NUTRITION AND HEALTH IN THE RURAL DEVELOPMENT PROCESS

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INTRODUCTION

Rural development is a dynamic state characterised by the progressive removal of obstacles to the enjoyment of democratic rights, freedoms and wealth by all segments of the population outside major city limits. The small size and populations of most English-speaking Caribbean countries and the distribution of the population make them essentially rural. This multi-faceted, people-oriented concept involves issues ranging from nutrition and health to employment, farm incomes and prices, industrialization, transportation systems, peoples participation in decision-making, environmental degradation, education, sport and culture, rural to urban migration and a host of other welfare concerns pertinent to the quality of life.

The central issue in this rural development complex is equity in the allocation of costs and the distribution of benefits between and within rural and urban populations arising from the efforts of public and private agencies and institutions in their quest for a better life for all the people (Heady, 1973; Nettleford, 1983).

Nutrition and health are major components of the rural development thrust in terms of ultimate goals as well as means of enhancing the process in pursuit of other development goals. Development contributes to good nutrition and health status through the provision of a wide variety of goods and services to meet the requirements for energy, growth and repair, and protection against diseases. Good nutrition and health status enhances output and productivity and minimises costs associated with conditions arising from poor nutrition and health status.

This paper examines the interrelationships between nutrition and health in the rural development process and the strategies to be adopted to modernise the rural sector with particular reference to nutrition and health concerns. The paper argues that a combination of diversification efforts in terms of a wide array of products at the primary level of production as well as at the secondary and tertiary levels (diversification in end products) is particularly suited to the Caribbean rural environment.

Arriving at that desirable balance requires a clear specification of rural development goals and the roles to be played by the rural population and the private and public agencies and institutions at the local, national, regional and international levels, which cooperate with them in the areas of research, policy formulation, information dissemination, technological transfers, investment and evaluation. The critical role of women in nutrition, health and rural development must be recognised and mechanisms established to facilitate the full expression and compensation for their efforts in the development process.

NUTRITION, HEALTH AND RURAL DEVELOPMENT: THE INTERRELATIONSHIPS

The health status of individuals is perhaps their most important daily concern. This concern finds expression in the exchange of greetings among individuals in friendship; but may take on bizarre connotations in enmity. Health is not merely an absence of disease or infirmity but a state of optimal physical, mental and social well-being;

though diseases militate against that optimal state. Disease results when the body's immune system fails to meet the challenges of stresses, trauma, infectious organisms, toxic agents, congenital metabolic defects, poor nutrition or aging. The principal causes of ill-health and mortality in the Caribbean are nutrition-related; directly or indirectly. These diseases include energy-protein malnutrition, anaemia, obesity, heart disease, cerebrovascular disease, diabetes mellitus, diarrhoeal diseases and cancers. There also exist *pockets* of malnutrition. (McIntosh and Sinha, 1989).

The contribution of good nutrition and health to rural development could be substantial in terms of:

(a) reduction in absenteeism due to disease or care of the sick;
(b) prolonged life expectancy and thus productive years;
(c) increased learning capability and sustained work capacity; and
(d) reduction in health care costs.

In circumstances of energy deficits, activity patterns of individuals are modified in order to balance energy output with intake. Chronic energy deficits are likely to reduce work output and earned income, induce apathy, reduce social interactions and community participation thereby putting a brake on the rural development process (Hussain, 1987).

Iron deficiency anaemia lowers worker capacity for long periods of energy-intensive work; while obesity and other chronic disease increase absenteeism and take a heavy toll on the health care system.

The relationship between nutrition, health and rural development is not unidirectional. Rural development enhances nutrition and health status. Agriculture provides employment, income and foodstuffs for the rural population. However, there may be certain negative impacts on nutrition and health arising from inappropriate combination of crops/livestock, the injudicious use of hormones, antibiotics, pesticides and herbicides, and inequity in the distribution of products and incomes (Hussain, 1987).

NUTRITION AND HEALTH GOALS

In the past, national development planners have been preoccupied with (a) high rates of growth in the gross domestic product, (b) price stability, (c) *full* employment, and (d) balance of payments. Recognising that high rates of economic growth do not necessarily translate in improved welfare of all segments of the society, development planners have extended their concerns to equity issues, nutrition and health status, environmental impact and lifestyle. Improving the nutrition and health status of the population requires the specification of long-term desirable goals and the progressive modification of the food production, processing and distribution system, the health care system, and ancillary service to attain the desired goals.

