A SOCIOLOGICAL ANALYSIS OF THE ORGANISATION, DISTRIBUTION AND USES OF HEALTH CARE IN MAURITIUS

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CONTENTS

ABSTRACT

The main causes of morbidity and mortality in developing countries are infectious and parasitic diseases and malnutrition. While there is a growing consensus among health workers that these diseases are in the main preventable, approaches to health care have so far been curative. Health services are urban based while the majority of the population are rural dwellers. This thesis examines in some detail colonial and post colonial health policies, the Primary Health Care concept and the alternative approaches of L. Doyal (1979) and V. Navarro (1976).

In the light of these theoretical approaches, the organisation, distribution and uses of health care in Mauritius are analysed. Central to the methodology is a structured interview on socio-economic factors, administered in 1979 to 100 families with infant/child death (4 weeks - 5yrs). The fieldwork, comprising extensive interviews with both laymen and health professionals, covered the period between October 1980 and May 1981.

The analysis shows that while services have improved in scope, access to the health system inherited from colonialism has undergone little structural change. Diseases such as Malaria, Small-pox and the Plague have been eradicated. Tuberculosis and Typhoid are under control. Life expectancy has increased while infant mortality has declined considerably. At the same time infectious diseases remain the main causes of mortality and morbidity in infancy and childhood. Besides infections, adults also face increasing risks from the diseases of the circulatory system and carcinomas. Curative services consume over 80% of health resources and remain concentrated in the urban areas.

Unemployment is growing while the gap between the rich and the poor has widened in the last twenty years. There are indications of higher infant mortality associated with low income.

A preventive and community approach to health care is called for. More co-ordination between the Ministries and an improvement in the living conditions of the poor will further enhance the health status of the Mauritian population.

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Part I

CHAPTER 1:

THEORETICAL APPROACHES TO HEALTH CARE IN DEVELOPING COUNTRIES

This paper will attempt to analyse in some detail the various approaches adopted so far towards health care in developing countries. The present health situation in these countries point to the urgent need for new health strategies which hopefully will bring changes which are long overdue. After decades of studies in research and planning in health care, the developing countries still face enormous health problems which are not only affecting the productive capacities of its inhabitants, and therefore preventing development, but also crippling the development of individuals, whose sufferings cannot be quantified in the forms of morbidity or mortality rates however frighteningly high these latter can be. This analysis will deal mainly with Third World countries but comparison with and reference to developed countries will provide the necessary insight as 'health' is a universal issue, not confined to any individual social formation. However, the reasons for looking at specific health strategies to Third World health problems are as follows. First, the main causes of morbidity and mortality in developed and developing countries at present are different. In the former "the killers are now chronic illnesses - cancer, heart disease, stroke. Accidents, drug poisoning and suicide are now large causes of death, especially in the young."(1) In the developing ones diseases caused by infections such as gastro-enteritis, pneumonias and tuberculosis and parasitic diseases such as malaria, schistosomiasis etc form the bulk of health problems. Secondly, medicine and health services have had different historical development. While most of the advanced industrial societies experienced their own medical and health development without interference from outside, the Third World countries

through colonialism, have had the cosmopolitan medical system imposed upon them. Thirdly, in most developing countries there is still a large traditional health sector which is almost non-existent in the developed ones at present. These differences in themselves call for different solutions, but there are lessons to be learnt both from the progress and mistakes made by the advanced industrial societies. After all nineteenth century Britain, for example, was faced with diseases caused by infection such as tuberculosis, diptheria, dysentry and gastro-enteritis. Among these infectious diseases which killed the poor in such vast numbers, small-pox and cholera are often assumed to have been the more deadly.(2) Infant and maternal mortality was high, while life expectancy at birth was much lower than it is now. Britain's experience can provide the Third World with new insight in their search for causes and solutions to their own diseases.

Another lesson to be learnt is that scientific progress in medicine and more resources do not in themselves solve all health problems. The differential class access to services, and the difference in mortality rates for different classes and ethnic groups both in Britain and in the USA, are reminiscent of the same situation in the Third World, where mortality rates and access to services show the same class and ethnic bias. There are other areas in which the Third World is still heavily dependent on the developed, specially in the field of pharmaceuticals and the training of personnel. The search for new ways of solving the Third World health problems does not mean that one can ignore new health and medical development which happens mostly in the northern part of the world. After all the progress made in medicine has played a substantial role in treating many diseases, though there have been many reservations made on the subject by several doctors and social scientists.

Health and Development

It was Marx who wrote: "The country that is more developed industrially only shows to the less developed the image of its own future."(3) The developing countries have the opportunity to see the kind of health problems that they may face in the future if they follow the same course of development.

If development brings about new diseases one can question the value of such a development. The term itself has been used mainly to mean economic growth. The Brandt Report points to the need for looking beyond economic development.

"One must avoid the persistent confusion of growth with development, and we strongly advise the prime objective of development is to lead to self fulfillment and creative partnership in the use of a nation's productive forces and its full human potential".(4)

It is widely believed that when a country experiences substantial economic growth the benefit will 'trickle down' to the poorer classes. This 'trickle down' theory has been criticised by many writers. We will deal with this aspect of development later on. Before going any further, it would be useful to state the kind of development necessary for the developing countries. Surely it must take into account the human potential and the environment in which the human being thrives. Development must also mean "improvement in living conditions, for which economic growth and industrialisation are essential. But if there is no attention to the quality of growth and to social change one cannot speak of development."(5)

We will now look at ways in which health affects development and the harmful (intentional or unintentional) effects of the development process. There is little doubt that 'healthy' individuals will be more productive. A sick person will be absent from work more often, and

will not be able to work to his full capacity. S.J. Mushkin describes it thus:

"The effects of sickness on the amount of human labour available for productive purposes can be summarized under three headings: deaths (loss of workers); disability (loss of working time); and debility (loss of productive capacity while at work)".[6]

In one area of the Philippines daily absenteeism in the labour force due to malaria was 35%; after initiation of an anti-malaria program, absenteeism was reduced to less than 4% and 20 to 25% fewer workers were required for any given task than was previously the case. In Haiti it was estimated that a yaws eradication campaign returned 100,000 incapacitated workers to their jobs.[7]

Myrdal [8] is critical of the low priority given to 'health' and education in development plans, and of the overriding importance of investment in the physical elements of national growth such as roads, dams, factories and so on. He could have gone further by questioning why these are given more consideration. Infrastructures such as roads, dams, drainage etc are usually built to serve first the interests of the capital. To attract investment sometimes whole areas are cleared to provide infrastructures which the factories will need. All other considerations are subordinated to the need for profit.

Economists have begun to realise the potential contribution of 'health' to economic growth, especially in developed countries. They have come up with what is known as cost-benefit and cost-effectiveness analyses. For example, "cost-benefit ratios are calculated for various alternative programs, and those programs with the lowest ratio of costs to benefits are rated the most desirable. Benefits are generally

measured in terms of number of lives saved, amount of disability prevented, or amount of economic loss avoided."(9) Though every effort should be made to use resources efficiently, the use of economic criteria in tackling ill health should be handled cautiously. V.D. Taylor expresses surprise at the lack of controversy over the appropriateness of treating health programmes primarily as investment decisions about medical care, especially where they may affect life, and are consciously detached from questions of profit and loss.(10)

The use of the 'Human Capital' concept raises ethical questions. Health seems to be subordinated to the interest of capital once more. If it is true that health affects economic growth, it does not mean that the amount to be spent on health must therefore be measured according to how much economic gain is possible. Anyway, other factors besides health, such as education, research, technology etc contribute to economic growth. It is not possible to detach any one factor and decide its exact contribution to the end product. The health of the individual is too important to be decided on economic criteria alone.

The reverse side of the relationship between health and development also needs consideration. We will concern ourselves here with only the ill effects of development. The economic benefits brought about by industrialisation in the form of better standards of living has not meant freedom from disease and illness. 'Old' diseases have been replaced by 'new' ones. It has been argued that the conflict between the medical bureaucracy, primarily the medical profession and the medical care system, and the patients results in dependency, pain, sickness and death in industrialised societies.(11) On the other hand, it has been put forward that the capitalist mode of production is itself a cause of ill health in a variety of ways.(12) We will not enter into a

discussion of the relative merits of each of these arguments or others put forward. However, these are important considerations if the Third World are to opt for the same 'model' of development as the industrialised countries. A lot of damage done in the developing countries, and perhaps more so in the developed ones, in the name of development, is irreversible. It is true that in our attempt to control the external world it will not always be possible to predict all the consequences. However, the complete disregard that man has shown so far for his natural environment is not excusable in the least. Pollution and exploitation are all embracing, whether of the atmosphere or soil, or of seas which are being overfished with little regard to replenishment.(13) And the price for man's action is high. For example, chronic respiratory disease is now the leading cause of disability among adults in all the industrialised parts of northern Europe and is becoming increasingly prevalent in the United States. A growing number of young people are totally incapacitated because of pollution in the air, the water, our homes and our food. And the 'villains' are petrochemicals, food additives, hair sprays, pesticides, tobacco smoke and other twentieth century pollutants.(14) The writer, Veitch, is referring to the disease called 'allergy'. On the other hand, the increased incidence of lead in the atmosphere is creating real concern in the developed countries.

Legislation for the protection of the environment and the health of workers in factories have made the world a safer place, but one must bear in mind that such measures are only taken after the event has taken place, usually after the damage is done. Nor is this legislation capable of removing all threats to health. As Dubos(15) pointed out, though control over the quality of our water and food is in many cases sufficiently strict to prevent the most obvious kinds of toxic effects, nevertheless, the low exposure to levels of toxic and irritating agents

remain unnoticed, and therefore public attention is not alerted. In such cases, Dubos warns that "the multifarious effects of environmental pollutants may not be detected until several decades after initial exposure."(16)

One would have thought that these are sufficient warnings for Third World planners to heed. Unfortunately, some parts of the world have become dumping grounds both for products(17) with harmful side effects, and industries too dangerous to operate in the developed countries, where they have been banned. Often these industries are not only harmful to the health of the inhabitants but disrupt their mode of living as Sonoo shows when he assesses the effects of Japanese exportation of its industries to South Korea.

"As a result of the unsupervised expansion of Japanese industries in South Korea, the country is now confronted with a serious pollution problem affecting not only the environment near the factory sites in question but also fishing industries near Masan, Jinhae, Ulsan and Pusan. The Korean government has refused to investigate either the pollution problem or the fishermen's financial losses in the areas. President Park casually commented that it is no time to talk about environmental pollution. He is determined to carry out the Fourth 5-year Plan".(18)

Lack of sufficient control in the developing countries, and the unscrupulous quest for profit are putting million of lives at risk. A recent Oxfam draft report(19) tried to draw attention to the unrestricted sale of pesticides in the Third World. "It accuses individual companies in Britain or abroad of selling pesticides banned or restricted in some Western countries, advertising hazardous materials without properly warning of their dangers, describing some dangerous

chemicals as 'safe', failing to print instructions in local languages and making 'impossible guarantees' of high profits and good harvests."(20)

A Brazilian economic minister recently remarked that if environmental pollution was the cost of providing work and food for the Brazilian population, his country could not have enough of it.(21)

It has been argued that whatever precautions we take, and whatever the mode of production is, disease and illness will always be with us. It is true that man's relationship with the environment is not a static one, neither should it be. Nor can man ever predict fully all the consequences of his actions. But if all the means at our disposal are used to prevent people from falling ill in the first place, and to treat them when they do, then the aim of being 'healthy' would have been reached. This bring us inevitably to ask what it means to be 'healthy'. The World Health Organisation's definition is the first one which comes to mind.

"Health is a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity". "Health so defined" writes Dubos, "is a utopian state indeed".(22) He offers what he believes is "a more practical point of view" when he defines 'Health' as a "modus vivendi enabling imperfect men to achieve a rewarding and not too painful existence while they cope with an imperfect world."(23) Perhaps it would be fair to say that the WHO definition is meant to set a target which we should aim at, and there is in it an inbuilt notion that we should never cease our efforts in the search for health. The main reason, perhaps, why Dubos believed that the WHO definition conveys a utopian ideal is because according to him disease and suffering cannot be wiped out altogether even though we can still raise the standard of living and increase our mastery of

the environment. "The less pleasant reality", he writes "is that since the world is changing, each period and each type of civilisation will continue to have its burden of diseases created by the unavoidable failure of biological and social adaptation to counter new environmental threats."(24) He points out that while in the past changes were slow and allowed time for biological and social adaptation, now "the rate of change is so rapid that there may not be time for the orderly and successful operations of these conscious and unconscious adaptive processes."(25)

The failure to take into account man's relationship with his environment can only be to the detriment of man himself. With this relationship in mind, Hughes and Hunter(26) call for an 'ecological awareness'. The point they want to make is "that programs of economic or agricultural development, industrial construction - any program which either deliberately or inadvertently changes pre-existing relationships between man and any aspect of his environment (geographic, biological, social or psychocultural) must be viewed from the outset in terms of an ecologic framework."(27) The development process brings with it changes in man's relationship with his habitat and this disturbance gives rise to what they term 'Diseases of development' in the same way as Illich writes about 'Iatrogenic diseases'. Taking Africa as a focus, Hughes and Hunter show examples of ecological disturbances which resulted in spread of diseases when they examined some samples of recent kinds of developmental activities. They explained the term 'diseases of development' as being "those pathological conditions which can realistically be interpreted as (usually unanticipated) consequences of the implementation of the development schemes."(28)

All this means that 'development' which seems so elusive to Third

World planners should not become an economic fetish, but rather should be carefully conceived so that the benefits are not at the expense of the people's health.

Perspectives on development

We shall now look closely at different approaches to health care in developing countries which we believe represent the different schools of thought on the subject.

