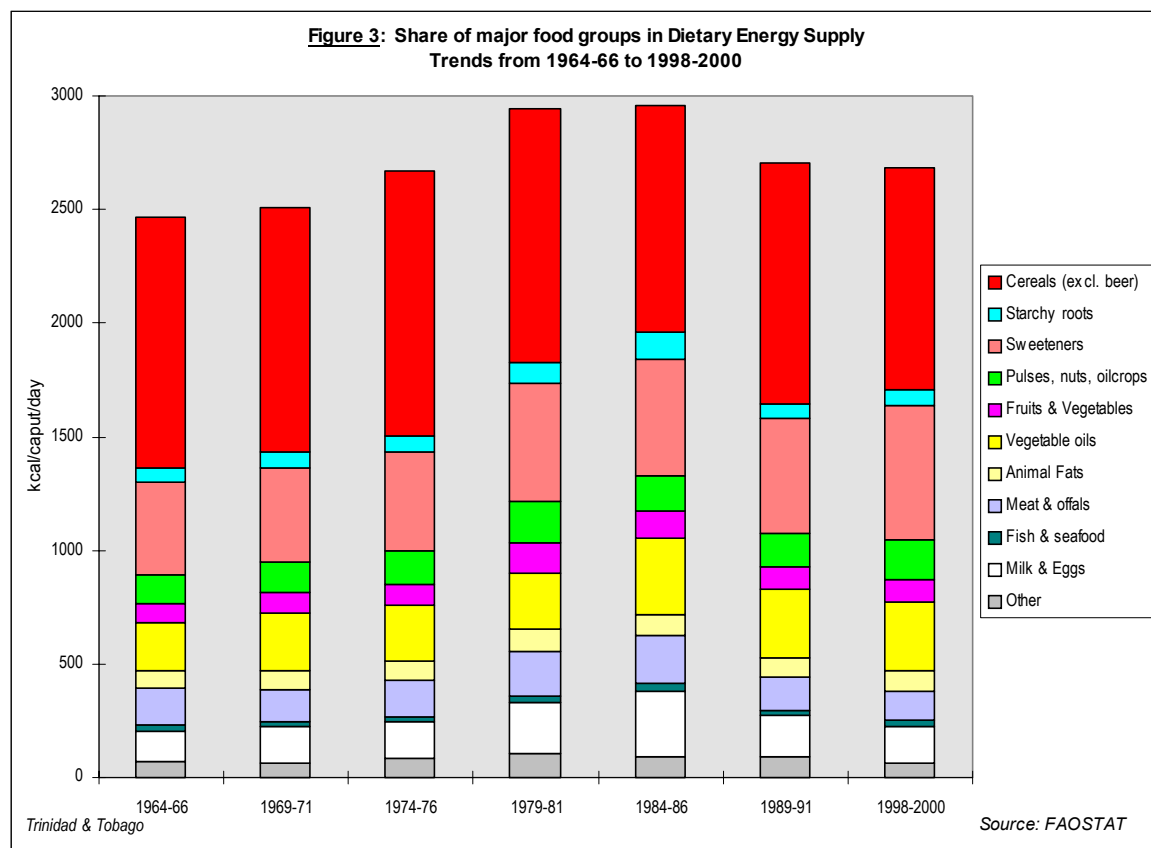
Quantity: Overall, between 1964-66 and 1998-2000, the major food groups either increased or decreased marginally in terms of supplies (Kg/caput/year). One of the most dramatic changes occurred with the supply of fruits and vegetables, which increased sharply between 1964-66 and 1979-81 then decreased sharply thereafter. The supply of fruits and vegetables in 1998-2000 was equivalent to that of 1974-76. Milk and eggs experienced a similar kind of sharp rise and fall between 1974-76 and 1989-91 ending up in 1998-2000 with their supplies slightly below those of 1964-66. Starchy roots displayed a similar pattern, in terms of a rise and fall between 1974-76 and 1989-91, the supply in 1998-2000 was slightly greater than that in 1964-66.

Sweeteners (sugar), vegetable oils, and pulses, nuts, and oilcrops increased slightly in supplies between 1964 and 2000. Animal fats and meat and offals increased marginal, while the supply of cereals along with fish and seafood declined over the same period (**Figure 2**).