Given the nature and magnitude of the nutrition and health problems in the Region, the following goals are relevant:

1. The per caput availability of 2700 kilocalories of food energy sources from a wide array of foodstuffs with the following approximate contributions to energy - cereals 30%, starchy fruits, roots and tubers 14%, sugar 10%, legumes 12%, vegetables 2%, fruits 4%, food from animals 14% and fats and oils 14%.

   The goal of 2700 kilocalories per person is approximately 20 per cent above basic for energy requirement for Caribbean populations (Gurney, 1975). This allowance is to address the problems of maldistribution and production shortfalls and to ensure reserves for disaster preparedness (McIntosh & Manchew, 1985).
2. Reduction in the prevalence of undernutrition, anaemia and obesity among various at-risk groups.
3. Increase market competition and improve price information systems.
4. Promote healthy lifestyles to include regular exercise and abstinence from tobacco, alcohol and other drugs.
5. Provision of an improved health care system based on the primary health care approach.
6. Establishing mechanisms to ensure that nutrition and health concerns are incorporated into development policies and programmes.

STRATEGIES TO ATTAIN GOALS

Strategies impacting on the nutrition and health status of the population fall into one or other of the following:

(a) measures affecting availability and accessibility of food to the consumer;
(b) measures in respect of safety standards and nutrition quality of foods;
(c) measures that enhance people's

knowledge, attitudes and practices in respect of food choices (James, et al., 1988).

Given the wide variety of foods needed to ensure nutritionally well-balanced meals and the diversity of soil topography, and micro climatic conditions in the Caribbean, a diversified rural agriculture is particularly suited to addressing the food needs. The current emphasis on few major export crops - sugar and bananas - almost to the point of monoculture in some territories - must give way to a more acceptable crops/livestock mixes to facilitate greater self-reliance in meeting nutrition needs. The vagaries of international markets, the benefits of foreign exchange conservation, the agro-industrial and employment potentials all support a diversification thrust at the production level as well as at the end products level. Even when good market conditions for food import prevail, the threat of nuclear or other disasters in the exporting country affecting the safety of food supplies gives cause for concern.

In adopting a diversification strategy, changes in land ownership and tenure, farming systems and marketing arrangements must be made to remove those factors which are inimical to investments in the production and processing of the required food sources. In particular, the strong competition faced by domestic foodstuffs from imported food must be addressed to foster stronger linkages between the urban and rural communities.

Farm size is a crucial factor in determining farm household income. The rather small size (less than 5 acres) of the majority of farms in the region does not allow for exploitation of scale economies, is unattractive to creditors, and makes adoption of technology difficult. On the other hand the large acreages (over 100 acres) controlled by few private firms and the State appear to suffer from diseconomies of scale, mismanagement and labour problems.

The allocation of State lands for farming has been for specific sizes with lease tenancies. The acreage requirements for different enterprises, the differing managerial capacities of individuals and the income expectations for different households suggest that a more logical approach to land allocation should be on a case by case basis taking into account internal rates of allotments. The dynamic nature of agricultural enterprises implies expansion or contraction and lease arrangements do not allow for ease of transfer of resources from an enterprise in contraction to another in expansion. The rigid dictation of enterprises or enterprise mixes for farmers is a disincentive to entrepreneurship. Private ownership presents fewer obstacles in the transfer of assets and should be given due consideration in land distribution programmes. The development of objective criteria to determine levels of farm household incomes and farm size should be high on the agenda of the Caribbean Agro-Economic Society (CAES).

The incorporation of nutritional considerations into the design of farming systems point to a delicate balance among staples, legumes, vegetables, fruits, fats and oils and livestock and fishing. Sound nutrition practice dictate moderation in the use of fats, sugar, salt and alcohol if abstinence in the last is not possible. The bulk of the energy, 50 percent, should be sourced from complex carbohydrates. The starchy fruits, roots and tubers, cereals and legumes are good sources of complex carbohydrates and should be given high priority in research and development programmes.

The development of a strong agro-industrial programme based on domestic production is crucial to a sustained primary agricultural programme and to ensure the availability of foodstuffs to consumers outside the production period. The current practice of marketing products in their unprocessed form (e.g. cocoa, nutmegs) foregoes the gains that should accrue from higher product prices due to value-added, increased employment opportunities and risk aversion arising from not putting all eggs in one basket. There is no reason why all bananas produced in the Windwards, say, should not be purchased by the respective Boards at varying prices and then graded for fresh fruit export, ripening for the local market (livestock feed), banana chips, starch, vinegar, wine, flours, etc. Or is the technology beyond us to convert the pseudo stems into the boxes for shipping the fruit? This concept of diversity in end products from a single product base is intuitively appealing for small economies with limited opportunities for diversity at the primary production level.