(a) Colonial health policies

When the colonialists found that diseases constituted an actual threat to colonialism by decimating large numbers of Europeans who clearly could not cope in the new environment, doctors and other backing services from Europe came to the rescue. The colonial powers began early to introduce their own medical care systems into their overseas territories.(29) However the motives for introducing colonial medicine varied. For example in East Africa and Malaysia the use of migrant labour necessitated health provisions to maintain production. In East Africa in 1903, "the medical administrators were requested, first, to preserve the health of the European community; second, to keep the African and Asiatic labour force in good working condition; and, third to prevent the spread of tropical epidemics".(30)

Typically the pattern of 'modern' medical care during the colonial era had three major components; the urban hospital (where the colonial administrator, their families and other Europeans lived), the rural dispensary - often Christian church related and the hygiene or public health element.(31) Out of this rudimentary service grew the health services of many Third World countries today. Even after independence

the same health system was kept because by now the new ruling classes stood to benefit from what was left behind.(32) We shall deal further with health services under colonialism later on.

(b) Modernisation theory

This approach developed mainly to support the status-quo (especially colonial policies at the time, and later programmes after independence). An ideology was needed to provide the rationale behind the development in the health and medical field. This approach borrows its concepts from the development theorists such as W.W. Rostow (who also incidentally was responsible as adviser for many programmes), and T. Parsons whose pattern variables has been used to explain why the Third World is under-developed. They and others (Hoselitz in particular) provided enough material for other people to use in order to back up their policies.

It is assumed by the development theorists that the primary task of underdeveloped countries is to undergo a process of modernisation. The 'western type' model of development was to be copied so that these countries could reach the same stage of development as the metropolitan countries. S.N. Eisenstadt in his book "Modernization: Protest and Change" gives his definition of the term modernization.

> "Historically, modernization is the process of change towards those types of social, economic and political systems that have developed in Western Europe and North America from the seventeenth century to the nineteenth..."(33)

To make this more explicit, W.W. Rostow provides us with his 'stages of growth' theory. According to him, development is the process whereby a country changes its characteristics in five stages. These five categories are:

"The traditional society, the preconditions for take off, the take off, the drive to maturity, and the age of high mass-consumption".(34)

We will not discuss these ideas now. As far as health is concerned, some of the characteristics of his theory such as the need for 'cultural and technological diffusion, the scarcity of national capital, and the dual economics have provided support, if not influenced health policies in developing countries. As Navarro explains

"... the cultural diffusion argument is reflected in health services literature, in the heavy emphasis placed on the necessity of training different types of personnel in under-developed countries following the curriculum and educational resources prevalent in the developed countries. The second Rostow argument, on the 'scarcity of capital', is presented with different interpretations but usually appears under the rubric "that poor countries 'cannot afford' to provide whole health care to the whole population", or also under the argument that poor countries can "only afford social security for a few sectors, and mainly the industrial urban based sector, because investment capital determines the overall, important growth of the take-off stage". The concept of dual economies and societies is reflected in the existence of an unequal distribution of health resources between the cities and the rural hinterlands, with a "less developed" form of medicine in the rural areas."(35)

Parsons and Hoselitz(36) and later Kahn and Weiner(37) have also influenced most writing on health services in developed and developing countries. Again using the developed countries as the model to aim at, general features "are abstracted as an ideal type and compared or contrasted with the equally typical features of the poor societies".(38) For instance, in a large number of references, most of the indicators

of health services in developed countries, such as bed-population ratios, are compared with indicators from the developed ones, often accepting the premise that indicators of developed countries can be used as models or targets for the underdeveloped ones."(39)

Parsons' pattern-variables, derived from Weber's four types of orientation determining social action i.e. instrumentally rational, value-rational, affectual and traditional, have been put forward to elaborate the modernity/tradition dichotomy. Weber saw 'development' as a process of rationalisation because, in modern societies, action ideal - typically tends to be instrumentally rational (Zweckrational), while in traditional societies it is guided by 'ingrained habituation'.(40) Using Parsons' variables (particularism-universalism, diffusiveness-specificity, affectivity-affective neutrality, collectivity orientation-self orientation, and ascription-achievement, Djurfeldt and Lindberg(41) show that it is not ingrained habituation that made local villagers (in Southern India) prefer traditional medical care, but rather that allopathic medicine, as available, was inefficient and did not have the answer to their health needs. If sociology provided the rationale for such an approach, early anthropology cannot be exonerated from blame either. In order to help the administrators, they studied these 'primitive' societies; and traditional medical systems were viewed as 'superstition' or 'magic', and traditional healers were likened to 'quacks' or 'magicians'. The 'ethnocentrism' of these early anthropologists did not help to preserve indigenous ways of life. A report published in 1932 pointed out that "many hygienic native customs which were most valuable in preventing the spread of diseases, are disintegrating under the spread of civilisation."(42) Western medicine like virtually all other things European, received official support while traditional systems either received none or were consciously suppressed.(43)

U. Maclean went further in claiming that "in some cases colonial policy explicitly prohibited indigenous methods of controlling disease as part of the campaign to obliterate traditional religion."(44) But perhaps more important than deliberate colonial policy in British colonies were the activities in this respect: they 'sold' Christianty with free medicines (or rather tried to).

As pointed out above, traditionalism was believed to be the cause of ill health. Other explanations also were given. Thus the native himself was blamed for being pathological. The African was thought to be less intelligent than the European. Even university syllabuses played an important part in propagating these views. Fanon writes of his Algerian experience

"It is thus that Algerian doctors who are the graduates of the Faculty of Algiers are obliged to hear and learn that the Algerian is a born criminal. Moreover, I remember certain among us who in all sincerity upheld and developed these theories that they had learned. They even added, 'It's a hard pill to swallow, but it's been scientifically established.'"(45)

It must be pointed out that until the late 1960's the solution to Third World under-development was believed to be only possible through economic growth, which was supposed to benefit the masses in the long run. Therefore, expenditures on health and welfare were thought of as unproductive, and as little as possible was spent.

This approach did not see the poverty of these developing countries as inherent in their relationship with the developed ones. Neither the lack of resources nor the relevance of the metropolitan medical system to the health conditions of these tropical countries were

questioned. Still, the prevalence of a high incidence of diseases which accounted for millions of deaths and sufferings had to be explained. The answer was sought in overpopulation, climate, the culture and even the 'nature' of the local people.

(c) Focus on rural impoverishment

This approach will be dealt with in greater detail as it represents the present policies that developing countries are 'supposed' to follow. Because of his informative and useful book on 'Health and the Developing World', J. Bryant will be used here as a representative of this new school of thought, though, as we shall find, the ideas are not his alone, nor are they exactly 'new'. This approach also represents, more or less, the WHO and World Bank policies and as such merits close scrutiny. Their differences are so few and the similarities so obvious that they will be treated as a group.

It is important to understand the context in which these 'new' ideas have evolved. The misplaced attention given to 'economic' development in the Third World, at best, brought appreciable increases in the GNP especially during the 50's and 60's, and, at worst, left the poor in their miserable condition. This growth was uneven and some countries saw very little indeed, while others experienced much more. Little attention was paid to the distribution of the benefits of this growth. If health conditions in most developing countries did not worsen in most cases, the rates of mortality (especially among children up to 5 years) and the prevalence of infectious diseases still remains unacceptably high. As late as the summer of 1978 the Brandt Commission were counting some of the health costs.

"Most people in the poverty belts suffer from a combination of

long-standing malnutrition and parasitic diseases; and some of these diseases, like sleeping sickness and river-blindness, prevent the farming of rich agricultural lands, hold back the breeding of domestic animals and reduce the productivity of the workers. About one billion people are at risk from malaria. River-blindness - which drives people out of the fertile areas of the Volta, Niger, Gambia and Upper Nile rivers - is estimated to affect 20 million people in Africa. Sleeping sickness, which also limits livestock grazing, currently afflicts 35 million victims; bilharzia is estimated to affect between 180 and 200 million people."(46)

At the same time the gap between the rich and poor countries is becoming larger. During the decades of relatively rapid growth of the 1950's and 1960's there was a decline in the average consumption of food grains - which are the major source of subsistence of Third World population - for the lower one to two-thirds of the population.(47) Growing political awareness of the masses led to more and more demands. Often these took the forms of militancy which, of course, threatened the power of the ruling classes. Different countries have at different times responded differently to this growing uneasiness of the population. These responses have ranged from changes in policies to the increasing use of repression. In some developing countries there was a move from their development policies which focussed on economic growth alone to a new one, as O. Gish explains

"The emergence of a new majority view of development focussed upon the needs of the most impoverished, including perhaps especially their nutritional and health requirements, has more or less 'swept the development boards' "(48)

It is in the context of this change in development strategy that the

concept of 'Primary Health Care' (PHC) was born. The related new health care strategy which has emerged is based upon the provision of primary health care for all, although "provision" is perhaps not quite the right word, as the new approach calls for popular participation in the creation and implementation of health campaigns and services, or health "by the people" as opposed to health "for the people".(49)

But though these new health care policies grew out of the failure of the conventional development approach, and the response to growing militancy of the poorer masses which threatened the rich in developing countries, we can see at the international level, it was to be to the advantage of the developed ones also that this change in health and other policies take place. Crisis in the Third World brings about instability which is not favourable to either investment of foreign capital, nor good for trade relations. But perhaps more important for the West is the declining power of the poor in developing countries to purchase manufactured goods on which they depend heavily, and on which the developed countries can keep their economy going. At the same time growing uneasiness of the poor causes local crisis which threatens world peace whether it is in the Middle East, Africa or Latin America. "History has taught us that wars produce hunger, but we are less aware that mass poverty can lead to war or end in chaos. While hunger rules peace cannot prevail."(50) In the context of US and Soviet rivalry there is also the western fear of advancing communism. Thus the Primary Health Care concept which is central to the new school of thought in health policies must be viewed along the same lines as the 'Green Revolution' which was supposed to put an end to world hunger. It failed the poor because it focussed on technology and science and neglected the socio-political and economic structure of the developing countries. It remains to be seen if Primary Health Care will be more successful.

In many ways this approach is an advance on the previous one. There is recognition of the fact that the metropolitan-oriented health care is not suitable for Third World health needs, nor are the form and content of the training courses for doctors who would eventually work in the tropical countries. This new perspective sets out to correct the distortion in health service distribution characterised by the concentration of health care in hospitals based mainly in urban areas while 80% of the population live in rural areas. In the place of hospitals, rural primary health care centres are preferred. Lack of resources points the way for low-cost benefit projects as opposed to the use of sophisticated medical technology which tends to absorb a large proportion of health budgets. The local communities are encouraged both to participate and to contribute funds in one way or another. There is also stress on preventive measures as most Third World diseases are caused by infection. At present about 80% of health resources are spent on curative services. The 'population problem', always lurking in the background, is to be tackled more fervently. This new school of thinking adds to its merits the fact that the contribution of other factors such as education, housing, sanitation, nutrition etc to health is recognised. However, central to this approach is the concept of PHC. The term Primary Health Care is assured of existence until at least the year 2000, by which time the WHO hopes that the objective 'Health for all' will be reached. We will expand on and assess the principal features of this approach and see whether the hope that Third World people will be rid of the scourge of diseases in twenty years' time, will materialise or not.

Undoubtedly the proponents of this perspective show much more understanding of Third World health problems than did those who imposed a western medical model on these countries. However, we will see that

the expertise they display in the description and analysis of the causes of these problems are not totally matched by the solutions. My contention is that this approach is only half-way towards a full understanding of how the health conditions of Third World people could be changed. But there is no doubt that there is much to be learnt from the expertise of people like Bryant, and from those who, admittedly on a small scale, have put these ideas into practice. There is definitely a change in tone and content in new health literature. A few decades ago one would not have believed the WHO could be so forthright in saying that

"Most conventional health care systems are becoming increasingly complex and costly and have doubtful social relevance. They have been distorted by the dictates of medical technology and by the misguided efforts of a medical industry providing medical consumer goods to society."(51)

Bryant, too, shows equal frustration with conventional methods of dealing with diseases in developing countries.

"In our effort to limit the destructiveness of these diseases we seem to be mined down in a mud we do not understand. One can almost sense that the health professions, with all their weapons of modern biomedical technology, are being mocked. We must ask if we are seeing the right issues. It is possible, even likely, that the medical tools we are using are not the right ones."(52)

It must certainly be a good thing when confession of doubts like these culminate in new ways of thinking about the problems we face. He goes on to say

"We must learn to recognize the right issues, find out what are the right tools, and put them in the right hands. It may require

developing approaches to health care that are entirely new. We must be willing to do so."(53)

These 'heart searching' questions have brought the new theoreticians closer to the real issues. The social and economic conditions that people live in can no longer be ignored as Bryant found out.

> "We are speaking of societies in which, at any given time, a third of the children may have diarrhoea and more than that may be malnourished. Their lives are saturated with the causes - poverty, crowding, ignorance, poor ventilation, filth, flies."(54)

A useful step forward has been made in the recognition of the role of socio-economic factors amongst many others, in health, and the failure of scientific medicine to rid the Third World of its prevalent diseases. Other features such as the importance of drawing resources and personnel away from the urban-based health services towards the rural areas, the use of auxiliaries, and the concept of primary health care merit closer analysis. We will turn to them now.

(i) Socio-economic factors and diseases

One important lesson to be learnt from the developed countries is that their standard of health began to improve even before the advent of scientific medicine. In the 18th and early 19th century Britain's major diseases were mainly caused by infection. As pointed out earlier, small pox, cholera (on occasions) and tuberculosis were the major killers. "Reliable evidence on the incidence of tuberculosis in the early part of the 19th century is difficult to obtain, but there is general agreement among historians that it probably accounted for about one third of all deaths."(55) Two important factors were responsible for the increasing incidence of tuberculosis: undernutrition and overcrowding.

The first was responsible for determining the 'level of resistance' to the disease, and the second accounted for the 'level of exposure' to the tubercle bacillus. Another feature of 19th century Britain as far as health is concerned was the high infant mortality rate. "Throughout the 19th century, infant mortality remained very high, hovering around 150 per 1000 live births."(56) And these infant deaths occurred among all social classes, but were much more frequent in the poor areas.

