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G. Edward Ebanks

University of Western Ontario, geebanks@uwo.ca

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by
G. Edward Ebanks

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ABSTRACT

NEO-MALTHUSIAN DILEMMA: LATIN AMERICA AND THE CARIBBEAN

**G. Edward Ebanks
Population Studies Centre
Department of Sociology
University of Western Ontario**

Neo-malthusian dilemma manifests itself in a growing population of 500 million in 1998 and an additional net growth of 9 million people each year in Latin America and the Caribbean (LA & C) and low level of productivity resulting in poverty, a threat to sustainable development and prospects of continuing low level of the quality of life. To escape this dilemma it is necessary to reduce growth in the population while at the same time following the United Nations "Programme of Action" and the United Nations, The Economic Commission for Latin America and the Caribbean (ECLAC), "Social Equity and Changing Production Patterns: An Integrated Approach".

This paper examines the size of the population and its rate of growth and the contributing factors to these two, namely fertility, mortality and international migration. The population of Latin America and the Caribbean is large and is growing very significantly. Fertility is still high. Mortality is low, and the rate of natural increase is substantial in many countries. Emigration from outside the region is non-existent. Immigration exists but overall it is inconsequential, but for some individual countries it is important. There are some inter-regional migration.

Internal migration is still important. Rural to urban migration is being superceded by urban to urban migration. The spatial distribution of the population is of great concern. Overall, densities are satisfactory. But the population is located in small areas of the national territory.

Urbanization is a major aspect of the spatial distribution of the population. L A & C is a highly urbanized area. With few exceptions, the capital cities are primate cities. There are four mega cities of 10 million and more. Urbanization and the concentration of the population in a few small areas have many adverse effects for a sustainable development.

Low level of productivity is seen in the low per capital income of less than \$4000 for the region. Poverty is rampant throughout the countries. Food is scarce. Housing is inadequate and insufficient. Latin America and the Caribbean is classified as a middle income region. This may be true, but some countries are very poor, and there is much poverty in all countries.

KEY WORDS: Population size, fertility, mortality, migration, urbanization, poverty.

Neo-malthusian Dilemma:
Latin America and the Caribbean

1.0 Introduction

The Neo-malthusian Dilemma for Latin America and the Caribbean in the 1990's and as we move into the 21st century and the next millennium is one of increasing number of people and a slowly declining rate of population growth and the problem of not achieving a sustainable development. Assuming that we cannot do much about the increasing numbers of people in the immediate future and also the rate of growth of the population will not be modified severely by 2000, and the dilemma is one of increasing productivity to accommodate the population but by doing so, the hope of achieving a sustainable development could be sacrificed.

Latin America and the Caribbean can follow the United Nations Economic Commission for Latin America and the Caribbean (ECLAC) which calls for Changing Production Patterns With Social Equity (ECLAC, 1990). This is a plan which was accepted by all the countries of Latin America and the Caribbean as a guide to survival in a global environment. The changing production patterns will allow Latin America and the Caribbean to compete internationally. It calls for using technology rather than cheap labour to compete in the market place. Using their resources and modern technology they should be able to become an integral part of the global economy (ECLAC, 1992). The Headquarters for ECLAC is in Santiago, Chile. This location will influence this new approach. The 1980's is considered the "lost decade" for Latin America and the Caribbean, but Chile made tremendous macro progress. By 1983 the Chilean economy is in a growth period. Chile was "open for business". However, it came at a cost to the poor. Poverty, more or less doubled in this period of growth. Hence "with social equity" it means adopt the Chilean model but with social equity. Do not abandon the poor. Do not scrap the social welfare system while at the same time using technology to replace people in the labour force (ECLAC, 1992).

This plan, like the Earth Conference in Rio de Janeiro, 1992 (UN, 1993) more or less exclude population consideration. A later issue of the ECLAC plan for development, under the influence of the Latin American Demographic Centre (CELADE) did recognize population and sustainable development, Population, Social Equity and Changing Production Patterns (ECLAC/CELADE, 1993). UNECLAC, Sustainable Development: Changing Production Patterns, Social Equity and the Environment (ECLAC, 1990) is a plan which include concerns for a sustainable development, the environment and social equity. However, it is difficult for these countries to have social equity, protect the environment and a sustainable development and still be competitive in the global market place.