Food marketing strategies should also recognise nutrition and health concerns. Subsidised pricing of nutritionally inferior foods, e.g. sugar, salt and fats and oils may lead to over-consumption with adverse consequences on health and productivity. Food safety and quality standards as well as nutrient composition - level and nature of fortification and sodium content are major components of the legislative framework for rural development. The agro-industrial programmes should focus on reducing sodium, fat and sugar in food preparations and ensuring that appropriate labels on nutritional

content are provided.

The imposition of import taxes in place of import restriction on certain foods is perhaps a more appropriate mechanism for ensuring availability and competitiveness. Changes in market structure from the high concentration in the import/wholesale sector should lead to lower prices.

The occurrence of malnutrition within specific environment points to the need to target special programmes to these areas. The causal factors invariably centre around inadequate resources - land, technical and management skills, employment opportunities and education. The provision of supplementary foods and income transfers are only palliative. The long-term solutions lie in raising the education levels and skills of the dispossessed. The means are education within the school and university systems; technical training at colleges and apprenticeship programmes and through public education programmes utilising the print and electronic media, the church, cultural media and so on. Public education is by no means a simple problem. A wide variety of educational approaches involving different groups of people and systems are indicated (James, et al., 1988).

The health care system must be supportive of the rural development thrust. The close link between nutrition and infection (infection leading to malnutrition and malnutrition predisposing to infection) makes it imperative for the health care system to address problems of infection through proper immunization; to promote breastfeeding and thereafter proper diet through the lifestyle; and care of the sick and dying. The primary health care approach with its emphasis on peoples' participation in the formulation and implementation of health care programmes has particular relevance in rural development.

INTERSECTORAL COORDINATION

The multi-faceted nature of rural development problems implies the involvement of various sectors in their solution. Undoubtedly, there will be overlap in the activities of the various sectors in their efforts to find solutions. But overlap should be minimised and activities of sectors coordinated for maximum impact.

The institutions involved in the rural development process are legion. These include universities, national departments of agriculture, national institutions, corporations, development banks, women's organizations and rural development organizations. Without proper programme coordination, critical obstacles to the rural development process could remain causing many projects to fail. A recent Guyana experience is instructive.

In order to stimulate milk production, improved feed and veterinary care of the cattle was introduced to expand the milking herd. However, as there was no change in the time (very early morning) for the pick up of the milk, and the availability of very attractive milk prices, the additional cows were not milked.

At the regional level, the Annual Agricultural Planners Meeting provides a forum for the coordination of rural development programmes. All the key institutions are represented. The agenda should focus on the critical issues in the rural development process. At the national and community levels, similar mechanisms should be promoted to allow for maximum peoples participation in the development process and the coordinated implementation of programmes.

The coordination could start with the sharing of information on projects and programmes among institutions, professional societies, agencies and departments. Annual reports of Directors and Heads of Departments and organizations should be prepared on a timely basis and circulated. Such reports should not only focus on past achievements but should highlight future activities. Such cross-sectional information flows would serve to link institutions with similar concerns and programmes so that joint activities could be undertaken.

Rural development plans are many and several more will be developed. The lack of development in the rural sector hinges not so much on the absence of plans but on the poor implementation of plans. The focus must be on appropriate implementation strategies and mechanisms for people's participation.

WOMEN IN NUTRITION, HEALTH AND DEVELOPMENT

It is now well-recognised that in addition to procreation, women's contribution to the development process is substantial; though the economic quantification continues to elude the computers of national accounts statistics. The problem arises because much of the contribution is outside the market system which determines the value of goods and services.

Caribbean women are increasing their participation in virtually all economic activities while maintaining their roles in home management and

family care. Women account for approximately 58 per cent of the agricultural labour force. They dominate the production and marketing of domestic food crops - 80-85 per cent of the hucksters being women (Saul, 1990). The failure of CATCO is explained in part by the strong competition by women in the domestic food trade. The teaching and nursing professions are also dominated by women, while the proportion in administration is increasing.