Improvement in health conditions coincided with increase in wages. Hobsbawn found that "average real wages began to rise in the 1860's and rose by about 40% between 1862-75; though they fell briefly in the 1870's, they rose again in the mid 1880's. By 1900 they were one-third above the 1875 level and 89% above the level of 1850".(57) These increased wage levels were reflected in a better standard of living for most sections of the working class, and one of the most important ways in which this improved standards of living was translated into a reduced mortality rate was through an improvement in standards of nutrition.(58) Cheaply imported foodstuff especially fruits from abroad helped to maintain a reasonable standard of nutrition. Public health services also played an important part in providing clean water and sanitation.

It is difficult to prove which among the several socio-economic factors has the greatest impact on health, but certainly 'nutrition' must rank very high. Lack of important nutrients that the body needs directly affects health. Avitaminosis protein and calorie deficiency bedevil the lives of millions of people in the world. Extremes of these conditions are more or less easily detectable, and certainly need attention. However, it is the indirect way in which malnutrition

or undernutrition is related to the incidence of diseases that cannot be assessed with any precision and is therefore difficult to detect. The relationship nonetheless is a real one. The body in order to cope with an attack from infectious organisms from outside, needs enough resources to do so. Malnourished and underfed people are simply in no position to do so. This is why Bryant, WHO and the World Bank put a high premium on better methods of producing food that are nutritionally beneficial to the local population. They also call for more equitable distribution. They argue that even when food is available people will not necessarily know what to eat for best nutritional effect. The stress is put on 'health education' which amongst other things will teach people how to make the most of what is available.

Looking at the three important features of the policies for better nutrition as proposed above, we find that, firstly, the call for the production of food to meet the nutritional needs of the local population is destined to fall on deaf ears. M. J. Sharpston in his booklet "A health policy for developing countries" (written for the World Bank) writes,

> "... in agricultural development one should try to ensure that the crops grown in a region will yield a reasonable balanced diet, and avoid excessive emphasis on commercial cash crops".(59)

We can ask who is the 'one' referred to, who will ensure that crops are grown in this way. If it is the government, more likely it will be influenced by the farmers who do the growing. Those who own land will get more money for 'cash crops'. In this way they will have more money with which they can buy more than a balanced diet. In free market economies, one is likely to grow what will bring the highest return. In many developing countries the majority of the land is owned by a

small handful of rich people and it is they who decide what use is to be made of their land.

In the course of colonialism many economies which were geared towards subsistence, were restructured to meet the metropolitan demands. Even years of independence have not made it possible for these countries to break this dependence on 'cash crops' because there are both internal and external factors involved. Internally, as it has been said above, 'cash crops' benefit those who own the land, and as they fetch better prices than subsistence crops there is little willingness on the part of the owners to make changes. Externally, the developing countries have contracts with the metropolitan ones, and these latter provide certain guarantees for buying the cash crops at agreed prices for a certain number of years. Developing countries prefer the kind of stability offered even if it means less profit, than to chance the vaguaries of the international market. The need for foreign exchange to buy manufactured commodities, new machineries and spare parts, makes this reliance on cash crops more permanent.

As far as distribution is concerned, there is no sign that those who have, will distribute willingly to those who do not have. The structure of land ownership determines who shall 'reap'; and as yet whatever call has been made by WHO, the World Bank and other well-meaning people, the fact remains that people do not willingly part with what they possess.

Sometimes the advice given is more precise as when B. Abel-Smith and A. Leiserson consider the role of the health administrator who according to them

"... can identify the dietary deficiencies of the population

and press for action to remedy them. The action needed may include changes in the system of land tenure or in the distribution of the ownership of land, changes in what crops are grown or what animals are raised, in how food is marketed and transported, and in the help given to different types of farmer."(60)

This advice and much else show how it should be done, but the fact remains that it is up to the country in question to carry out these programmes, and institutions like the WHO and the World Bank are neither willing, nor probably capable of seriously influencing changes in developing countries. Therefore, even when the WHO changes its tone, the solution does not seem any nearer.

"The most important single factor in promoting Primary Health Care and overcoming obstacles is a strong political will and support at both national and community level, reinforced by a firm national strategy."(61)

This call on 'political will', at worst, ignores the power structure in these countries, and at best, is nothing but wishful thinking. The least 'disrupting' advice is sometimes more likely to be heeded. That is why the third proposition i.e. health education concerning nutrition has a better chance of being carried out. But even here people's customs and traditions must be seriously studied and not rejected out of hand before any programme is set up. It was after all, the development theorist approach with its patronising overtone which failed in its attempt to change the people's 'powerful habits'. A more thoughtful approach in health education based on the knowledge of local habits and customs will bring appreciable results. But the nutrition problem will remain not one of wrong eating habits or powerful customs but one of inadequate consumption of food. Malnutrition

and under-nutrition are often present largely because people do not have enough to eat. So only part of the package of solutions concerning nutrition is likely to be implemented.

(ii) Education and health

Though we are dealing with factors such as education and nutrition separately, they do have, together with 'health' what has been termed a kind of 'synergistic' relationship. Education, for example, will make people more aware of the 'right' kind of food to eat, and poor nutrition affects both the child's physical and mental development, and this reduces the power of concentration at school.

Maternal education is also reckoned to be an important determinant of child mortality. Caldwell,[62] using data from a Nigerian survey suggests three main reasons why the education of mothers should be influential in infant and child health. According to him, it enables them to 'break with tradition' or become less 'fatalistic' about illness. Secondly, mothers become more aware of the services available and tend to regard their use as a right rather than as charity. Thirdly, the traditional balance of familial relationships undergoes certain changes which may allow the educated woman to assume personal responsibility for the care of her children, with a concomitant diminished role for her mother-in-law and other relatives. Additionally, a larger share of the family's resources is likely to be allocated towards feeding and caring for children.

P. Krishnan found that besides public health programmes, the decline in mortality rate in India between the years 1951-61, was also due to economic development and social changes, particularly literacy. He found that the indirect effects of literacy on mortality seemed to

be almost as large as the direct effect of the doctor/population ratio. He saw education as having a twofold effect. "On the preventive side it helped to promote social hygiene and on the curative side it led people to make the best use of medical facilities."(63)

Schools and colleges provide a unique opportunity for thousands of children in classrooms up and down the country to come into direct contact with health education. The irony is that later on when they become adults, health workers have to find all kinds of incentives to entice them to come and listen to health education lectures, whereas very little is done when the opportunity to educate them in their youth and in large numbers is made possible by their attendance at colleges. Health education has a low priority as an academic subject. Attendance at schools also makes it possible for other people outside the family circle sometimes to detect ill health in children, especially if the school health services are properly run. The school provides the opportunity of making available either whole meals or additional nutrition in the form of dried fruits or milk etc. It is right, therefore, to value the contribution of education to health, and without question the stress has to be on what kind of education. If 'health' gets the priority it deserves, then the school curriculum has to reflect changes in this direction.

Other measures advocated such as better sanitary services, provision of clean water for all the population, weather proof and less overcrowded houses etc, all make good sense. What is overlooked is the fact that there is little or no co-ordination between the different ministries or departments of the same government. The rivalry between them, the fight for more and more resources to be allocated to each instead of the other, and the low priority that 'health' has in relation

to other projects, have made it very difficult for all planners concerned to adopt the kind of 'multi-sectoral' approach to the development of health that Bryant, WHO and others have been calling for.

Again, as is the case for food production and distribution,there is nothing much the WHO can do but to rely on the governments concerned to carry out housing schemes and public health programmes. There is nothing to indicate that developing countries are moving away from their present method of planning. Looking atthese countries, it seems as if a comprehensive system of sanitation and water supply was meant for urban areas only. In many cases these amenities were built in the colonial period. Some governments* have recently extended these services to the rural areas but many others still remain to do so. These latter continue to believe that there is little immediate financial profit to be made. Money is 'poured' into other economic or 'prestige' projects. Even when aid is granted liberally by the developed countries, the projects that are favoured are 'motorways', 'prestige hospitals', 'supermarkets' based on western models etc. Expensive buildings to house offices, showrooms, shops and hotels have cropped up at a very fast rate. Besides being modelled on western skyscrapers, they divert money from more useful investment, and the building of decent houses for people to live in. Governments have had to have their hands forced in order to start housing schemes for the poor, and when they do, as the case of Mauritius shows, the end product is hardly meant for human beings to live in. There are many reasons for this, and we will go into further detail later on. There is no reason to believe that simply because the WHO or World Bank calls for a change in policies, that the developing countries will be able to cast aside their political expediencies which have for so long been a major hindrance to development.

* especially with World Bank funds

Another feature of this approach is the disenchantment with 'scientific' medicine with its curative outlook. Too large a proportion of resources are spent in urban areas while at the same time the rural population is starved of adequate services, and in some cases no services at all. The way in which 'scientific' medicine and health resources, including personnel are related is simple. They are all to be found in the urban areas. If it makes sense to reverse this trend we would be naive to think that it could be carried out with little difficulty. In fact the main obstacle to a preventive, rural based, low cost technology health service is the medical profession itself. Because we will deal with this subject on its own in a later chapter, we will only try to show the obstacles that lie ahead. The idea that prevention is better than cure is not exactly new, nor have health ministers been slow to recognise the truth of this statement. Countless experts from the developed countries have for decades been advocating a shift from curative to preventive health services. But apart from vaccination programmes, malaria eradication programmes and a few patchy 'projects', the advice is acknowledged but rarely put into practice. The health budgets of many developing countries speak louder than the words of ministers of health who have themselves been very vocal about it, but they have not come to believe in their own rhetoric. The sad part of it is that the call for prevention has remained in the domain of words only.

One of the reasons why the shift has not been made lies in the training of doctors, and the power they acquire both as a result of this training, and as members of the elite in their respective countries. The training of doctors in metropolitan countries (and in the developing ones, too) is mainly clinical, and it is difficult for most of them to work otherwise than in the manner in which they are trained. There is

little wonder that they choose to look at diseases from a curative point of view, and when they are in position of power or influence in the health ministries, they tend to guide developments the way they see it. Bryant prescribes a different role for the physician whom he would like to be

> "... the member of the health team whose education should prepare him to see health as a total system and to manage it accordingly. He must be more than a clinician. He is a leader. He must discern the problems, set priorities, design solutions, direct implementations, evaluate results, and revise programs or develop new solutions as indicated".(64)

Bryant does not take the view that too much responsibility and power is left to the physician. He never questions his power and influence in making decisions. Increasingly in developing countries doctors are seeking specialisation in order to become 'experts' in their own field, and thus following the lead of developed countries, new areas are being 'carved out' mostly in the field of curative medicine.

M.J. Sharpston finds that "politically, private sector doctors will usually be able to determine where they practice, and so also will public sector doctors - doctors are a tight elite, with an arcane expertise that touches the frightening mysteries of life and death; few laymen will tackle them on their own terrain."(65)

The reason they prefer to work in urban areas is because "their friends will live in the cities and that is where the bright lights are". In any case the lay elite - politicians, civil servants, even trade union leaders - are also nearly all urban, and will want "proper" (i.e. western) levels of treatment for themselves and their families.(66)

Given the attraction of the urban areas, it will take more than common sense or good will to effect the necessary changes. Abel Smith and Leiserson offer a direct solution to draw health personnel towards the rural areas

"... if trained personnel are reluctant to work in rural areas, higher renumeration, good housing and other amenities can be provided as a means of inducing them to do so. At the very least, economnic incentives should not be allowed to pull in the reverse direction. What is important is the total economic incentive. For example, if health workers engage in private practice and this is available only in urban areas on any scale, the pay offered in rural areas would need to counteract this advantage."(67)

This expensive but practical solution shows a closer understanding of Third World realities. It recognises the medical men's power to earn, and does not make idle appeals to their goodwill when clearly their allegiance is more to pecuniary than health matters.

The problem lies where the decisions are made. So long as the structure of power in the medical profession remains untouched, only cosmetic changes are possible.

(iii) Primary Health Care

We are now in a position to assess the possibility of success for Primary Health Care as envisaged in the declaration of WHO and UNICEF at Alma Ata in the USSR. All the features of the approach we are dealing with so far are contained in this concept. We have already dealt with the main ones separately, we will now look at the other parts of the 'package', and see what further obstacles lie ahead.

Primary Health Care "is a practical approach to making essential health care accessible to individuals and families in the community in an

acceptable and affordable way and with their full participation".(68) WHO is quick to point out that it means much more than the mere extension of basic health services. It has social and developmental dimensions, and if properly applied will influence the way in which the rest of the health system functions."(69) It does seem from this statement that 'PHC' is to start at the fringe of the present health system and in time influence the latter. However, another paragraph shows that 'PHC' is "an integral part of both the country's health system and of overall economic and social development"(70). If it is an integral part it must mean that the present form of health services will have to be altered to suit the 'new' concept in health planning. If not, 'PHC' is destined to remain on the fringe of existing health care systems. The WHO is aware of some of the pitfalls of this approach.

"There may even be misguided support for 'PHC' based on the wrong assumption that it implies the cheapest form of medical care for the poor, with the bare minimum of financial and technical support. Only political intervention, coupled with forceful explanations of the real purpose and scope of primary health care, can overcome such an attitude."(71)
We find again that it is left to politicians to effect this change. As for the health service, because its organisational structure is never questioned, it means that those in charge now, will be allowed to continue to serve their own interests and those who support them.

The delivery of PHC points to further problems. According to the WHO, 'PHC' is "delivered by community health workers. The skills these workers require, and therefore their training, will vary widely throughout the world, depending upon the particular form of primary health care being provided. Whatever their level of skill, it is important that they understand the real health needs of the communities they serve, and that they gain confidence of the people. This implies that they should reside in

the community they are serving, and in many societies that they should be chosen by it."(72)

M.J. Sharpston's idea of community-based health workers is one in which they "would typically work on health matters part-time". His or her functions will include agricultural activities as part of his or her multi-purpose work. "Costs in connexion with a community-based health worker system would tend to be very low compared to a more conventional health service."(73) Bryant, on the other hand, puts reliance on 'auxiliaries'to whom doctors are to delegate some of their tasks such as diagnosis and prescription. In all it means the creation of a class of poorly paid workers who will do the donkey tasks, while the doctors and other health workers continue to draw large salaries (and benefit from all kinds of allowances). Very few people have questioned the salaries paid to doctors; those who have, do not call for more 'reasonable' renumeration to be paid to them. It is true that the market for their skills attracts them to where the money is (and this includes working abroad), on the other hand, if the health system is going to be at their mercy only because they are indispensable, then there is no use devising comprehensive health plans for the whole population, when clearly other factors determine where the money is spent and where the personnel is posted.