The Programme of Action (1992) adopted at the International Conference on Population and Development in Cairo, 1994 (UN, 1995) calls for integrating population concerns in all social and development policies and plans. Latin America and the Caribbean have made some demographic progress since the 1950's. They have passed from the high growth period into a slower growth period. There are exceptions at both ends of the growth rate, but these are few. The economies have grown at the macro level. At the micro level, poverty has increased. The drive for capitalism has the potential to impact on the physical environment, making a

sustainable development unattainable, and failing to improve the quality of life as we approach the 21st century.

2.0 Population Size

In 1950 the population of Latin America and the Caribbean was very close to that of North America (165.7 million vs 166. m). By 1951, Latin America and the Caribbean surpassed the population of North America. North America was growing from natural increase and immigration, but Latin America and the Caribbean was growing faster from natural increase and some emigration. By 1960, Latin America and the Caribbean had 217 million and North America had 199 million. By 1970, Latin America and the Caribbean (LA&C) was up to 283 million and North America was 226 million. By 1980, LA&C was more than 100 million ahead of North America (358 million vs 252 million). LA&C in 1990 had 440 million and North America had 278 million (United Nations, 1995).

The current situation in 1998 shows LA&C with 500 million people and North America with 301 million. LA&C is approximately 200 million more than North America. In about 47 years, has gained about 200 million people more than North America. By 2010 LA&C is projected to have a population of 591 million and in 2025 it is expected to be 697 million. North America will have 333 million in 2010 and 376 million in 2025 (PRB, 1998).

LA&C net population loss through emigration since 1970 has gone mainly to North America. In spite of some immigration from LA&C, in the last half of the 20th century, the size of the population has exploded. This rapid growth of the population has been an adverse factor in maintaining a sustainable development, protection of the environment, and improvement in the quality of life.

Latin America and the Caribbean with a population of 500 million in 1998 has witness 3 times the population of 1950. The population size has more than triple in the period 1950-1998. Regardless of one's theoretical orientations, one cannot fail to see the implications of this for the economy. It is more than food; and even so LA&C is not self-sufficient in food; this population makes its present felt on the physical environment, resources, housing, education, health and social pathology.

Latin America and the Caribbean (LA&C) can be divided into 3 geographic regions. In 1998, Central America had 26.4 percent (132 m) of the total population of 500 million, the Caribbean had 7.4 percent (37 m) and South America had 66.2 percent (331 m). The area of the Caribbean is small and the density of population is high (151 pop/km²). Central America is less dense (50 pop/km²) and South America is the least (18 pop/km²). In spite of low density, the impact of these large numbers on tropical landscapes are very precarious for the physical environment (UN, 1994).

In the Caribbean, Cuba with 11.1 million of the 37 million or 30 percent, is the largest country. Cuba and the Dominican Republic (11.1 and 8.3 m) account for 52 percent of the total population. The five Greater Antilles (Cuba, the Dominican Republic, Puerto Rico, Haiti and Jamaica) have 90 percent of the Caribbean population. All five of these have had some emigration. These countries faced the neomalthusian dilemma of large population and low productivity.

Central America includes Mexico with 97.5 million, or 74 percent of the 132 million. The 7 other countries ranged in size from Belize (0.2 m) and up to Guatemala with 11.6 million. El Salvador is densely settled (724 pop./sq. miles) but the others have large land areas and are less densely settled. Central America is facing the neomalthusian dilemma. Except for Mexico, mineral resources are relatively absent. They are deficient in food for the population even though they export fruits, vegetables, sugar and coffee.

South America is a large land mass and it is dominated in area and population by Brazil. Brazil with 162.1 million has 49 percent of the total population of 331 million. There are four other countries besides Brazil with populations above twenty million (Colombia, Argentina, Peru, Venezuela). The Southern Core countries (Argentina, Uruguay and Chile) were some of the first to experience a slow down in their population numbers. Overall density are low, but food is in short supply. There are significant mineral resources in South America.

For Latin America and the Caribbean, six countries, Brazil, Mexico, Colombia, Argentina, Peru and Venezuela have 77 percent of the total population. Their food production is not sufficient for their population. They export food but they also import food and the balance is negative in their favour. These six countries have mineral resources and potential for significant industrialization. What they need is capital in order to provide jobs, food, medicine, housing, education and a sustainable development.

2.1 Population Growth

Since 1950 to 1998 the population of Latin America has grown rapidly. Taking each of the five-year period between 1950 to 1990, the growth rate of the population has been close to 2.7 percent per annum up to 1970. Since 1970 it has gone down from 2.44 to 1.97 in 1990. The current rate, around 1997, was 1.8 percent of natural increase. LA&C is experiencing significant growth in the population. Two countries are at 3 percent natural increase (Guatemala, Nicaragua). Between 2.5 and 2.9 percent natural increase are Belize, El Salvador, Honduras, Bolivia, French Guiana and Paraguay. Other countries have one or below rate of natural increase, Barbados, Cuba, Martinique, Puerto Rico, Uruguay. Mexico has a rate of natural increase of 2.2 percent and Brazil 1.4 percent.