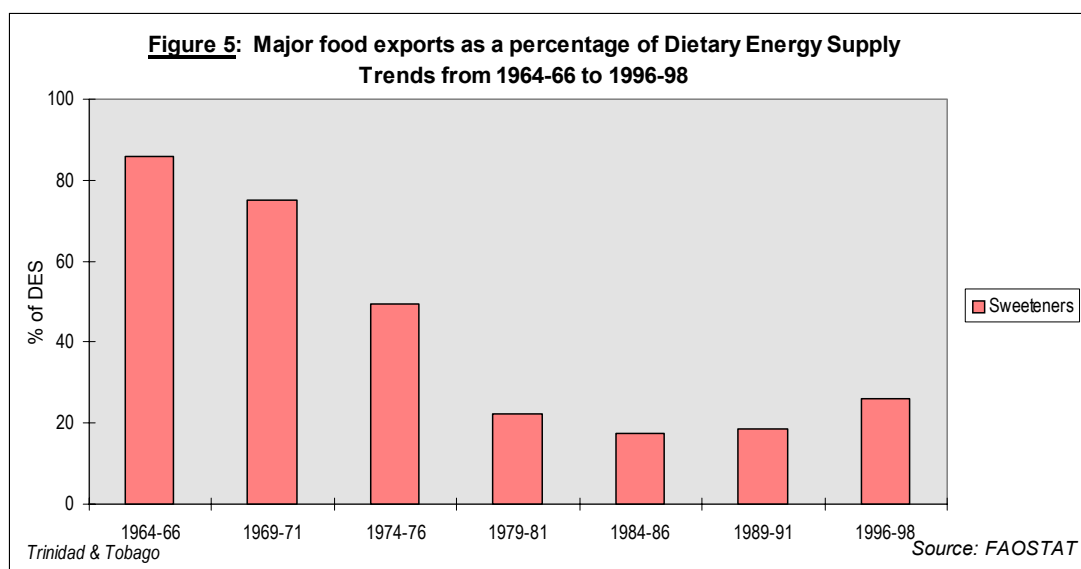
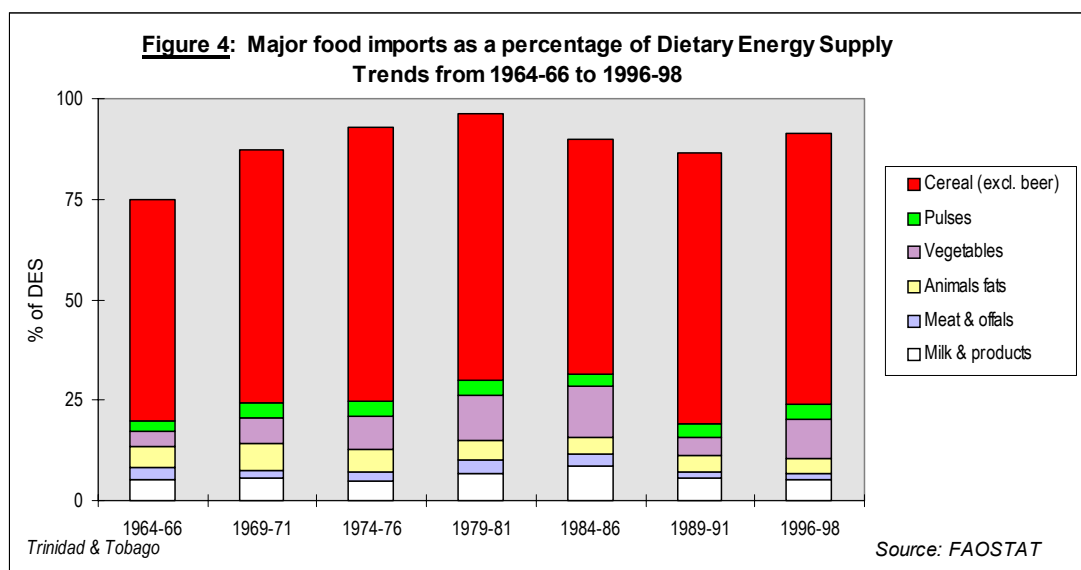


Energy: As shown in **Figure 3**, over the period 1964-1966 to 1998-2000 cereals remain the major share in DES, followed by sweeteners and vegetable oils. The contribution of these two latter groups, given their relatively high caloric content, may account for the major portion of DES variation. Meat and offals, milk and eggs, pulses, nuts, and oilcrops experienced variations in terms of their share in DES. For example milk and eggs occupied fourth position in 1969-71 and between 1979-81 and 1989-91. In 1964-66, 1974-76 and 1998-

2000 they occupied fifth position. Pulses, nuts, and oil crops and meat and offals varied from sixth through fourth position from 1964-66 to 1989-91, ending up in 1998-2000 at fourth and sixth positions respectively. Starchy roots, and fish and seafood, which had the smallest share in DES, experienced marginal decreases in supplies over the period, while fruits and vegetables and animal fats (both with relatively small shares in DES) saw slight increases in supplies over the same period.