> Doctors often demand and obtain salaries which are quite considerable (these are sometimes augmented by earnings from private practice) besides the status and other privileges that they

enjoy. But they are not the only ones. The administrators also consume a big slice of the cake. They are less vulnerable than politicians, for while the latter can be voted out or toppled for failure, one very rarely hears of the overthrow of administrators. They use governmental and state positions to acquire wealth and economic rewards.(74) It must be remembered that as the colonial administrators were being replaced by local people after independence, these latter were exerting pressure on the

government to offer them comparable salaries. "Therefore the extra-ordinary inequalities built in the colonial salary structure were carried over into independence."(75)

One aspect of the sharing out of health resources which is often neglected is that because doctors are a powerful group, and nurses and others are unionised, they make sure that they get regular increases. So that when health sector budgets are increased annually, the increase in wages absorbs most of the additional money allocated. The patients, because seldom permanent as a group, nor powerful when they are permanent (for example chronic and mentally ill patients) cannot join in the struggle for the allocation of resources.

When a small group of people consume a disproportionately large amount of money, there is bound to be resentment sooner or later among the poorly paid workers, and conflict inevitably follows. The creation of an army of cheap workers in the form of primary health care workers will, in time, only add to this conflict.

The cheap 'rural community health worker' concept is modelled on the chinese 'barefoot doctor', and as has been shown elsewhere,(76) it is not easy and practical to implant ideas like this in countries where the socio-economic and political structures are different from that of China during the cultural revolution.

As for Bryant's idea that doctors should delegate some of their diagnostic and prescriptive roles to auxiliaries, he tends to forget that doctors derive their power precisely from being the only ones in most societies to have the right, legally, to diagnose diseases and prescribe treatment, and to change this would be to strike at the heart of the structure of power of the medical profession. This is not to say that auxiliaries do not already perform these tasks. In fact they do in some countries (and so do nurses). The point is that

they will only be allowed to do so if the doctor agrees. When his interest is threatened, he will refuse other health workers the right to do these tasks. H. Mahler,[77], Director-General of WHO, has made a powerful plea for the demystification of medical technology, and this can only benefit the people, but will surely cause anxiety to the medical profession which enjoys the benefits which the monopoly of medical knowledge brings.

Community participation is another crucial component in the machinery of 'PHC'. For people to participate they must see health as a priority. But experience has shown that it is only when people are sick that they value 'health'. As D. Landy points out "although health professionals see health as a value of the highest priority and public health and sanitation measures are viewed as the most important obligation of a community to its citizens, health is not a value of equal priority among the people of a society or the power structure that governs them."[78]

Studies[79,80] elsewhere have shown that 'problems' like population increase are not the immediate concern of the village people. They see their poverty as the main problem, and they are not easily convinced of the importance of family planning even if it is in their interest, because they see their priorities in the shape of jobs, food, housing, clothes and education for their children.

To persuade them to participate, they must see the benefits from such programmes. People are likely to see PHC as second class services especially if 'diagnosis' and 'prescription' are sometimes to be carried out by auxiliaries. One must remember that in some countries where there are dispensaries in the villages, people would often walk miles to see a 'proper' doctor, even if the nurse or auxiliary is experienced, or the complaint is minor. One must not under-estimate the ability of

people to grasp the essence of inequality. When they become aware that other people, the elite and the rich, have direct access to 'specialists' they will soon see the disparities in the system.

WHO sees community participation as "the process by which individuals and families assume responsibility for their own health and welfare and for those of the community, and develop the capacity to contribute to their and the community's development. They come to know their own situation better and are motivated to solve their common problems. This enables them to become agents of their own development instead of passive beneficiaries of development aid."(81) The poor people are likely to see it as part of the politics whereby the poor look after themselves, whilst those who govern look after the country's wealth. O. Gish voices the fear that a two-tier health care system may still persist.

"The current disillusionment with existing health delivery systems that now exists in so many quarters should not be allowed to be the basis of a two-tier health care system (at best), one for the minority with access to an extensive high technology system and one (or perhaps none) for the rest of the population. The basic and legitimate concept of health by the people could be hindered if the types of special projects discussed above continue to be identified as "the primary health care strategy"; in the absence of changes in the whole health care systems (if not entire political structures) they can only lead to disappointment and frustration."(82)

Clearly then this approach offers a 'package' which if it is wholly implemented will bring dramatic changes on the health scene in developing countries. As far as the health sector is concerned, the description and analysis shows a lot more insight than the previous approach. The problem is that the analysis does not go far enough,

since it stops short of treating the health care system within its political and economic context. Instead the political factor, on which the organisation and distribution of health care depends greatly, is left out of the discussion. On the economic side, the resources allocated to the health sector is never questioned, neither is the nature of the underdevelopment of Third World countries. This ahistorical approach is severely criticised by Navarro.(83) [We will take up this point later when we deal with his contribution.]

It is true that each developing country has a political system peculiar to itself, and that to generalise on political measures would, at best, be a useless exercise, and, at worst, be interference in the country's internal affairs. But this is no excuse to take little account of the role of politics in these countries. To offer practical advice and call for 'political will' to implement them shows a naive understanding of the political structure. The main obstacle to sensible planning is sometimes the government itself. The ruling class has its own interest at heart. In countries where resources are scarce, those with less power have less claim. At the national level such factors as ethnicity, tribe, region etc have their part to play in deciding who should have what. Those who are wealthy make sure the children are educated, and those who are educated get the best jobs, which most of the time are key jobs which involve policy making and implementation. Their life style is modelled on the middle classes in the metropolitan countries. Besides wide spacious houses with carpeted floors, modern electrical gadgets (now electronic!), expensive cars, they also want the best in health care, and this ultimately means 'scientific medicine'. Little wonder that there are not enough resources to go round. It is true that the ruling classes cannot usually govern without the support of the people (though in some countries they do). It is here that in

some countries political patronage plays its part. Support from an ethnic, tribal or regional group is valuable. In return the politicians have to show gratitude, sometimes by building a hospital or health centre in the area concerned. This is not the case for all developing countries, instead they are examples to show that it takes more than 'political will' to effect changes in the Third World.

In criticising this approach it will no doubt seem that this is a cynical view of serious efforts and contributions of well meaning people who want to see an end to the miseries of millions of people in these countries. Like Mburu [84] I must stress that this is only a sceptical view. I also concur with him when he says,

"There is no doubt that PHC has the potential to revolutionize the health situation in rural areas and in urban peripheries. Nor is there any doubt that WHO is genuine in supporting and spearheading the PHC concept."[85]

So far the 'PHC' has meant small projects at the local level. They have remained merely 'projects' "that is isolated activities carried out apart from overwhelmingly hospital based delivery systems which absorb virtually the whole of health ministry budgets".[85] Mburu cites the example of Kenya where there were 16-20 such projects which were "lacking any national involvement, let alone direction. No funding from the central government is given though such projects fall under the rubric "public health". The medical elite and their political counterparts have remained aloof, wondering where to put the next hospital and how much it will cost."[86]

M. Segall emphasises the importance of the implementation of the whole 'package'

"The concept of Primary Health Care involves the recognition of the principle that a number of different interventions need to be carried out together as part of a package; that to implement only a part of the package reduces the effectiveness even of the interventions which are implemented."(87)

Unfortunately for the Third World "the one most important factor missing in 'PHC' and the health-for-all concept is the 'political will' ".(88)

(c) The political economy of health

Let us now turn to alternative approaches which have been put forward by Doyal and Navarro and many others. It is to Navarro that we owe a comprehensive marxist analysis of the under-development of health in the Third World. His methodology is as clear as his writings, and in his book 'Medicine under Capitalism', which contains a number of articles, he explains why his marxist method contributes to the understanding of the health sector in developing countries within the context of the society of which it is a part. But first we must stress that he is contributing towards providing alternative explanations to the current ideology in planning in the health sector.

"... the essays in this volume are not intended to provide a comprehensive critique of prevalent ideologies in the social sciences of medicine, or the detailed presentation of alternative ones. Rather, I consider them to be diagrams and sketches for alternative explanations to the asphyxiating patterns of orthodoxy prevalent today."(89)

His attack on functionalism, which he considers to have been the dominant mode of thinking so far in the field of health planning, is particularly revealing,

"It is my belief that the overwhelming influence - amounting to

dominance - of functionalism in the social science in the western world determines the focus of analysis and methods of inquiry that are not only limited and limiting, but often serve to obfuscate rather than to clarify our realities."(90)

His is particularly direct in his criticism because the function-alist approach is not only popular among the academics but also to a great extent in the 'corridors of power' both in the developed (including the Soviet bloc) and developing countries, which means it was and is still responsible for most of health planning. He finds that this method of analysis starts at the wrong end

"It is characteristic of these analyses, for example, that they focus on the parts, supposedly in order to lead later to the comprehen-sion of the whole, i.e. they study the components of society prior to studying society itself. Indeed, it is assumed that after the cool, analytical look at the parts, one can later develop a theoretical model of the whole society, however abstract that model, like the Parsonian one, may be."(91)

Navarro goes as far as saying that those who use this method, like Bryant, deliberately omit to consider why under-development of health and health services came about in the first place. He grants that the literature on health services in developing countries is rich in 'description', but argues that it is lacking in any analytical explana-tion of why resources are scarce in the first place, and why they are maldistributed when available. "Avoidance of this analysis led these scholars to consider the maldistribution of health services in a vacuum, as if it could be explained separately and independently from the analysis - admittedly sometimes embarrassing,and always sensitive - of those structures which determine that distribution to begin with."(92)

Even when studies reveal differential distribution of human health resources according to social classes or regions, as one study in Columbia[93] showed, scholars and researchers abstain from discussing the economic and political structure which produces this maldistribution. "Oblivious and inattentive to the parameters within which this maldistribution of human health resources took place, their conclusions were empirically invalid and ineffective policy-wise."[94]

Social research in the 1960's is characterised by its empiricist approach, which he describes as "experts on the trees who fail to see the forest". Empiricism today is very much dominant in health policy research, and it is worth noting Navarro's criticism

"This empiricism led the major part of studies on health services development and planning to emphasize the method, the method as the "unideologic", "value-free" instrument for distributing resources. Thus, the emphasis within the analysis, study, and application of the planning of the distribution of human health resources was on the methodologic aspects, without analyzing and/or questioning (but rather taking as "given") the social, economic, and political structures that determined and conditioned that underdevelopment. Cost-benefit, cost-effectiveness, PPBS, and the all-encompassing health planning CENDES method, were actually products of the "apologist" ideology that sustained those structures responsible for the maldistribution of resources."[95]

His own method of analysis is two-fold. First, he uses the marxist method which focusses first on the analysis of the entire social system, and then uses the understanding of the whole as a necessary basis for the analysis and understanding of the parts. As he puts it

"... I try to show how medicine - the part is determined by the same forces that determine society - the whole".[96]

His second approach, which is not separate from the first one, is the historical one which as he says "remains unfortunately absent in much of today's social research." He goes on to say that though the present is built on the past, very few analysts take this fact into account. There is a deplorable absence of a historical approach which alone can perceive the present as a dialectical result of the past.(97)

"It is only when the description of the present structure of the health sector is preceeded by historical analysis of its varying components and the forces that determine it that one can understand the current values and meaning of present experiences."(98)

He summarizes his historical approach thus

"... the historical process is perceived as the result of the dialectical relationship between the material conditions of society - the economic infrastructure - and the ideology of the dominant groups and/or classes in that society."(99)

Certainly one can say that an understanding of history is vital in any analysis of the underdevelopment in the Third World, and also of the maldistribution of health resources.

Navarro explains that contrary to the Parsonian and Rostownian theories of development, underdevelopment and the uneven distribution of resources inside and outside the health sector are not due either to:

a) the absence of cultural and technologic diffusion from the developed to the developing countries,

b) the scarcity of capital in poor nations, or

c) the presence of dual economies in underdeveloped countries i.e.

the urban-entrepreneurial economy and the rural primitive economy. Relying heavily on the dependency theorists, and A.G. Frank[100], in particular, he shows that on the contrary, underdevelopment and the concomitant maldistribution of resources are caused precisely because of the existence of the assumed "conditions" of development i.e.

a) the cultural, technologic and economic dependency of developing countries, and

b) economic and political control of resources by specific interests and social groups - the national lumpenbourgeoisie and its foreign counterparts.

Whatever capital is available in Latin American, it is diverted from potential investment because of the consumption patterns of the lumpenbougeoisie and the middle class. This pattern of consumption is meant to benefit a limited percentage of the population.

The dominant features of health services in developing countries have their explanations in the socio-economic structure, according to him. The reason why the health services are hospital based and curative in orientation is because the lumpenbourgeoisie desires it to be so. They are able to keep it so because the health sector is controlled by them. Medical education also helps maintain the present health structures. In order for a more equitable health service to be formed, control of the resources internally by a certain class and dependency on western countries, have to be broken. He cites the example of the Cuban experience which "challenges the widely held assumption that it is impossible to provide health services to entire populations in developing countries in view of their indisputable scarcity of resources."[101] This has been possible because Cuba is "minimising the striking inequalities that existed between social classes, between regions, and between urban and rural areas in the distribution of health services before 1958."[102]

As for other countries he believes "it would be unhistorical to expect that changes towards equity can occur in the present distribution of resources, within and outside the health sector, without changing the economic and cultural dependency and the control by the defined social classes of the mechanisms of control and distribution of these resources."(103)

Navarro's contribution is crucial if one seeks to explain why well meaning and highly practical health programmes fail to bring any significant changes to the health problems of developing countries. To some people it may seem that Navarro is hardly dealing with health problems at all and least of all, with how to tackle them. He does not offer any solution to the rampant diseases of the Third World,neither does he profess to. It is only when we realise that however willing and able people like Bryant, and others are in offering their expertise, they still rely on the 'political will' of politicians, and it is precisely with political issues that Navarro deals.