North America in 1997 had a rate of natural increase of 0.6 percent compared to LA&C with 1.8 percent. Central America is the fastest growing area with 2.3 percent rate of natural

increase. The Caribbean has a natural increase of 1.4 percent, with Dominican Republic and Haiti at 2.1 percent. South America has a natural increase of 1.7 percent. Bolivia, Colombia, Ecuador, French Guiana, Paraguay, Peru and Venezuela are all above 2 percent natural increase.

This rate of growth of the population of Latin America and the Caribbean is a major challenge to break away from the neomalthusian dilemma. The population growth rate affects savings and investments in productive areas of the economy, threatening the physical environment, and likely prevent a sustainable development and an improvement in the quality of life.

2.2 Current Fertility

The crude birth rate in Latin America and the Caribbean had declined from over 40 per 1000 population in the 1950's down to 35 in the 1970's and around 30 in the 1980's and around 25 in the 1990's. In 1997 it was around 25. For the Caribbean in 1997 it was 22, Central America it was 29, and South America it was 24. The crude birth rate had not been declining as fast as it was in 1960-80. The large young population entering the childbearing ages has given the crude birth rate a stabilising tendency.

The total fertility rate was around 3 live births in 1997. Central America was 3.4 and the Caribbean and South America it is 2.8. Some countries were over 4.5 live births (Guatemala, Nicaragua, Haiti, Bolivia). Between 4.0 and 4.4 were Belize, Honduras and Paraguay. Countries between 3.5 and 3.9 were El Salvador, Grenada, Ecuador, French Guiana and Peru. Mexico (3.1) and Brazil (2.5) are holding down the average. Countries that have low total fertility rate are Barbados (1.7), Cuba (1.4), Uruguay (2.4), Chile (2.4) and Martinique (1.7).

Fertility has declined in LA&C. However, it is still the main demographic force that is driving the numbers, the rate of growth and the age distribution. This is an area where policies and plans are aimed. Contraception is a major determinant of fertility. Abortion is still illegal in nearly all the countries but widely used. Fertility is still high. Most governments view their fertility as high. Progress in modernizing these societies will impact negatively on the level of fertility.

2.3 Mortality Levels

The crude death rate (CDR) for LA&C in 1997 was 7. It ranged from 13 to 4. Central America had CDR of 5, the Caribbean it was 8 and South America it was 7. The CDR is reflecting at this time mainly the age composition.

Haiti had a CDR of 13. The crude death rate was still high, since the infant mortality was high. Bolivia had a CDR of 10. This also reflects the high infant mortality. These two countries

have not yet arrived at the low crude death rate that have been experienced by the other countries.

Uruguay had a CDR of 10. This is reflecting the aging of the population in Uruguay. This path is also followed by Cuba, Barbados and Argentina. Costa Rica and El Salvador have CDR at 4. Panama, Antigua and Bermuda and Venezuela have CDR of 5. There are as low as they will get.

Crude death rates cover a wide spectrum. There are countries that still have CDR that are coming down. Some countries are as low as they will ever get. Others are moving up as the population ages. The crude death rate is not a major demographic force on the demographic side of the dilemma.

The infant mortality rate (IMR) for LA&C was 36 infant deaths per 1000 live births. This has fallen considerably. Some of these countries had IMR which we generally associated with the developed societies. Central America had an IMR for 32, the Caribbean 40, and South America 37. These rates will fall as the societies develop.

High rates of infant mortality are found in Haiti, with 74, Bolivia at 75, Guyana at 63, Guatemala with 51 and the Dominican Republic at 47. Low rates of IMR are in countries such as Costa Rica (12), Cuba (7), Barbados (14), Martinique (6), Chile (11) and Uruguay (20). Nearly all countries in LA&C will continue to have declining infant mortality. This will increase the rate of population growth and lower the age composition.

Life expectancy at birth (e^0) are related to mortality. For Latin America and the Caribbean, life expectancy at birth for female and male was 69. It is fairly stable across the three subregions. Martinique had a life expectancy at birth of 78 and the lowest is for Haiti at 51. Costa Rica had 76, Barbados had 75, Cuba had 75, Panama had 74, Uruguay at 75 and Chile at 75. Low life expectancy at birth can be found also in Bolivia (60), Guatemala (65), Nicaragua (66), Brazil (67) and Guyana (66).