Major food imports and exports: **Figure 4** shows the variation in food imports as a percentage of DES since 1964-66. These major food imports increased steadily, from 75% in 1964-66 to approximately 95% in 1979-81, decreasing to roughly 85% in 1989-91 and finally increasing to approximately 90% in 1996-98. Cereal imports as a percentage of DES, being by far the single largest component, along with vegetable imports appear to account for most of the variations in the contribution of major food imports to DES. The importation of milk and products, and pulses increased marginally between 1964-66 and 1996-98, while that of meat and offal, and animal fats decreased slightly over the same period.



The primary food export of Trinidad and Tobago is the sweeteners group (**Figure 5**). As a percentage of DES, sweeteners exports declined sharply from its highest level of 85.9% in 1964-66 to its lowest level of 17.6% in 1984-86 then gradually increased to 26.2% by 1996-98. Other food exports included cereals, pulses, fruit, vegetable oils, alcoholic beverages and stimulants, but as a percentage of DES they were all below 6% since 1964-66 (FAOSTAT, 1999).

3. Food consumption

Information about patterns of food consumption in Trinidad and Tobago is not readily available. The types of foods consumed and the meal patterns are similar to other Caribbean countries. In the Caribbean adults tend to consume three main meals per day, funds permitting. The bulk of at least two of these meals consists of starchy fruits, roots and tubers (e.g. green bananas, Irish potatoes and yams) and cereals such as rice and wheat flour in its many forms. Other components of the meal, which vary in quantity and type according to economic means, include meat, fish, poultry, peas, beans and vegetables. Among the vegetables, "greens" e.g. callalu (callaloo or Amaranth, spinach, dasheen leaves), cabbage, tomatoes, cucumber, eggplant, pumpkin, cho-cho (Christophene) and lettuce are the most popular (CFNI, 1983.a). Some of the special dishes of Trinidad and Tobago include: "sancocho" (fish/stew and coconut milk with ground provisions, similar to Jamaican "run-down" and Grenadian "oil-down"); pelau (rice with meat, fish, peas, vegetables - national dish); roti (Indian bread with various fillings) and shark meat on hops bread (CFNI, 1983.b).

In a national household food expenditure and consumption survey carried out in 1970 (Gov't of T & T /CFNI, 1970), it was found that the principal cereal consumed was wheat, as flour (86% of households), bread (57%) and other wheat flour products. The most commonly consumed starchy staples were potatoes (73%), followed by yams (dasheen, tannias and eddoes) (51%). Split peas (68%), lentils (41%) and fresh pigeon peas (40%) were the most commonly consumed legumes. Apart from the widely used seasonings (tomatoes, garlic/onions) (86%), green leaves such as dasheen tops and cabbages were the most common vegetables. Citrus fruits especially orange, were the most commonly eaten among the seasonal fruit group. The energy, protein and fat intakes at the national and sub-national levels are shown in **Table 3** (Gov't of T & T /CFNI, 1970).

Urban households tended to consume more fruits, vegetables and animal products, whereas rural households consumed more cereals, other staples and legumes. The ethnic differences in dietary pattern were not reported in detail in this survey, but on average East Indian household tended to eat more cereals, fewer fruits and vegetables and use less fat and milk. Afro-Trinidadians ate more sugar and root crops. The survey also found that the poorest households appeared to be in debt to meet their food bills, while the richest households spent only 25% of their income on food (Gov't of T & T /CFNI, 1970). Between 1981-82 and 1988, there was a 12.5% decline in the average monthly expenditure on food. When the two devaluation of the dollar, which took place over the same period, were taken into account the decline was even more significant. The average monthly household expenditure on major food groups as a percentage of average monthly expenditure on food for 1981/82 and 1988 are shown in **Table 3**. Over the period stated the percentage contribution to total expenditure on food increased for cereals, poultry, sugars, and fats and oils, while it decreased for starchy foods, meat, fish, dairy products, fruits and vegetables, and "other". The group other consisted of hot beverages, non-alcoholic beverages, and other foods, which was the largest contributor (NFNCAB, 1992).