The problem with Navarro is that he does not differentiate between the different sections of the bourgeoisie; neither does he believe it can bring about 'development' because of its link with its western counterparts, and its consumption patterns which divert resources away from 'useful' investment. He never analyses the role of the state in the Third World, and assumes that the bourgeoisie and the state are one and the same thing.

Navarro was writing about Latin America, where the situation may be different from Africa. R. Ledda(104) outlines the five main groups of the African bourgeoisie: compradores, who function as middlemen for the large foreign trading firms; indigenous entrepreneurs; bureaucrats; local planters; and feudal landlords. This, by no means

characterises the situation in all Third World countries. For example, many countries have now a strong bureaucratic-military bourgeoisie. Quite often their interests clash. Sometimes one section of the bourgeoisie forms alliances with the intellectual elites or even some sections of the working class. These alliances are very important if one wants to understand the gains made by the lower classes in the form of provision for health, welfare, education etc. The entrepreneur class, whom incidentally the Marxist theorists refer to as the protagonist of development, very often wants to set up industries. They face the opposition of the compradores, who import the manufactured goods from abroad. Though in the end the interests of capital prevail, it would be wrong to assume that all sections of the bourgeoisie control the state, and that the working classes are only passive recipients of what is bestowed on them. It is true that sometimes the lower classes are the pawns in the political games of the bourgeoisie, but at other times they have a more important part to play.

In some countries the state is the single biggest employer. It is also in a position to initiate development. After the Meiji restoration in Japan, the state built up modern industries, and this paved the way for their being taken over by the Zaibatsu, and so making possible the growth of Japanese monopoly capitalism. It is not to say that the Third World is like Japan. After all the latter was never colonised. In Egypt during the Nasser period, the state nationalised many industries, which shows the conflict between the bureaucratic bourgeoisie and the national bourgeoisie. But all in all, the state in the Third World is not just an instrument of the bourgeoisie, but rather it mediates between the competing demands made by different sections of the bourgeoisie[105] and other classes too such as peasants and sometimes the industrial proletariat.

We will now examine another approach which shares many ideas in common with the above one. In fact Lesley Doyal in her book 'The Political Economy of Health Care', quotes frequently from Navarro. But she has her own contribution to make.

Doyal deals with those aspects of health which have been neglected or ignored for too long. She fills an important gap which so far had prevented a fuller understanding of the causes of ill health in societies with different modes of production. According to her, most discussions of medical care have, until recently taken ill health for granted, and have rarely questioned its social or economic origins. Her contribution is in the form of an analysis of capitalism's contradictory relationship to health. Her aim is to point out the way health care is organised under capitalism, and how the processes of production under the latter create diseases. As she explains

"Thus, through analysing the social production of health and illness in capitalist countries can we learn more about the nature of capitalism itself, as well as becoming aware of what needs to be avoided in future if a 'healthier' society is to be created." (106)

There are many ways in which capitalism creates illhealth and according to her, "it is ultimately profit rather than a concern to improve overall living standards which is the most important determinant of economic and social decision-making in capitalist society; this will be reflected in various ways in the patterns of health and illness."(107)

Doyal is cautious not to fall for the usual left wing rhetoric which claims that because capitalism is responsible for a large measure of ill health, therefore one has to wait for a revolution to come and 'any specific intervention here and now is pointless'. Still, she does not offer any clue of how ill health can be prevented under capitalism

since she is aware that "most attempts to control the social production of ill health would involve an unacceptable degree of interference with the processes of capital."(108)

Doyal does not want to attribute ill health to capitalism in any crude sense, because the latter also creates the condition for better health. On the 'credit side', "the development of the forces of production made possible by industrial capitalism has formed the basis for a tremendous improvement in average life expectancy for people in the developed world."(109) Capitalism in Britain improved the subsistence level with better and more food, clothing, housing for the working class and the gradual shortening of the length of the working day. On the 'debit' side, Doyal claims that

a) ... the imperatives of capital accumulation condition the nature of the labour process, and the need for shiftwork, de-skilling, overtime or the use of dangerous chemicals, will all be reflected in the health or ill health of workers.

b) Damage by the surrounding environment and pollution of various kinds are often the by-products of industrialised production, and

c) commodity production may damage health through the nature of the commodities themselves.

For the purpose of this paper we will not go into details in the other ways in which capitalism creates ill health, instead we will turn to the question of why medical care is provided under capitalism.

While acknowledging the part played by class struggle on this issue, Doyal claims that it is the concern with the reproduction of labour

power which accounts for the provision of medical care in developed countries. As she points out, "Medicine benefits workers but it benefits capital as well."(110) Marx assumed that the reproduction of his (the worker's) own labour power would be left to the worker himself to undertake through the normal process of his daily life. Doyal on the other hand, finds this assumption to be oversimplified.

"It has been characteristic of capitalist development during the nineteenth and twentieth centuries, that in most countries the State has taken over the responsibility for the collective reproduction of labour power through the provision of education, social security and other welfare services. State intervention in the organisation of medical care has been part of this more general process."(111)

But she is conscious that the process is not as simple as this. Some sections of capital will object to increasing public expenditure on welfare,and would prefer the resources to be invested elsewhere.

Medical care also has a 'socialising and legitimating function', and cutbacks in expenditure tend to weaken this role. As we can see there are conflicting forces at work. On one side we find capitalism creating ill health, and on the other, it tries to make the workers healthy in order to produce more. It is the interaction of these different forces which determines the result.

"... health policies and medical care systems in capitalist countries therefore represent the outcome at any particular moment of the struggle between all these conflicting forces. They are not the national policies of a benevolent state ensuring healthy lives and scientific medicine for all its people, but nor are they the manipulative policies of an all-seeing state controlling every aspect of the daily life of its

members."(112)

One of the features of capitalist industrial development is that it was dependent on a particular mode of economic and social exploitation of the underdeveloped world, which was damaging to the health of Third World people.(113) In her book, Doyal uses East Africa as a case study to show how capitalist expansion during the colonial period caused disruption in people's lives and was ultimately responsible for the causes and spread of diseases in the colonies. This exploitative relationship between the developed and developing countries is by no means over, but is still responsible in some ways for the underdevelopment of the Third World. "It is, however, in underdeveloped countries that the extremes of ill health and premature death are to be found. Here the major causes of death are not as often assumed, the endemic tropical diseases, but rather infectious diseases and malnutrition. These are not 'natural', but arise in large part from the particular social and economic characteristic of imperialism."(114) She points out further that

"Similarly malnutrition does not simply result from too many people and too little food in any particular country. Like urban and rural poverty, it is often a direct result of the exploitative relationship between the metropolitan countries and the underdeveloped world, and the consequent uneven development and allocation of resources."(115)

Doyal analyses the relationship between 'colonialism' and 'health' and also between 'medicine' and 'imperialism' in great detail. Her historical approach helps to understand the problem of health care in its totality. Without it one cannot explain several features of the health services in developing countries. Like Navarro she believes that the way society is organised, and who controls the political and

economic processes, are important. One must understand equally how the present ruling classes took over from the colonialists, but most important is how they have come to emulate their previous masters. The colonial administration was such that only a small group of people stood to benefit from it. When the present ruling classes inherited this machinery, they sought to change it as little as possible, so that power and the wealth that it brings, can remain in only a few hands. The preference by developing nations for 'scientific medicine' explains this point.

"... There is an important sense in which western scientific medicine - with its associated apparatus - represents yet another item of luxury consumption for the few who can afford it, and in many Third World countries the present mode of its organisation has allowed it to become very little else. Such a pattern of medical care does, of course, have advantages for a class which has the personal resources to pay for it, and which is protected from the life-threatening environmental conditions to which the bulk of the population is exposed. Thus the exclusive residential areas formerly occupied by the colonialists have now been taken over by the national bourgeoisie and, with them, the mentality of the 'cordon sanitaire'. As the chief immediate beneficiary of scientific medicine, this dominant class has, therefore, worked to consolidate the development of western medical practice in the Third World. One of the most important mechanisms for achieving this has been provided by a system of medical education whose structure and ideology are directly derived from the colonial era.(116)

Thus we can see that this bias in favour of scientific medicine is not an aberration that can be easily corrected by changing planning strategies.

If inheritance from the past is not a sufficient explanation of the continuous maldistribution of resources, Doyal, like Navarro, believes that it is the continuing links of dependence within the modern world economy which are crucial in perpetuating and even reinforcing earlier inequalities. The 'syphoning-off' of resources from the underdeveloped countries prevents the building of infrastructures; however, "it is not lack of resources alone which accounts for inadequate medical provision. Economic incorporation into the world system has also helped to create social structures within the periphery which are responsive to the dynamics of metropolitan capitalism. In particular, it is the role characteristically taken by the State and by the dominant class in the Third World countries which determines the nature of health policies."(117)

Doyal's approach is different in that her's is a critical analysis of ill health in a specific mode of production. None of the previous contributors questioned the tendency of capitalism to generate ill health, and the insights provided by Doyal serve as a cautious note to those who prefer capitalist economic development at any cost. She does not offer any practical solutions either of how to tackle the immediate health problems in the Third World, nor how to overcome the obstacles created by colonialism and imperialism. And because capitalism shows no sign of disappearing or being supplanted, her contribution remains in the domain of theory.

While she stresses the role of the State in the reproduction of labour power in developed countries, she does not believe that the State performs the same role in developing countries.

"Thus, Third World governments do not, as yet, use welfare measures on any significant scale as a means of physically reproducing labour power

in order to maintain their own legitimacy - the only real exception being the provision of welfare services for the small pool of skilled urban labour".(118)

If neither 'reproduction of labour power' nor 'social control' explains the provision of health services, however rudimentary they are in some cases, then one can ask why governments bother with them. The spread of diseases is not a sufficient explanation either. This brings us to an important element which Doyal has played down, when dealing with the developing countries. And this is 'class struggle', and because the latter takes different forms, it is not always possible to detect its influence on government policy.

Finally there is a feeling throughout the book that only the abolition of capitalism will bring about better health. The writer is aware that ill health will be present in any mode of production, and that not even 'socialism' would escape its share. The social production of health and illness in capitalist societies only points the way to what is to be avoided in a socialist health policy.

"In contrast, while we cannot specify in advance a utopian blueprint for a socialist health policy, we can assume that under socialism profit would not longer be the criterion for making decisions about production or consumption."(119)

This journey through different contributions has not brought us any nearer to finding new health strategies. We have now an idea of the task that lies ahead and the challenge that it involves. We have seen that behind the façade put forward by the WHO and the World Bank as reflected in their policies, the real causes of ill health are likely to remain untouched. While the casual relationship between poverty and disease is obvious and even accepted by one and all, the real nature of this 'poverty' remains unquestioned by writers like Bryant. Though one is

tempted to say that the Bryant and WHO's approach at least offers some practical solutions in the short term for developing countries, the fact remains that their contributions are actually harmful in two ways. Firstly, it takes the attention away from what needs to be done, which in this case means the removal of the structures that cause poverty. Secondly, it gives the illusion that 'health for all' will be achieved by the year 2000, and thus gives a new lease of twenty years to those planners who have consistently failed to solve Third World health problems. The WHO, by putting its hopes and policies firmly in the hands of those who at present hold the power of decision making on health matters, adds an element of legitimation to the status-quo.

Navarro believes that most writings on health deliberately avoid analysing the causes of poverty. Perhaps they consider 'poverty' to be outside their terms of reference and therefore they end up looking at the 'parts' as if they exist independent of the 'whole'. To be fair to writers like Bryant, they at least 'know' what the problems are. They have moved closer to 'reality' in acknowledging the role of poverty in diseases. But then to stop short of analysing the causal agents themselves, and instead put their hopes in the 'political will' of rulers, reminds us of the words of G. Orwell when he wrote about class distinction in England.

"Unfortunately you get no further by merely wishing class distinction away. More exactly it is necessary to wish them away, but your wish has no efficacy unless you grasp what it involves."(120)

The achievement of a 'reasonable' standard of health in developing countries is hindered in two ways. First by poverty, and second by the kind of responses to health problems both at the national and health

sector level. These responses are inadequate, biased and in large part irrelevant to the health needs of developing countries. It is clear from Navarro's and Doyal's analyses that the same obstacles that prevent the development of health also account for the under-development of the country. It follows, then, that only 'development' will create the conditions for people to lead 'healthy' lives.

So far the Third World has remained under-developed, except for some countries which are undergoing a process of industrialisation. As for the rest 'development' remains as elusive as ever. The international institutions and many western developed countries believe that 'development' in the Third World is possible without tampering with the status-quo. It is believed that the bourgeoisie of these countries have the potential to generate a process of industrialisation as it happened in Britain, for example, in the 18th century. And as was the case in these countries, the standard of living and hence of health has been raised. The flaws of this argument have been pointed out in two ways. Firstly, Britain and other countries in Europe were not interfered with, as was the Third World through colonialism. Secondly, the European countries were able to maintain and even increase the momentum of industrial development by exporting manufactured goods to the Third World, and by importing the necessary raw matrials from them.

As stated above, some developing countries are already experiencing economic growth that shows they are on the way to industrial development. Brazil, Argentina, Mexico in Latin America, and the Republic of Korea, Hong Kong, Malaysia, Singapore and Taiwan in South East Asia, are the ones most frequently mentioned. Though they are doing better than others, they are not without problems. "While they owe much of their expansion and technology to the multinational corporations, they remain vulnerable to the corporations' trading practices."(121) They also face 'protectionism'

from the developed countries, to whom incidentally they are still in financial debt. "They may suffer new setbacks with the development of micro-processors, which could reduce some of their advantages."(122) There is also a tendency to treat the products from the 'export processing zones' as coming from the country's mainstream economy. It must be pointed out that when people in developed countries find products from Korea, Singapore or Hong Kong in their supermarkets, it does not mean that these countries export them. In fact, the multinational corporations only use the 'cheap labour' of these countries to produce these manufactured goods, and the profits go back to the developed countries. These 'zones' offer many incentives to multinational corporations including ten to twenty years tax exemption. Finally, the economic growth generated has not yet made any real impact on health standards as reflected in the infant mortality rate, which is a widely used indicator of a country's health status.