Life expectancy at birth has been increasing. Male life expectancy at birth is 6 years lower than for the female in 1997.

2.4 International Migration

Latin America and the Caribbean has a growing population with a high potential to migrate north to the U.S.A., Canada and Europe. However, opportunities to migrate have been restricted. Currently there is no significant emigration into the region. Immigration from the region is quite limited.

There is some emigration and immigration within the countries of Latin America and the Caribbean. There are Colombians to Venezuela, Bolivians to Argentina, Haitians to the

Dominican Republic, Dominicans to Puerto Rico, Nicaraguans to Costa Rica and Guatemalans to Mexico.

There are emigrants from LA&C to U.S.A., Canada and Europe. There are documented and undocumented immigrants in these destinations. There are Mexicans to the U.S.A.; Dominicans, Cubans, Haitians and Jamaicans to the U.S.A.; Jamaicans, Trinidadians, Guyanese and Haitians have migrated to Canada. Chileans, Guatemalans and El Salvadoreans as refugees, have migrated to Canada and the U.S.A. England, France and Holland have sizeable migrants from the Caribbean; mainly from their colonies or former colonies.

There has been past emigration that have made significant impact on Cuba, Puerto Rico, Dominican Republic, Mexico, Jamaica, Guyana, Trinidad, Barbados and Haiti. Current emigration from the region is not likely to have a significant impact on the rate of growth. On some of these small islands in the Caribbean, money sent to relatives have tremendous effect on those individuals, and as well, on the hard currency of the society. Emigration, in many cases has not served as a release valve for the exploding population at the present time.

3.0 Spatial Distribution

The spatial distribution of the Latin American and Caribbean population is a major problem in a sustainable development and the protection of the environment. Most of the countries have major concentrations of their population in a small area of the national territory. Within this area, there are urban concentrations of the population. Within the urban concentration are primate cities and mega cities.

In the Caribbean, the population is more evenly spread across the country. But some of the major concentrations are along the coastal areas. In Central America, the population are concentrated along the high valleys and plateaus. In South America, the coastal areas are populated as well as the high plateaus and valleys.

Even though the densities are not high overall, but in the populated areas the population is densely located. The area along the Atlantic coast for Argentina, Uruguay and Brazil contain a very large percentage of the population. The Mexican highlands contain most of the population. Colombia has its population on the highlands and along the coast; and this is true for Peru and Ecuador.

The location of the population of Latin America and the Caribbean is a major concern of the governments. There is too many concentrations in small areas, giving rise to the destruction of the physical environment. Urban areas, necessitate huge infrastructures in areas such as jobs and housing. Urban areas remove the rural population from the areas of food production.

3.1 Urbanization in Latin America and the Caribbean

A major aspect of the spatial distribution of the population is urbanization. LA&C is an urban region. Seventy two percent of the population live in urban centres in 1997. In Central America it was 72 percent, in the Caribbean it was 60 percent and in South America it was 76 percent (PRB, 1998).

Uruguay had an urban level of 90 percent in 1997, Venezuela it was 86 percent, Argentina 89, and Chile 85. Brazil it was 76 and Mexico it was 74. Cuba percent urban was 74, Puerto Rico was 71, Guadeloupe was 99 and Martinique it was 81. The Netherlands Antilles it was 90 percent. At the end of the scale, Haiti was 33, Barbados was 38, Antigua was 36, Grenada was 32, St. Lucia was 48 and St. Kitts-Nevis was 43. All the other countries ranged above 50 up to 75 percent.

A prominent feature of LA&C urbanization is a preponderance of primate cities. In Ecuador and Brazil there are dual primate cities, Quito and Guayaquil and Rio de Janeiro and São Paulo. Buenos Aires, Lima, Santiago (Chile), Bogota, Caracas, Mexico City, Kingston, Havana, Santo Domingo, and all the other capital cities (excluding Brasilia and Quito) are primate cities. In addition, Mexico City, São Paulo, Buenos Aires and Rio de Janeiro are all mega cities of 10 million or more. Mexico City and São Paulo are two of the largest cities of the world. Mexico City is ranked second with a population of 17 million and São Paulo is ranked third with a population of almost close to 17 million. Bogota, Lima and Santiago de Chile will become megacities early in the 21st century.

The rate of growth of the urban population is about double the rate of growth of the total population. Cities at the top of the urban hierarchy are growing from 4 to 7 percent. Currently, some of the middle range cities are growing ahead of the capital cities and other large cities (Lattes, 1995; Ebanks, 1993; Boland, 1995; Portes and Lungo, 1992; United Nations, 1996a, 1996b; Villa and Rodriguez, 1997).