Women thus have an unique role in determining how people are fed and cared for often at great sacrifice to themselves. Women's decisions are critical to population growth. Their choice of breastfeeding and weaning practices determines the nutritional status of the children. The dietary intakes of household members rests to a large extent on the food procurement and preparation practices of women. This unique role of women must be recognised and be given adequate compensation - household comforts, adequate maternity leave periods with pay, equal pay for equal work and equality in opportunities for employment and promotion.

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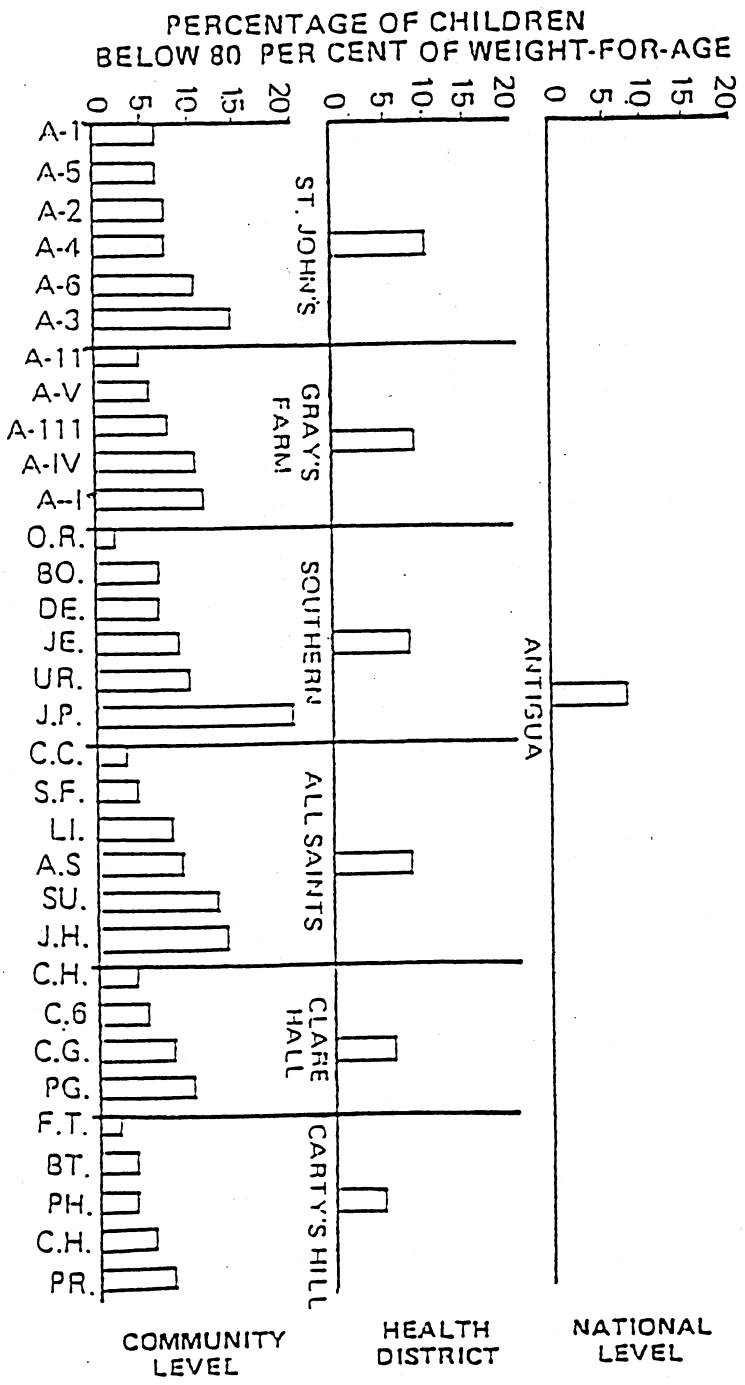
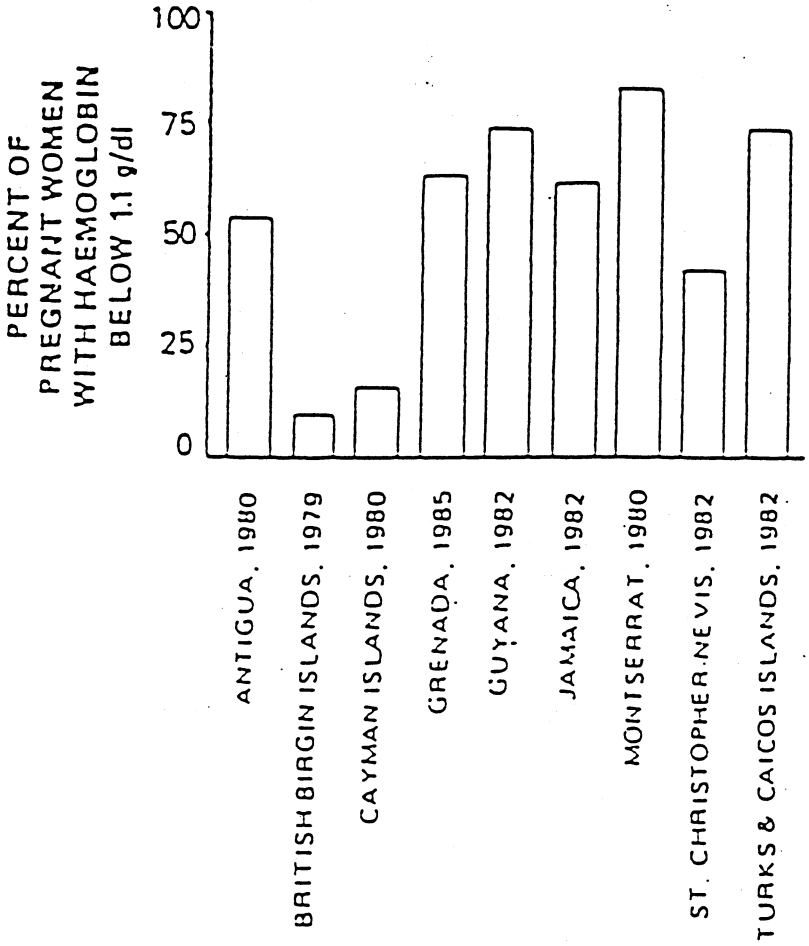