The majority of the Third World remains undeveloped. So long as the internal and external obstacles are not removed, development will remain a dream. There are two ways that this can happen. First, as recognised by the Brandt Commission, if everybody shows enough 'goodwill' to realise that the interests of the North and the South need not necessarily collide, then half the battle is won. It involves the western developed countries giving up the control they have over the world market, doing away with 'protectionism', spending very little on arms, helping the South by giving much more financial help than they have done so far, and sharing their technology with the developing countries. On the part of the South, they are to have more control over their products, genuine land reforms, rationalise their agriculture, control population growth, and provide welfare for the less fortunate, on top of making the necessary efforts to industrialise. This is only a very brief summary of what it entails. If this is the content of the message, then the tone can be gathered from

the following lines

"North-South relations in recent years have become an increasingly important part of international politics as well as economics. One ambition of this Report is to propose steps along the path to what could genuinely be called a society of nations, a new world order based on greater international justice and on rules which participating countries observe. This requires national states to exercise mutual restraint among themselves, and in particular to be concerned about the less fortunate members of such a society."(123) One can say it sounds almost evangelical. The reality of day to day living is otherwise though. History can show the continuation of the politics of control of the developing countries by the developed ones. The standard of living these latter enjoy is the result of their economic development over centuries, and to expect, for example, that people in the North to accept a cut in their living standard (because this is what is involved if only at the beginning) is to be hopeful indeed. One example will help to illustrate how different the worlds of the North and South are:

"In recent years the world has produced about 1,300 tons of food and feed grains annually, and the developed countries eat half although they account for only about a quarter of the world's population."(124) And if we make the same assumptions about their consumption of other goods, it only serves to show the disproportionate distribution of what is produced in the world. Even the unemployed in the developed countries have a standard of living higher than the average worker in the Third World. This has prompted S. George to say that

"The present world political and economic order might be compared to that which reigned over social-class relations in individual countries in nineteenth century Europe - with the Third World now playing the role of the working class".(125)

At the same time in the Asian, African and Latin American countries "well over 500 million people are living in what the World Bank has called 'absolute poverty'".(126)

Enough food is produced to feed the world population, and even if this was not the case, the science and technology at our disposal would make this possible.

"Mankind has never before had such ample technical and financial resources for coping with hunger and poverty. The immense task can be tackled once the necessary collective will is mobilized."(127) This is why the Brandt Commission shows so much optimism, but when one considers the fierce economic competition between the developed nations themselves, one realises how much 'goodwill' is needed before the developed countries give up their exploitation of the Third World and allow the latter to be 'equal' partners. Clearly the Brandt report merely serves to highlight the main issues for the world today, and since it made its recommendations the situation has even deteriorated.

The second path to development involves a change in the socio-economic structure of these countries. This is only the beginning; the task ahead will be a huge one. They will have no less to face the opposition from the North, as the case of Cuba, and later Chile under Allende show. From economic blockade, to direct intervention, every means possible is used to protect the interests of capital. The Brandt Commission recognises the muscle power of the North.

"Naturally there are conflicts between North and South; the most fundamental being questions of power and the numerous ways in which economic and even military strength confers on countries, organisations and corporations in the North the ability to manage the world economy to a considerable degree in its own favour."(128)

Whatever the means of development the Third World chooses, it has to start within its boundaries first. Most of the changes have come from the west, but as S. George found out,

"In spite of decades of obvious failure to solve the world food crisis, most 'experts' continue to proceed as if solutions for it could be purely technical - and Western-sponsored. We have helped to shove pills down the throats of Third World mothers and to vasectomize Third World fathers; we have cultivated entire upper classes so that they will share our ways of thinking; we have assumed in every case that West is Best and consequently we have introduced technology profitable to our own Multi-national Corporations with brisk and total unconcern for the consequences on other people's lives... we have, in fact, paid attention to every factor except those that could alleviate hunger and misery in the poor world".(129)

If 'development' is the enormous task ahead, disease and illness present their own challenge. In the light of the several approaches elaborated in this paper we shall analyse the development of health services in Mauritius from its beginning to its present form. We will examine the main features of contemporary health care as reflected in its organisation, distribution and uses that people make of it.

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(101) Navarro, V. Health Services in Cuba. The New England Journal of Medicine, 9.11.72, p.959.

(102) Ibid, p.959.

(103) Navarro, V. Medicine Under Capitalism, op.cit., p.26.

(104) Ledda, R. Social Human and Political Struggles. International Socialist Journal, 14, 22, Aug. 67, p.574-5.

(105) Alavi, H. The State in Post-Colonial Societies: Pakistan and Bangladesh, New Left Review, No. 74, July Aug, 1972, pp.59-82.

(106) Doyal, L. op.cit., p.23.

(107) Ibid, p.23.

(108) Ibid, p.44.

(109) Ibid, p.23.

(110) Ibid, pp.37-38.

(111) Ibid, p.39.

(112) Ibid, p.45.

(113) Ibid, p.24.

(114) Ibid, p.27.

(115) Ibid, p.27.

(116) Ibid, p.259.

(117) Ibid, p.257.

(118) Ibid, p.258.

(119) Ibid, p.23.

(120) Orwell, G. The Road to Wigan Pier, Penguin, 1975 edition, Harmondsworth, p.141.

(121) North-South: A Programme for Survival, op.cit., p.53.

(122) Ibid, p.53.

(123) Ibid, p.75.

(124) George, S. How The Other Half Dies, Cox and Wyman Ltd., London, 1976, p.24.

(125) Ibid, p.23.

(126) Ibid, p.23.

(127) North-South: A Programme for Survival, op.cit., p.16.

(128) Ibid, p.65.

(129) George, S., op.cit., p.133.

* UK Newspapers

CHAPTER 2: METHODOLOGY

There are a number of methodological problems which are encountered when health care is investigated. First one has to define health and the range of factors, both etiological and curative/preventive, likely to contribute to it. Secondly, it is essential to narrow down the range of factors so as to concentrate one's effort productively. Focussing on the provision of health services alone will yield only part of the picture since they only partly address themselves to health needs. There are other sectors whose responsibilities include activities which have a major impact on health. These activities may not be the direct responsibility of the health sector but they have an important part to play in the prevention of diseases and the promotion of health.

The concept of health care as envisaged in this thesis goes beyond the mere provision of health services and embraces the contribution of these other sectors in such areas as sanitation, nutrition, housing, water supply etc. These services, together with health services, both in the bio-medical and traditional sectors, are themselves products of the wider structures of society. Therefore an attempt will also be made to place the health care system of Mauritius in its historical, political, economic, social and cultural context.

The broad nature of this investigation necessarily deals with a wide range of factors and the task of narrowing these down is indeed a challenging one. The selection of certain factors merely stress their importance for the task at hand, while the exclusion of others does not necessarily reflect their unimportance.

Thirdly, finding the right techniques for collecting and analysing the data often creates problems of its own. Time and resources present as many problems as does the bar on access to relevant documents.

Anyone familiar with Mauritius will realise the 'lacuna' of research in the area of health care, especially for the contemporary period. While the records are compiled efficiently and are reliable, they are not always up-to-date or accessible to the general public. My own efforts to obtain information from the Ministry of Health were not successful. It appears that outside 'researchers' are viewed with suspicion. It became quickly obvious that I needed to gather my information from other sources. I shall describe below the research designs which were used.

The fieldwork itself lasted just over seven months from October 1980 to May 1981. I must also point out that I am familiar with the health care system of Mauritius, having lived there for 26 years.

1. Research designs

Both formal and informal methods were used. From overheard conversations in out-patient departments to structured interviews with health officials, every scrap of information was valuable. The following research designs were used: questionnaires, interviews, observations (Participant and non-participant) and content analysis of newspaper reports, periodicals and official records.

(a) Questionnaires:

To supplement the information available from official and unofficial publications it was necessary to carry out investigations among the population in order to get their views, attitudes and feelings on the issues relevant to this thesis. A questionnaire (see Appendix I) was constructed which would look at different factors relating to infant/child mortality. This age group was chosen because of the notion that most deaths between these ages are associated with infectious

diseases and other environmental causes, and are very sensitive to the social and economic conditions of the area.

The sample consists of 100 families who had the misfortune of having such a death in 1979. They were the last 100 deaths in that year. The selection method was motivated by the fact that they were the latest available up-to-date records, and as such it was hoped that the families would still be at the same address at the time the survey was carried out (almost a year after), and also that the events surrounding the death would still be fresh in their mind.

I spent one month at the Registrar General's department sifting through all the death certificates in 1979. Most of the addresses in the rural areas were vague, and I found out later that some of the families in the urban areas were not in the same place when I called. I managed to trace 69 of these families from the original sample of 100. The rest were replaced by the next death on the register which occurred in the same village. The idea was to keep the urban/rural bias that the original sample showed.

Table 1 shows that in ethnic and gender terms, the sample is representative of the overall figure, while the map on page 78 gives an indication of the spread of these cases over the nine districts of the island.

Except for certain factual data, the questionnaire is too "open" to yield quantifiable data on the other questions asked. But it was intended to be so because the lack of surveys on infant/child mortality in Mauritius meant that many questions had to be answered even in broad terms rather than not at all. The lack of a control group also does not allow any comparison to be made with families who have not experienced infant/child death. A female researcher would have been more successful

in gathering information on such issues as infant care and breastfeeding. It was obvious that some women found it embarassing to talk alone to a male stranger. Therefore an effort was made to interview them in the evenings, when their husbands or other relatives would be present. Quite often the elder children in the family proved to be more useful sources of information than their parents who seemed to be preoccupied with the struggle for a daily living.

Many times I was mistaken for a government official and thus a representative of modern medicine. At other times I was thought to be a family planning agent, and I could see their relief when I persuaded them otherwise.

Above all the questionnaire gave me the opportunity to go to the different corners of the island, to get access to peoples' homes and see for myself the conditions in which they live and to talk to them about their beliefs about illnesses and their causation, their attitude to the different health services available, and other things. With time I discovered that the real conversations started after the questionnaire was filled in and put away in my bag. Though in general most of them did not object to the use of a tape recorder, they were clearly inhibited by the equipment and I decided to take notes instead.

The results from the questionnaire on infant/child mortality will be used as appropriate throughout the thesis.

A second, less time consuming, questionnaire (see Appendix II) was devised to gather information on the teaching of Health Education in primary schools in Mauritius. The questionnaire and its results are fully discussed in the section on Health Education in Chapter 6.

(b) Interviews:

These were mainly structured interviews with Ministry of Health officials, private doctors, administrators of private clinics, hospital, dispensary and health centre staff, traditional healers, religious leaders etc. In most cases a tape recorder was used after permission was sought. In general I was granted time liberally and their co-operation were generously given.

(c) Observations:

I spent a lot of time at dispensaries, social welfare centres and outpatient departments of some hospitals as an observer. During the time I spent in Mauritius I also had the opportunity of accompanying relatives to the Civil Hospital in Port Louis and became unwittingly a participant observer in their interaction with hospital staff. I also visited my sick relatives and friends in hospitals and was thus able to talk to patients about the care they were receiving.

(d) Content analysis of newspaper reports, periodicals and official reports:

I collected relevant newspaper articles during my stay in Mauritius and also traced some interesting articles which were published previously. These became very useful especially for the section on the 'Medical Profession'. I also became aware of the health issues which most interested the layman, and the common complaints that they make.

There are very few periodicals on Mauritius and apart from a few back dated copies of a nursing magazine, I could not find anything of interest. As for official reports they are too few and far between to be of great use to a contemporary researcher. On the other hand, the colonial governments concerned with the sanitary state of the island regularly called on 'experts' to carry out enquiries. The reports they

produced have proved most useful for certain sections of this thesis.

The latest report of the Ministry of Health came out in 1978 and it was a small volume containing the reports of the years 1973-1977. The Ministry also publishes yearly statistics for internal use. A copy for the year 1979 was made available to me. However because it provides selective statistics, its use was limited. There are a lot more reports especially by international organisations, to which access was barred for the general public, including me.

Finally, the British Library of Political and Economic Science (BLPES) , in London, proved to be a very useful source of information. To my knowledge this library has the largest collection of publications on Mauritius in Britain. In particular the Administrative Reports and the Annual Reports of the various departments provide valuable historical data. However, Reports and other publications after the mid-seventies are lacking. The 'Reference Division' of the British Museum collects publications on Mauritius. Historical researchers will be particularly interested in the Colonial Reports. The School of Oriental and African Studies also house a small collection of printed materials on Mauritius.

On the whole the methodological approach for this thesis is based on the premise that both qualitative and quantitative methods have their strengths and their weaknesses. As Djurfeld and Lindberg explained:

"The quantitative methods can yield very precise, reliable and valid data, but they tend to be superficial and often they do not reproduce reality, but produce statistical artefacts. These weaknesses can be counterbalanced by combining quantitative data with qualitative ones."(1)

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1 Djurfeldt G, Lindberg, S. Pills Against Poverty; Curzon Press, 1975; p18.