LA&C had 72 percent of their population in urban areas in 1997. Therefore, for most countries rural to urban internal migration is a declining factor in the growth of urban areas (Ebanks, 1993). Reclassification of rural areas to urban areas as the city gobbles up the countryside; and towns becoming cities are major factors in the urban process. Urban fertility is lower than rural fertility, however, the rate of natural increase is a major factor in the growth of the urban population; when the countries passed beyond 70 percent urban, as rural to urban migration will play a smaller role.

Urban poverty in Latin America is universal. Unemployment and under-employment are major urban problems. The informal economy has grown. Many children are working or abandoned. Housing is in short supply and in the slums are very poor. Slums are a major aspect of all cities.

Basic infrastructures are missing. Sewage and garbage disposals are inadequate. Pure

water is in short supply. Roads are poor. Polluting buses are the main public transport. Communications are poor and inadequate. Schools are overcrowded. Hospitals, medicine and health care facilities are overburdened. Malnutrition is present. Crime and violence are every present; especially in the large cities.

The urban population puts tremendous pressure on the physical environment. Soil and air are polluted. Rivers and lakes are contaminated. The sea is polluted. These affect the health of the population. Agricultural lands and forests become urban areas. Plant and animal diversity become smaller and smaller.

The rapid growth of the urban population is a major factor in establishing a sustainable development. To develop economically and maintain the environment for future population is a great challenge under a growing urban population. Latin America and the Caribbean is an urbanized region and as we move into the 21st century it will become even more urbanized. The governments in the region are very aware of the money problems associated with an urban population within very large cities. But they are powerless to reverse this dominant trend. Cuba has had some measure of success in controlling urbanization. This is not likely to be a model for the other countries; since at present they are not likely to become socialist societies with central planning.

4.0 Conclusions and Discussions

This paper examines the neo-malthusian dilemma with respect to the current situation in Latin America and the Caribbean (LA&C). This dilemma comes from a growing population and the prospect of providing a sustainable development and improvement in the quality of life for this growing population. The additional persons per year in LA&C is around 9 million. We have 500 million with a per capita income of \$3710 (US\$, 1996) compared to Canada \$19,000 (U.S.\$, 1996) (PRB, 1998). Let us assume that we want to raise this per capita income by the year 2000 up to \$10,000. Each year we have 9 million people added to 500 m. By the year 2000, LA&C population will be 525 million. It is not likely that the per capita income will be \$10,000. Our dilemma is that it is almost impossible to slow down the rate of growth of the population in the near future (by 2010). By 2010, LA&C will have 590 million and by 2025 it will have 690 million. These are very likely figures. We assume Canada's per capita income will continue to increase faster than per capita income of LA&C; and even if this is not true, LA&C will not close the gap by too much as we move towards 2025. LA&C has about 40 countries. Some of these will be doing much better than the others and some of them may not make hardly any progress. Hyper-inflation and recessions are major problems for these countries. They will experience many problems as they move into global markets and global economy.

Per capita income does not mean welfare, but it is a measure of goods and services produced. It does not tell us about the quality of life of the population. Rising per capita income could be a problem for a sustainable economy. It does not mean an improvement in the quality

of life. Chile made progress in raising its per capita income since 1983, but poverty has increased along with the rising per capita. Cuba with lower per capita income did better than Chile; before the present economic crisis beginning in Cuba in 1993. In 1996 U.S.\$, some countries in LA&C are doing better in per capita income than others. Argentina has \$8380, Uruguay \$5760, Chile \$4860, Mexico \$3670 compared to Haiti with \$310, Nicaragua \$380, Bolivia \$830 and Guyana \$690. Brazil with \$4400 has real potential to increase its per capita income, but it has a very large population and needs investments.

Latin America and the Caribbean ought to follow the Programme of Action (UN 1993) and also the ECLAC, Social Equity and Changing Production Patterns: An Integrated Approach (ECLAC, 1992) and ECLAC/CELADE, Population, Social Equity and Changing Production Patterns (ECLAC/CELADE, 1993), if they hope to establish a sustainable development with an improved quality of life. They must resolve the neomalthusian dilemma of gaining socio-economic development and slowing down the rapid expansion of their population numbers. Even when the number of new entrants into the population have been slowed, the spatial distribution and urbanization will continue to be major problems for the physical environment, a sustainable development, and an improvement in the quality of life.

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