Figure 1: Malnutrition in Antigua, 1984* Aggregated and Disaggregated data showing Pockets of Malnutrition.

Source: Ibid.

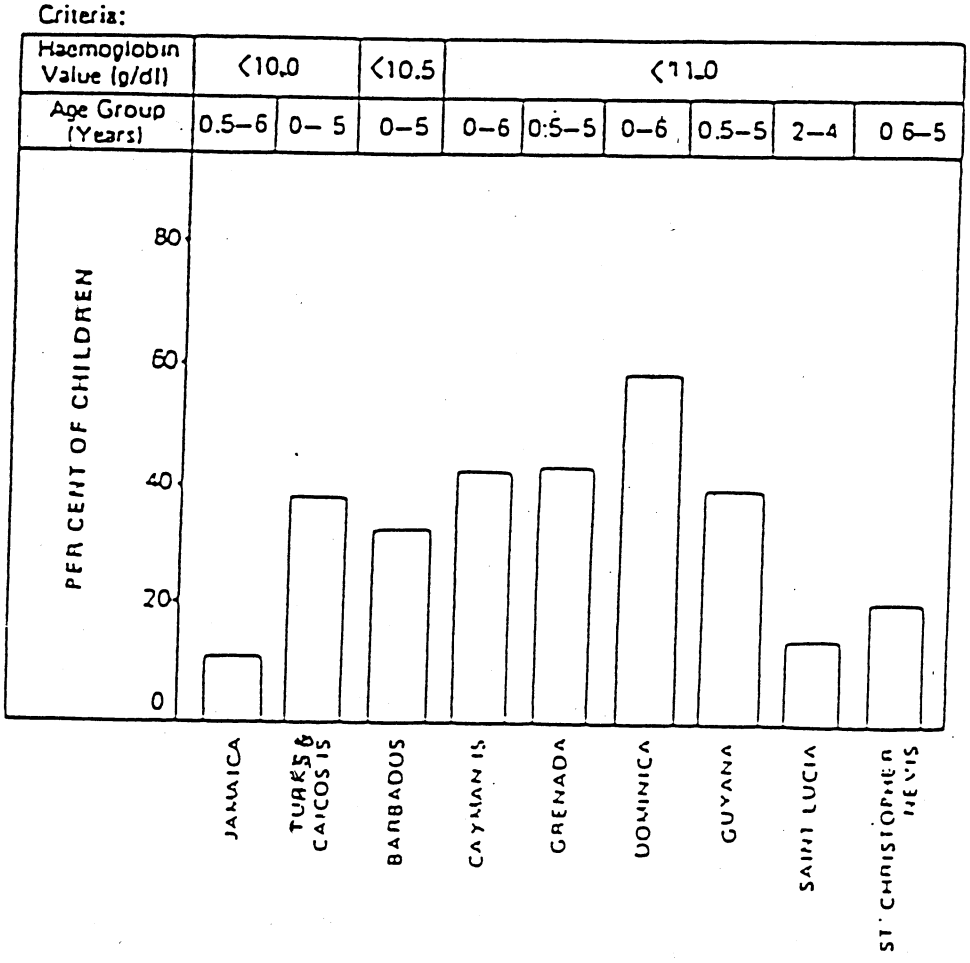
Figure 2: Prevalence of Anaemia during Pregnancy in Nine Countries