The variety of the island's cuisine reflects the influence of the different ethnic groups who have lived in the country over the centuries, including tourists. For example, "casareep" a cassava juice used for thickening or flavouring stew is derived from the Amerindians; "black (blood) pudding", which is traditionally served for Sunday lunch with "souse" (cooked pork trotters and head marinated in lime juice and mixed with cucumber), comes from the north of England. The East Indian influence is seen in the national dish "pelau" which consists of rice, chicken, peas, tomatoes and seasoning (the cooking of rice and peas/beans is also of African origin). The East Indian influence is also seen in the type of bread (roti) eaten, which is

stuffed with curry, and in the wide range of spiced legume fritters which are eaten as snacks (FAO, 1988).

On Christmas morning, egg punch, a thick rich eggnog with a good dash of alcohol (usually rum), or fresh fruit/fruit juice is usually served. This is usually followed by blood pudding or souse, bread, or for the East Indians, roti and its accompaniments. The East Indians normally complete their festive season in October-November and are usually back to their regular eating pattern during the Christmas - New Year period. A typical East Indian festive meal could be curried chicken, saboma - a fritter made from chopped dasheen leaves in an egg or split pea and flour batter, chicken channa (chickpea), seasoned golden apple (June plum or pomme cythere) and roti (CFNI, 1983.c).

Using mainly focus groups (qualitative methods) consisting of middle and low-income mothers of the main ethnic groups from rural and urban areas, a 1997 survey examined the feeding practices of children 0-3 years old. The children were assessed in three groups; 0-5 months (babies), 6-11 months (infants) and 1-3 years (young children), based on the mothers' own view of the main child development stages with respect to feeding. The pattern of feeding varied both within and between these three stages, but in general the babies were breast or bottle fed, the infants were on foods introduced during the weaning period, and the young children received normal foods (from the family pot). Solid foods were generally introduced at approximately three (3) months, with foods from the family pot playing a major role. In some cases commercial milk products were used as alternatives and/or complements to breastfeeding. The age at which such products were introduced, varied with the situation, but was said to be a complement from as early as one month (PAHO/CFNI, 1997).

Some of the foods eaten by the children and the age at which they are generally eaten are as follows: breastmilk/substitute, porridge (custard or arrowroot), soup, rice (soft), and mashed potatoes at 0-5 months. All the above mentioned foods plus peas along with the rice, corn and chicken with the mashed potatoes, dasheen bush with rice, and macaroni pie and callaloo are given at the infant stage. At the young child stage all of the above named foods are given plus saltfish, Indian dishes, roti and curry, pelau, chow mein, meat and ground provisions - essentially food from the family pot. Some babies start receiving a number of the "family pot" foods at 4 months (PAHO/CFNI, 1997).

Table 3: Food Consumption

Source/ Year of survey	Location	Sample			Average food intake									
		Number households	Sex	Age Years	Nutrient Intake (person/day)									
					Energy (kcal)	% Protein	% Fat	Protein (g)	% Animal products	Fat (g)	% Animal products			
Government	National	1050	M/F	all ages	2948	...	...	82.5	...	88.7	...		
Trinidad & Tobago/CFNI,	<i>Urban</i>	413	"	"	2850	...	...	83.6	...	95.8	...		
"National	<i>Rural</i>	637	"	"	3011	...	...	81.7	...	84.0	...		
Household food Consumption	African	536	"	"	3008	...	...	81.8	...	89.8	...		
Survey in Trinidad and Tobago	East Indian	357	"	"	3056	...	...	84.3	...	79.3	...		
					Share of major food groups in total expenditure on food (%)									
					Cereals	Starchy Foods	Poultry	Fruits/ Vege- tables	Oils/ Fats	Meat	Fish	Dairy prod.	Sugars	Other
NFNCAB, 1992	National													
A Food and Nutrition Profile of the Republic of Trinidad and Tobago	1981/82	...	Households		10.7	3.3	10.1	19.9	4.3	10.2	6.4	11.3	2.3	21.5
	1988	...	Households		14.7	2.9	11.5	14.7	4.8	6.8	6.0	10.3	3.4	18.9

4. Anthropometric data

Data available for anthropometric measurements made in the past were for children less than five years old. No proper comparison can be made between the 1988-90 and 1976 data shown in **Table 4a**, as different criteria were used to measure undernutrition. The 1976 data show that undernutrition was lowest in children who were less than 5 months old, while the highest was among those 2 years and older. Undernutrition among children less than five years old, using all three criteria was higher among the females compared to the males for all races.