Table 1

Ethnic and gender distribution of infant/child deaths in 1979

Deaths between 4 weeks and 1 year	312
Deaths between 1 year and 5 years	170
Total number of deaths	482

Ethnic distribution	No.	% of total deaths
Male Hindu	143	29.7
Female Hindu	152	31.5
Male (Population Générale)	73	15.1
Female (Population Générale)	56	11.6
Male Muslim	32	6.6
Female Muslim	22	4.6
Male Chinese	3	0.6
Female Chinese	1	0.2
Total	482	
Total Male deaths	251	52.1
Total Female deaths	231	47.9

Ethnic and gender distribution of infant/child deaths in the sample

		%
Male Hindu	31	31
Female Hindu	32	32
Male Population Générale	15	15
Female Population Générale	10	10
Male Muslim	7	7
Female Muslim	4	4
Male Chinese	0	0
Female Chinese	1	1

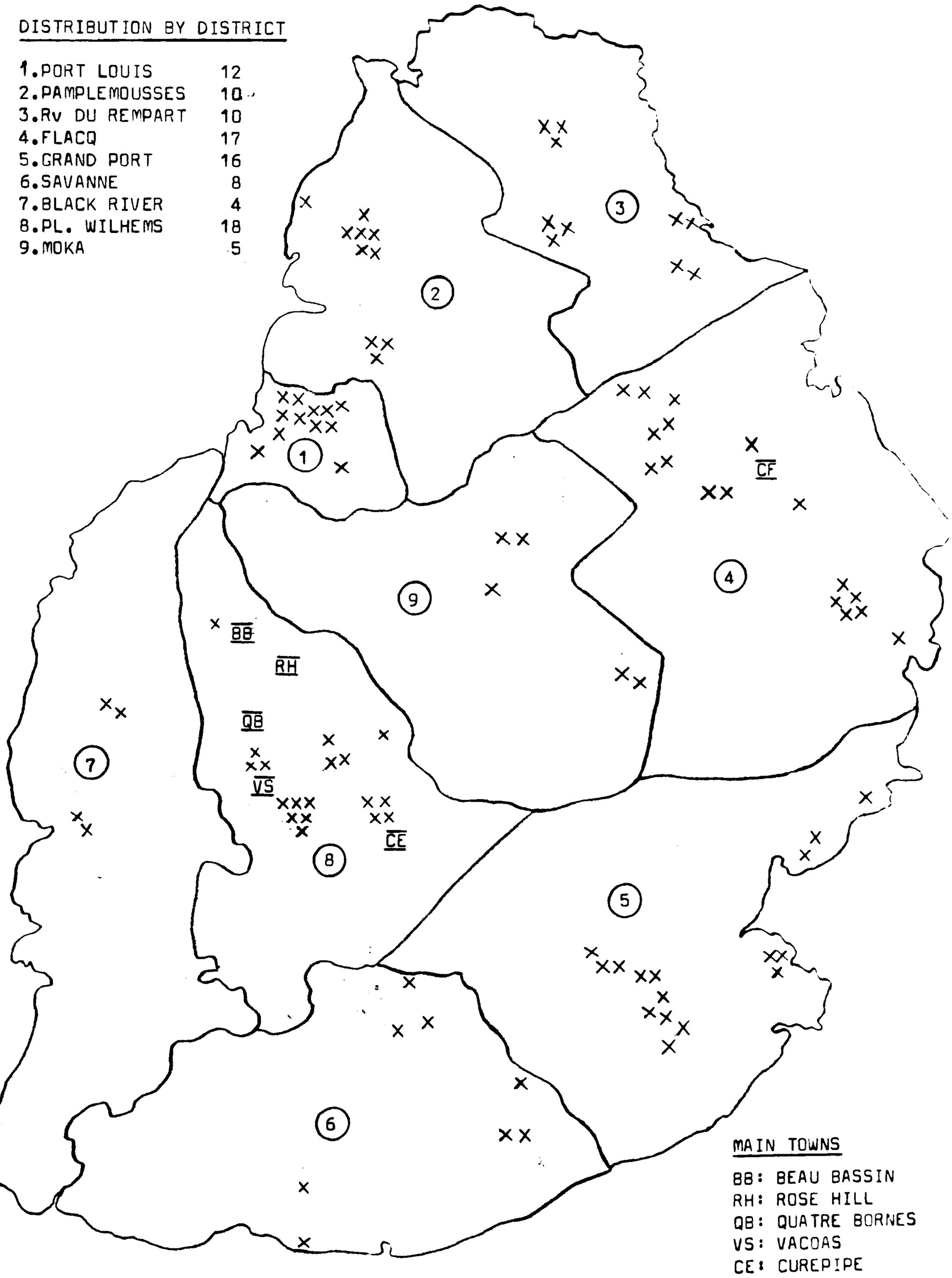
Total Male: 53

Total Female: 47

LOCATION OF FAMILIES IN THE SAMPLE

DISTRIBUTION BY DISTRICT

1.PORT LOUIS	12
2.PAMPLEMOUSSES	10
3.Rv DU REMPART	10
4.FLACQ	17
5.GRAND PORT	16
6.SAVANNE	8
7.BLACK RIVER	4
8.PL. WILHEMS	18
9.MOKA	5



MAIN TOWNS

BB: BEAU BASSIN
RH: ROSE HILL
QB: QUATRE BORNES
VS: VACOAS
CE: CUREPIPE
CF: CENTRAL FLAC

CHAPTER 3: BRIEF DESCRIPTION OF MAURITIUS

History

Mauritius, an island of volcanic origin lies approximately 500 miles east of Madagascar and 200 miles north of the tropic of Capricorn. It was uninhabited until the 17th century when the Dutch briefly settled there and named it 'Mauritius' after their Prince, Maurice of Nassau. During the Dutch occupation the island lost its population of indigenous Dodo birds, giant land tortoises and most of its ebony trees. The trade post which they established in 1668 was abandoned in 1710.

When the French arrived on the scene in 1715 they found that the Dutch left behind a few slaves and a small number of neglected sugar cane fields. Under the direction of the French East India Company, the French started a permanent settlement in 1721 and immediately engaged themselves in sugar cane, spices and coffee plantation. They renamed the island 'Ile de France'. Slaves were brought in from Madagascar, Mozambique and Guinea.

During the Napoleonic Wars, Britain became attracted to the strategic position of Mauritius in the Indian Ocean. British soldiers laid siege on the island in 1810, and the French surrendered without resistance. Under the Treaty of Paris, an end was put to French rule, but the inhabitants were allowed to retain their possessions, religion and language. The plantations and large commercial enterprises remain in the hands of a Franco-Mauritian oligarchy of some 70 families, and the influence of Paris continued up to this day. Few British actually settled on the island but they were to change the composition of the island by bringing in indentured labourers from India to work on the sugar estates after the abolition of slavery in 1833. The Indian

population of the island nearly tripled in the years between 1851 and 1861 (from 77,996 to 192,634). There were 153,693 immigrants recorded by 1871 and these consisted mainly of individuals from the regions of Calcutta (57%), Madras (32%) and Bombay (7%). Indian immigration continued well into the beginning of this century.

A further and more recent addition to the population of Mauritus has been the Chinese. They were chiefly traders and they numbered 1552 in 1861 (1550 men and 2 women).

Rodrigues*, a small island about 350 miles North East of Mauritius is a dependency of the latter. It had a population of 29,200 in 1979.

Ethnic Composition

The following terms are used to describe the various sections of the population:

Population Générale:	The descendents of settlers and slaves.
Creole:	Descendents of slaves only
Mullato:	This term is not used in demographic analysis. It means the offspring of a white settler and a slave, and their descendents.
Indo-Mauritian:	This term used to refer to the offsprings of indentured labourers who were born in Mauritius, irrespective of their religion. But in the 1960's following demands from different groups, this section of the population is further divided into: Hindus and Muslims.
Sino-Mauritian:	Descendents of Chinese immigrants born in Mauritius.

* Rodrigues is excluded in this study.

The 1972 Census shows the following ethnic composition of the population:

Hindus	428,167	51.8%
Population Générale	236,867	28.5%
Muslims	137,081	16.5%
Sino-Mauritian	24,084	3.0%
Total population	826,199	

There is little inter-marriage between the communities and in many places there is also ethnic geographical segregation. The sugar estates labourers being mainly Hindus live in the rural areas.

Age structure of the population in 1978:

Age	Percentage of total population
Under 15	35.2
" 18	42.9
" 21	49.8
Over 18	57.1
" 21	50.2
" 60	6.5

Geography

With a land area of approximately 720 square miles, Mauritius had a population density of 1147 per square mile in 1972. The island is divided into 9 districts (see Map on page 78) and the estimated population of each district was as follows in 1978:

Port Louis (the capital)	142,853
Plaines Wilhems	276,296

Flacq	99,658
Grand Port	87,957
Pamplemousses	75,847
Riviere du Rempart	74,529
Savanne	57,423
Moka	52,884
Riviere Noire	29,024

The main towns (see map) are Beau Bassin, Rose Hill, Quatre Bornes, Curepipe and Vacoas. In recent years Central Flacq has also grown in stature. The population is estimated to be 56.9% urban and 43.1% rural.

Climate

The land rises from the coast to a central plateau. The altitude varies from 900 feet to 2400 feet. The climate is tropical in the summer and sub-tropical in winter and each season lasts about six months. The mean temperature varies between 67°F at 1000 feet and 74°F at sea level. Rain fall also varies from 35 inches in some parts to 200 inches in others. The island is frequently visited by cyclones which usually occur in February and March but has been known to strike the island in December and January. Gusts over 100 miles per hour have been recorded on many occasions. Cyclones are a particular threat to the sugar cane crop on which the Mauritian economy depends heavily.

Religion: The main religions on the island are:

Hinduism
Catholicism
Islam
and Buddhism

There is also a host of other religions.

Languages: The 1978 Census shows which languages are predominantly spoken in the home:

Language	Percentage of population
Creole	51.8
Hindi	31.7
French	4.7
Tamil	3.5
Urdu	2.8
Telegu	2.1
Marathi	1.5
Chinese	1.1
English	0.3
Gujrati	0.04
Others	0.10

Newspapers

The Mauritian press is over 207 years old and at present the daily newspapers in the island are:

Le Mauricien
L 'Express
Le Cerneen
The Nation
Advance
Le Populaire
The China Daily News
The China Times

The weeklies are:

Le Dimanche
Week-End
Janata
Horizons nouveau
La Vie Catholique
The Star

With a few exceptions most of the above newspapers are in French with occasional articles in English.

Constitution

Mauritius has a democratic Parliamentary system with elections every 5 years. The island is divided into 20 constituencies each of which can elect three Members of Parliament (MP). Rodrigues has two MPs. Eight other MPs are nominated according to a 'best loser system' in order to ensure ethnic political representation in Parliament. There is only one house of Parliament and the official language is English although French is also allowed.

Mauritius obtained independence in 1968 and remains a member of the Commonwealth.

Regional Administration

The urban areas have their own 'Municipalities' run by Local Councillors who are elected by the population of their towns. Each Municipality has its own Mayor. The rural areas have their administration in the forms of three district councils: North, South and Moka-Flacq. These in turn supervise 98 village Councils with about 882 members who are elected every three years.

Education

Both Primary and Secondary schooling are free and cover the period from about 5 to 18 years. There were 254 primary schools and 148 secondary schools in 1979. Mauritius also has a small University which was founded in the late sixties. Courses are mainly in agriculture and administration. There is no medical school.

Mauritius has a Police Force but no army.

Part II

CHAPTER 4: HISTORY OF HEALTH CARE IN MAURITIUS

The importance of a historical approach towards an understanding of the contemporary structure of health services has been seriously, if not deliberately, underestimated. Indeed just as the health sector is very often examined independently of its social, political and economic context, so it is looked at outside the historical situation in which it is rooted, and which in many ways determines its present form and content. This non-use of history as an analytical tool has been criticised by Navarro who, as already pointed out, finds that

> "... despite the truism that the present is built upon the past, few analyses are based on a historical approach in which the present is perceived as a dialectical result of the past."(1)

Djurfeldt and Lindberg(2) echo the same thoughts when they note that health policies in the Third World "tend to perceive and treat the health situation as an ahistorical and natural product rather than a historical and social one." They point out particularly to the ecological disturbances that were the result of colonial expansion. Without a historical approach it is difficult to conceive how the so-called 'tropical' diseases have become endemic and epidemic to Third World countries. Reference to history is not meant to find who was responsible: as Doyal puts it

> "The intention ... is not to apportion moral blame but to make clear the objective significance of this process in the particular context of capitalist development."(3)

Very often these disturbances were unintentional, and the colonialists themselves hardly noticed the ecological changes brought about by their policies, not to mention that they also suffered as a result of the spread of diseases.

Most health services in the Third World have been built during the colonial period, and indeed one can in most cases explain the differential class, ethnic and regional availability of and access to services by examining the rationale behind colonial health policies. The present is a continuation of the past and nothing emphasises this more vividly than the fact that few post-colonial governments have sought to restructure their health services in order to serve the present needs of the population. Instead they have maintained the colonial imbalances and distortions of the services provided, and have simply added more hospitals, beds and personnel, and introduced modern technology in some "centres of excellence".

Perhaps more important is the need to understand the present condition of the population which is a direct result of colonial administration. Nowhere is this clearer than in the case of 'Creoles' in Mauritius, who now because of colonial policies, at the heart of which was the uncontrolled immigration of Indian labourers, have found their situation changed from being slaves to that of a deprived proletariat - a process extending a little over 150 years, without personally being responsible for what has happened to them. We will discuss their situation further in Chapter 9. However, their case serves to illustrate that the poverty and ill health of large sections of the Mauritian population must be seen in the light of previous colonial policies, especially in the field of politics and economics.

There are two sensitive areas where Mauritians fear to tread. One is 'ethnicity' and the other is 'history'. The latter evokes emotional responses which clearly embarasses certain sections of the population. The object of this historical exercise is to put the health sector in its right perspective. The history of health care is still to be written. What follows is a sketchy account and analysis of the

political, social and more particularly, the economic aspects of colonial policies, and their influence on the 'health' and 'ill health' of the population. We will look broadly at the following three main areas:

(a) The introduction of diseases in Mauritius.

(b) The political economy of Indian Immigration and its effects on the health of the population.

and

(c) Early provision of health services on the island.