(Measurement of Haemoglobin at first clinic visit, mostly around 12 to 16 weeks of pregnancy).



Source: Simmons, W.K. Nutrition Anaemia in Antenatals in the English-speaking Caribbean. (CFNI-J-22-85), cited in McIntosh, C., and Sinha, D. Food and Nutrition in the English-speaking Caribbean: A Situational Analysis. Cajanus, Vol. 22, No. 3, 1989.

Figure 3: Prevalence of Anaemia in Young Children



Source: Simmons, W.K., and Gurney, J.M.G. Amer. J. Clin. Nut. 35, 327, 1982, cited in McIntosh, C., and Sinha, D. 1989.

TABLE 3: FIRST FIVE PRINCIPAL CAUSES OF DEATH IN THE ENGLISH-SPEAKING CARIBBEAN 1975-1979 (RATES PER 100,000 POPULATION) ALL AGES AND ITS COMPARISON WITH TWO NORTH AMERICAN, AND ONE CENTRAL, ONE SOUTH AMERICAN COUNTRY

Antigua 1978	CVD 97.3	DH 86.5	MN 75.7	CPM 37.8	DM 27.1
Bahamas 1979	DH 72.8	MN 70.5	ACC 59.8	I&P 56.7	CPM 46.2
Barbados 1978	DH 173.5	MN 129.7	CVD 112.4	I&P 65.2	DM 42.6
Belize 1975	DH 79.3	EDD 62.1	MN 39.3	CPM 31.4	I&P 27.1
Dominica 1978	DH 121.8	MN 66.4	CVD 39.4	CPM 29.5	EDD 20.9
Grenada 1978	DH 163.6	CVD 63.6	MN 60.0	I&P 43.6	EDD 34.5
Guyana 1977	DH 125.2	CVD 83.5	ACC 61.6	EDD 58.9	CPM 50.5
Montserrat 1979	CVD 181.8	DH 172.7	MN 118.2	DM 81.8	I&P 63.6
St. Kitts/Nevis 1978	DH 190.1	CVD 181.8	MN 80.8	I&P 62.0	AND 47.5
Saint Lucia 1978	DH 111.7	CVD 95.0	I&P 52.5	MN 32.5	CPM 26.7
St. Vincent 1978	DH 148.1	CPM 52.9	MN 45.9	EDD 32.6	DM 30.0
Suriname 1978	DH 108.0	CPM 70.3	MN 43.3	ACC 42.8	I&P 29.7
Trinidad & Tobago 1977	DH 162.3	CVD 82.0	MN 60.2	DM 48.6	ACC 44.2
Canada 1978	DH 247.3	MN 158.3	CVD 64.9	ACC 51.2	I&P 21.8
U.S.A. 1978	DH 330.9	MN 178.7	CVD 79.1	ACC 49.4	I&P 26.3
Ecuador 1978	EDD 87.2	DH 61.8	ACC 58.4	I&P 58.5	BEA 45.3
Guatemala 1978	EDD 165.8	I&P 134.5	CPM 87.6	ACC 62.2	DH 35.2

Diseases of the Heart (390-429)* = DH
Cerebrovascular Diseases (430-438) = CVD
Malignant Neoplasma (140-209) = MN
Diabetes Mellitus (250) = DM
Accidents (E800-E949, E980-E989) = ACC
Bronchitis, Emphysema and Asthma (490-493) = BEA
Causes of Perinatal Mortality (760-779) = CPM
Influenza & Pneumonia (470-474, 480-486) = I&P
Enteritis & Other Diarrhoeal Diseases (008-009) = EDD
Avitaminosis & Other Nutritional Deficiencies (260-269) = AND

* Numbers after causes of death are category numbers of the Eighth Revision International Classification of Diseases.

Source: McIntosh, C., & Sinha, D., 1989.