Ministry of Health clinic data for 1998 show that 2.3% of children 1-4 years are moderately underweight while a small proportion (0.2%) are severely underweight. This is only a slight increase over the 1997 figures (**Table 4a**). For both years the St Patrick region shows higher levels of moderate underweight compared to the other regions. From the 1988-90 data, only 2.2% of the children (< 5 years) were overweight (NFNCAB, 1992). The 1988 data from child welfare clinics across the country showed for children 0-5 years, prevalence levels of 12.7% underweight, 3.0% wasting and 1.8% stunting (FAO, 1988). These data also showed the lowest level of underweight among those children less than 6 months old, while the highest was among those 1 year and older (similar to the pattern seen in the 1976 data).

From the physical activity study mentioned above, the mean body mass index (BMI) for adolescents 13-19 years is within the normal range (18.5 - 24.9 Kg/m²), and approximately the same for males and females (**Table 4b**). However, a small proportion (4.6%) of the population is overweight (weight at or above the 95th percentile), consisting of 7.1% males and 2.8% females. In addition, 6.3% of these adolescents are at risk of being overweight (weight between 85th and 94th percentiles) with 6.1% males and 6.4% females (CFNI, 1999. Unpublished).

In the adult population 20 years and older 16.8% are obese, with the prevalence among women being almost twice as high as among men. Another 31.4% of this population are overweight, the prevalence being slightly higher in women than in men. The data also revealed that 6% of the adults suffer from chronic energy deficiency (**Table 4c**) (CFNI, Unpublished).

The prevalence of low birth weight, nationally, in 1995 was 10.2% (PAHO/WHO, 1999.a). Between 1984 and 1988, the levels of low birth weight recorded at the Mount Hope Maternity Hospital were as follows: 12.5% (1984), 12.2% (1985), 12.6% (1986), 13.6% (1987) and 13.5% (1988) (NFNCAB, 1992).

Table 4a: Anthropometric data on children

Source/ Year of survey	Location	Sample			Percentage of malnutrition						
		Size Number	Sex	Age	Underweight % Weight/Age		Stunting % Height/Age		Wasting % Weight/Height		Overweight % Weight/Height
					<-3SD	<-2SD	<-3SD	<-2SD	<-3SD	<-2SD	>+2SD
Ministry of Health,	National	42467	MF	1.0-3.99	0.2	2.3	...	...	...	...	...
Clinic data, 1998	St. Geo. West	5921			0.1	0.5	...	...	...	...	...
	St. Geo. Cent.	5458			0.2	3.6	...	...	...	...	...
	St. Geo. East	4840			1.2	3.6	...	...	...	...	...
	St. A/D	2934			0.1	1.0	...	...	...	...	...
	Caroni	5416			0.1	2.1	...	...	...	...	...
	Nar/May.	1284			0.1	2.2	...	...	...	...	...
	Victoria	9212			0.1	1.2	...	...	...	...	...
	St. Patrick	5531			0.2	4.5	...	...	...	...	...
	Tobago	1871			0.1	1.4	...	...	...	...	...
Ministry of Health,	National	48768	MF	1.0-3.99	0.1	1.8	...	...	...	...	...
Clinic data, 1997	St. Geo. West	6168			0.0	1.7	...	...	...	...	...
	St. Geo. Cent.	6746			0.1	1.5	...	...	...	...	...
	St. Geo. East	5355			0.1	2.7	...	...	...	...	...
	St. A/D	3163			0.2	1.3	...	...	...	...	...
	Caroni	6465			0.0	1.7	...	...	...	...	...
	Nar/May.	1600			0.0	1.9	...	...	...	...	...
	Victoria	10693			0.0	1.2	...	...	...	...	...
	St. Patrick	6457			0.1	3.6	...	...	...	...	...
	Tobago	2121			0.2	0.8	...	...	...	...	...
NFNCAB, 1992	National	893	MF	< 5	...	...	0.3	1.9	0.3	6.2	2.2
A Food and											
					<90%		<90%		<80%		>+2SD
Gueri, M. et al,	National	1585	MF	0- 59mths	49.3		...		...		...
1980. Nutritional	"	183	"	0-5 mths	28.4		...		...		...
Status of Young	"	150	"	6-11 mths	47.3		...		...		...
Children in	"	337	"	12-23 mths	48.4		...		...		...
T & T, 1976	"	365	"	24-25 mths	55.4		...		...		...
	"	305	"	36-47mths	51.4		...		...		...
	"	245	"	48-59 mths	55.4		...		...		...
	National	785	M	0- 59mths	43.4		6.5		6.2		...
	"	799	F	"	55.0		9.9		10.0		...
	African	337	M	"	30.3		5.4		2.5		...
	"	333	F	"	41.4		6.6		4.1		...
	East Indian	312	M	"	60.9		6.4		9.4		...
	"	303	F	"	71.6		13.6		18.5		...

Notes: ... no data available

Each index is expressed in terms of the number of standard deviations (SD) units from the median of the NCHS/CDC/WHO international reference population. * Includes children who are below -3 SD.

Table 4b: Anthropometric data on adolescents

Source/ Year of survey	Location	Sample			Anthropometric status					
		Size	Sex	Age	Height (cm)			Body Mass Index (kg/m ²)		
		Number		Years	mean	SD	median	mean	SD	median
Physical	National	238	M/F	13.0-19.0	...	...	...	19.8	4.1	19.2
Activity Study	"	99	M	"	...	...	...	20.1	4.6	19.7
Trinidad and Tobago. CFNI, Unpublished, 1999	"	139	F	"	...	...	...	19.6	3.7	19.0

Notes: ... data not available

Table 4c: Anthropometric data on adults

Source/ Year of survey	Location	Sample			Anthropometric status and Percentage of malnutrition					
		Size	Sex	Age	Body Mass Index (kg/m ²)			Chronic Energy Deficiency % BMI	Overweight % BMI	Obesity % BMI
		Number		Years	mean	SD	median	< 18.5	25.0 - 29.9	>30.0
Physical	National	803	M/F	20+	25.5	5.6	24.8	6.1	31.4	16.8
Activity Study	"	328	M	"	24.6	4.9	24.2	7.0	29.6	10.7
Trinidad and Tobago. CFNI, Unpublished, 1999	"	475	F	"	26.1	6.0	25.6	5.5	32.6	21.1

Notes: ... data not available

5. Micronutrient deficiencies

No recent data on the prevalence of micronutrient deficiency were found, but the information available indicate that iodine and vitamin A deficiencies are not public health concerns in Trinidad and Tobago. Iron deficiency appears to be the micronutrient deficiency of concern in the country. The most recent data found relate mainly to pregnant women, and were mostly obtained from antenatal clinic records. **Table 5**, shows that there was a marginal decrease in the prevalence of iron deficiency (<10g/dL) among pregnant women between 1986 and 1990, with the prevalence being even lower in the intervening years (NFNCAB, 1992). The data for the clinics in East St. George showed a sharp decrease in the prevalence of anaemia among pregnant women between 1973 and 1980. Data from the Port of Spain general hospital (1976) showed anaemia prevalence of 61.2% and 53.5% for pregnant East Indian and African women, respectively. The prevalence of iron deficiency in the early to mid 1970's was much higher than the levels in 1978 – 1990. Anaemia levels among pregnant

women seen between 1978 and 1980 in East and West St. George were similar to the levels seen nationally between 1986 and 1990.

Data on the other groups considered vulnerable in the Caribbean (lactating women, pre-school and school children) were not readily available. In 1989-90, of 457 first year primary school children 61.1% were found to be anaemic, using the 120g/L as the cut off point (**Table 5**).

Table 5: Surveys on micronutrient deficiencies

Source/ Year of survey	Deficiency	Location	Sample			Percentage
			Size Number	Sex	Age Years	
	Iron					
NFNACB, 1992	< 100 g/L	Antenatal clinics (year)	...	Pregnant		
A Food and Nutrition Profile of the Republic of Trinidad and Tobago	"	1986	...	"		18.6
	"	1987	...	"		13.4
	"	1988	...	"		14.7
	"	1989	...	"		16.0
	"	1990	...	"		17.2
"	< 120 g/L	National (1989-1990)	457	M/F	First year primary	61.1 school students
Robinson, V.K., 1980	< 10 g/dL	Antenatal Clinics:				
Assessment of the effect of Antenatal clinics on anaemia in T & T.	"	1978 West	126	Pregnant		18.3
	"	1979 St. George	147	"		12.9
	"	1980	84	"		6.0
	"	1973 East	16	"		50.0
	"	1974 St. George	81	"		50.6
	"	1978	92	"		26.0
	"	1979	233	"		16.3
	"	1980	75	"		10.7
	"	1979 Central St. George	56	"		10.9
Roopnarinesingh S. et al, 1976	< 10 g/dL	General Hospital - Port of Spain				
Vitamin B12 and Folate Status in Pregnancy in Trinidad.Trop. Geog. Med. 28: 206-210	"	Africans	111	Pregnant		53.5
	"	Indians	42	"		61.2

Notes: ... data not available

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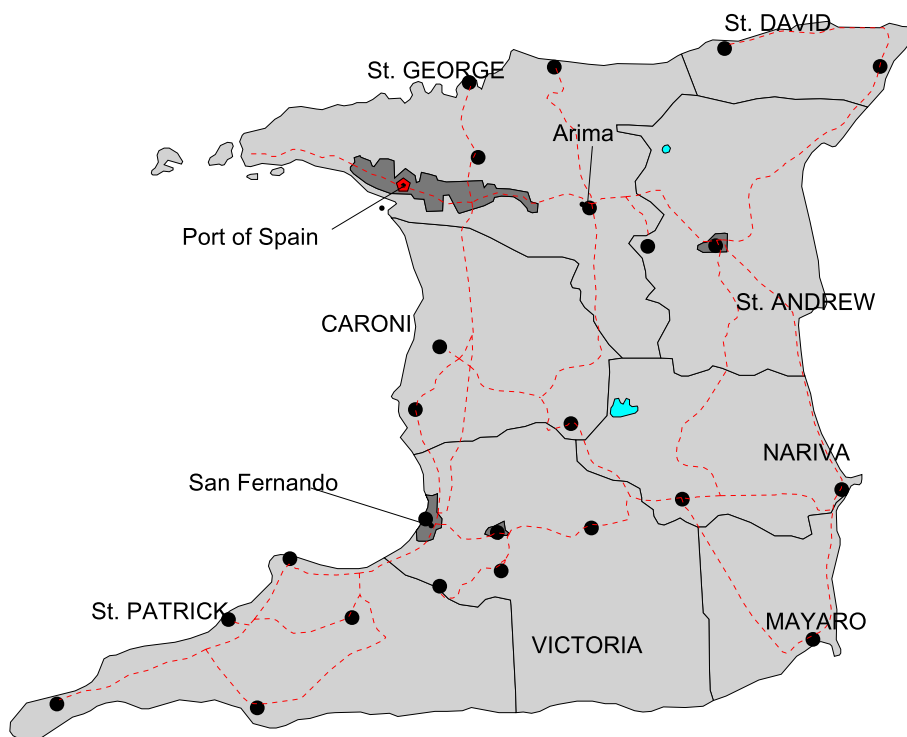
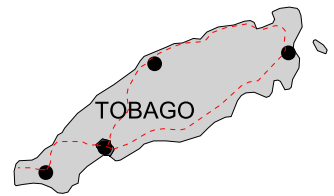
References of data presented in Table 1, unless otherwise stated:







<i>Source:</i>	<i>Indicator:</i>
FAOSTAT. 1999/2002	<i>A.1-2, B, C.10-11, E.1-3, F, G</i>
UN. 1999/2000/2001 rev.	<i>C.1-9, D.5</i>
World Bank. 2002.	<i>D.1</i>
UNDP. 2002.	<i>D.2</i>
Tabatabai H. 1996.	<i>D.3-4</i>
UNICEF. 2002.	<i>D.6</i>
FAO/WFS. 2002.	<i>H</i>

**NCP of TRINIDAD AND TOBAGO
MAPS**

-General Map of Trinidad and Tobago

General map of Trinidad and Tobago



-  Regions
-  Main roads
-  Urban areas
-  Capital city
-  Main cities
-  Freshwater bodies



Scale 1: 950 000 (approx.)
Geographic Projection (Lat/Long)

FAO-GIS/ESNA, July, 2002

Trinidad and Tobago

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