(a) <u>The introduction of diseases in Mauritius</u>

One question which has been asked before is whether Mauritius was 'ever' a healthy place. The debate[4] between Dr. A. Davidson and Dr. C. Meldrum should interest both students of history and health care. Without dwelling too long on the subject we can summarise the debate thus. Dr. Davidson claimed that Mauritius was 'never' a healthy place. Later he qualified the term 'never' and stressed that he was referring to the early years of French administration. Dr. Meldrum took exception to Dr. Davidson's figures and phrased his reply thus :

"Dr. Davidson has endeavoured to show from military statistics which had been compiled by Drs. Mann, Lawson and Reid that "Mauritius was never a healthy place". These statistics, in my opinion, are far from proving Dr. Davidson's proposition. Baron D'Unienville's statistics from 1804 to 1830 show that the mean annual death rate of the general population of the colony during that period, was only 16.62 per 1000. For many years Mauritius was a sanatorium to which invalids, not only from India, but from other places, resorted for health, and (partly owing to its salubrity) children were sent to it for their education. Medical men, too, have testified that the island was "very healthy"." He went on to say that in his opinion the destruction of forests and the

great accumulation of a susceptible population were the main local exciting causes of epidemics. The early settlers were interested in the profit they could make by cutting down the ebony trees which were to be found in the forests of Mauritius.

While the debate makes interesting reading, it is irrelevant whether Mauritius was ever a healthy place. We must concentrate rather on the specific health problems that arose from local developments such as those which brought about ecological disturbances, as did the 'de-spoilation' of the forests, or which brought diseases from abroad as did the introduction of slaves from the East Coast of Africa and from Madagascar; the movements of French soldiers to and from Mauritius, and later the immigration of Indian labourers.

Anybody visiting the island, be they Arabs or Dutch, could have brought diseases with them. But the first serious epidemic occurred during the French administration when in 1754 a small pox epidemic hit the island. The various ships that visited the island were responsible for the introduction of diseases, but it was mainly the French soldiers who moved frequently between Mauritius and India, who were the carriers of infection. A. Toussaint in his book "Port Louis - a tropical city"[5] gives numerous instances where epidemics occurred as a direct result of ships coming from India with French troops. For example, in December 1772 and in June 1782 two more small pox epidemics were registered. The June epidemic was particularly murderous. The ships were so infested that the people who were cleaning it fell sick and many collapsed while still working.

Later, in January 1813, rabies was introduced, again through the medium of soldiers, and in October 1819 the Frigate 'La Topaze' coming from Manilla in the Phillipines gave Mauritius its first baptism of cholera. There were no quarantine measures then and Port Louis the

capital and Port, was vulnerable to all kinds of infectious diseases that the ships could bring. The first reaction of the inhabitants of Port Louis was to leave the town and take refuge in the countryside. So for the first time those who could afford it moved outside Port Louis taking with them all they possessed, including their slaves.

If diseases brought by the early settlers and the slaves were unforeseeable and those introduced by sailors and soldiers unavoidable, those that followed the immigration of Indian labourers to Mauritius cannot be condoned easily, because by then the risks of diseases were known but still the interest of 'capital' took priority over other considerations including peoples' lives. Indian labour was so vital to the survival and prospertiy of the sugar cane plantations that at the arrival of the ships full of 'coolies' from India there were commerical wrangles never seen before in Port Louis.(6) The planters were literally fighting over each other in order to recruit as many labourers as possible. Therefore even when the ships carried sick passengers, these were sometimes allowed to land. Large amounts of money were invested in the 'importation' of the Indians, and the planters were not ready to allow the ships to be turned back even when the risks were high. Thus in March 1854 probably due to the pressure put by those with financial interests, "there was delay in turning back a 'suspect' ship, and soon a cholera epidemic spread over Port Louis".(7) The same events repeated themselves in 1856, 1859 and 1861. By then some quarantine measures had started to be put in operation. However, an epidemic never before experienced in Mauritius hit the island. It was different both in its duration and virulence. Between 1866 and 1868, 33,078 people died. The new epidemic was 'Malaria' introduced by the mosquito known as 'Pyretophorus Costalis'. According to Ronald Ross, it was introduced to Mauritius by indentured labourers from India.(8)

Epidemics were so frequent and so devastating that economic and other activities were seriously hampered. While individual planters had a stake in the landing of their labourers, on the whole the economy suffered when whole masses of people died or became sick. Therefore it was thought best in the interests of the island that quarantine measures should be taken. Those responsible for 'public health' undertook their task with zeal. Faced with epidemic after epidemic, the health authorities began to clamp down seriously on 'suspected' ships. Quarantine ordinances were passed regularly, followed by amendments and other consolidating measures. The effects of quarantine on trade and shipping were one of the many things that were criticised severely in the Royal Commission of 1909.

"We cannot help thinking that the government of Mauritius has shown weakness in connection with the medical and sanitary services. It has delegated too much of the control over expenditure to its technical officers, who in turn have yielded too readily to the often ill-informed insistence of a section of the population which would seem to be unduly sensitive with regard to epidemic diseases. For instance, large sums have been spent upon a system of quarantine which has indeed caused grave inconveniences and expense to trade and shipping, but which has not kept the colony free from either plague or small pox."(9)

The Commissioners were not exactly fair in their assessment of the situation. They were concerned with the financial state of the island which they were asked to investigate. Therefore one understands the precedence accorded to financial matters over the lives of people.

Though the introduction of quarantine measures was novel to Mauritius and proceeded slowly through trial and error, with hindsight one can safely say that they helped tremendously to reduce the likelihood of the introduction and spread of disease which could have continued unabated if ships, crew and passengers were allowed uncontrolled access to the

port. But quarantine in itself was not sufficient. Port Louis was already an overcrowded city where hygiene was practically unknown. It was no surprise, then, that diseases could spread so easily.(10)

The introduction of diseases was not the only way in which the health of the inhabitants was affected. Indian immigration was to bring more lasting changes than anyone could foresee, and it is the ways in which the introduction of cheap labour was to shape the economy and in turn, influence, the 'health' or 'ill health' of the people that we will now examine in some detail.

(b) <u>The political economy of Indian immigration</u>

The abolition of slavery in 1833 really took effect in 1835. Consistent with the ideology and practices of the time it was the slave masters who were compensated. The British government paid about £9 million to the slave owners for the loss of their slaves.(11) The slaves, who were the real victims, were given nothing except their freedom. The ex-slaves had to remain four years in apprenticeship with the ex-masters and after emancipation many of them were unwilling to continue as labourers in the employment of their ex-masters. They moved into the mountains or settled along the coast living on the produce of the sea. They have always been blamed for not wanting to work, and with the arrival of Indian immigrants it was inevitable that comparisons were to be made between the two communities. Throughout Mauritian history not much sympathy and understanding has been accorded to the Creoles (as the ex-slaves and their descendents have come to be known). Freedom from slavery must have meant a lot for them, and they could see that so long as they had to work for the ex-masters, they would not be free in the true sense of the word. The reason for not wanting to work the land and to lead a free life has to be sought in slavery itself. Those who were brought as slaves to Mauritius came mainly from East Africa and

Madagascar. They had been uprooted from a way of life which was not necessarily based on agricultural production and their reluctance to become labourers reflected their sense of having lost what they once had. Whole families were separated and sold to different planters. They suffered considerable psychological and physical hardships to such an extent that their first reaction on emancipation was to start life away from their ex-masters. No one knows what terms were offered to the ex-slaves to work as labourers, and judging by the kind of treatment the Indians suffered at the hands of the planters, there could not have been any better prospects for the Creoles. The planters, on their part, wasted no time in seeking alternative cheap labour from elsewhere, and in their quest for profit they had little consideration for the people already living on the island and the conflicts that were likely to arise later on. At the same time the Creoles were excluded from the production process. At the beginning the government exercised no control at all over the recruitment of the Indians and the conditions in which they had to work and live.

The capital provided by the British government, and the opening of the doors of India, where a vast reservoir of cheap labour was available, proved to be a blessing to the planters in more ways than one. Not least is the fact that the abolition of slavery meant that the cultivation of sugar, though not extensive at that time, was threatened; and if alternative sources of labour had not been found "the settlers would have become the slaves of those who were their slaves before."(12) Though there is a certain amount of exaggeration in this statement, it points to the need for the planters to employ other people to work the land as neither they nor their ex-slaves were prepared to do so. The British themselves stood to gain from the whole operation as they bought in advance all the sugar that the planters could produce.

Indian immigration accelerated the pauperisation of Creoles and this process has continued up to the present owing to additional factors. As ill health is associated with poverty, it is important to understand the historical changes that affected the lives of the second largest section of the population.

At the turn of the century the trend towards the pauperisation of the Creoles was marked. In his report to the colonial office in 1901, G. Bower, the colonial secretary wrote

"The general condition of the colony from the financial point of view may be described as sounder than it has been for several years. The banks are overstocked with coins, and have more money than they can invest safely and profitably. They have reduced their rate of interest on fixed deposits, and money may be said to be 'easy'".(13)

Yet this prosperity did not profit all the inhabitants, as Bower was to observe:

"In view of the foregoing statement it may seem like a contradiction to say that the chronic disease of the Mauritian community is poverty. Nevertheless, the statement is true. For although the planters are prosperous as compared with their condition in recent years, it must be remembered that the planters form only a small section of the population, and that the poverty of the general population does not affect them, except insofar as it tends to keep down the price of labour. The Creole population who form a third of the whole population are poor and becoming poorer."(14)

It may be argued that the planters favoured the Creoles of 'mixed blood' in their allocation of certain non-labouring jobs, but by and large, these were only a small proportion of the Creole population. The reasons for this discrimination are many and varied, and we shall not deal with this now. We can only point out that the increasing poverty

and deprivation experienced by the Creoles inevitably made them more vulnerable to disease. As Bower noted,

"The Malarial Fever and other diseases which are so common in Mauritius tend to still further debilate the Creole population, and this is especially the case amongst those whose means do not permit proper diet and sanitary conditions of life."(15)

Bower incidentally showed great insight into the association of poverty to diseases:

"The sickness and poverty combined work in a vicious circle for as poverty predisposes to illness, so disease often begets poverty. Poverty is one of the main predisposing causes of plague, malaria, tuberculosis, dysentry and debility."(16)

However, as could be expected, he finds the solution in 'sanitary reforms'. The idea was that such reforms were supposed to make people more healthy and therefore more productive. What is ignored is the condition of work itself which makes people unhealthy, especially the fact that profit is made precisely by debilating people through working long hours on low pay, while the housing conditions were poor and in bad sanitary state.

The Indian labourers in some ways fared worse than the Creoles even if the former were in regular employment. Ever since immigration began, the Indians have consistently had higher rates of mortality than the other two sections of the population. Dr. O. Beaugeard in his report on the Civil Hospital for 1870 noted that "the average per thousand of fatal cases among Europeans was 18.4; among Creoles 66.6; and among the Indians 158.6. This high mortality rate among the Indians was attributed to the fact that when they are admitted to hospital, their physical condition was more or less in a debilitating state because of the repeated fever caused by Malaria; that they had received

little or no medical care, and because of the lack of food."(17)

The planters set out to make as much profit as possible, and therefore as much land as was available was put under sugar cane cultivation. At the same time the importance of cheap labour to the Mauritian economy was such that when Indian immigration was interrupted on at least two occasions in 1839 and 1856, the planters became alarmed. In December 1856 a group of people consisting of the President of the Chamber of Agriculture and the President of the Chamber of Commerce wrote to the Governor General in India asking for immigration to be resumed:

"Your Lordship will see the magnitude of the interests involved when we state that our production of sugar which was in 1843 30,000 tons, has been raised to 120,000 tons almost a third part of the whole consumption of Great Britain. The trade of this island is, as we have shown important not only to England, but to the empire over which you preside, and depends entirely on its production of sugar."(18)

Neither did they deny what interruption meant for the government of Mauritius, and the planters in particular,

"It is not too much, therefore, to say that a continuation of the suspension for six months may inflict on this government and individuals pecuniary losses which it may require years to repair."(19)

As a concession a Protector of Immigration was nominated and he was supposed to defend the interests of the immigrants. But as De Plevitz observed:

"The protector is the great supporter of the whole system, and if his office was instituted to facilitate the oppression of the immigrants, it has certainly answered its purpose."(20)

The cheap labour was literally taken advantage of. The early years of Indian immigration were the saddest and probably the most

tragic in the history of Mauritus. Because there was no legal control over the recruitment at the beginning, "the Indians were like a herd of cattle that could be made to move at will, and the settler was the sole judge of the Indian".(21)

In 1875 a petition was drafted by De Plevitz, himself a small planter of German origin, on behalf of the immigrants who complained about ill treatment at the hands of their employers and the authorities in Mauritius. The Report of the Royal Commission which followed constitutes one of the most important historical documents concerning Mauritius. De Plevitz summed up the situation in the following lines:

"The Magistrates in India ascertain that intending immigrants are acquainted with the terms of their contracts, that they know what wages and rations they should receive, and that proper lodging and medical care should be supplied to them; but nothing more. They can do nothing more; for nothing more is stipulated in the contracts on behalf of the immigrants; but all is left to the will of their masters, who in allowing them their nightly rest and a holiday during the afternoon of Sunday, is but too often actuated only by the same considerations that prevent him from killing his oxen with overwork."(22)

It is not by coincidence that both Merven(23) and De Plevitz likened the treatment of immigrants to that of cattle and oxen. The magistrates and planters were still imbued with ideas which slavery engenders.(24) And it was mainly the ill treatment of immigrants which interrupted Indian Immigration in 1839 and 1856.(25)

The arrival of large numbers of Indians meant that provisions such as medical care had to be made available. The government by Ordinance 6 of 1845 put the onus on the employers to do so. The Ordinance provided that

"Every proprietor of an estate upon which forty or more labourers were employed and resided should have a building thereon adapted for an hospital; that it should be of sufficient size; established on a convenient spot, with an enclosure and suitably provided with medicines; and that it shall be approved in the above respects by the Medical Attendant of the establishment, the government medical officer of the district, and another medical practitioner, to be nominated by the government. Failure was punishable by a fine not exceeding £100, to be awarded by the stipendiary Magistrate."(26)

If this was what the law prescribed, the reality was different. Although there were in 1875 about 217 sugar estates in Mauritius, "One never hears of any of the proprietors being fined for contravening" the above law. De Plevitz saw behind the 'show' put up by the estate owners.

"Nor does the reality at all justify the frequent statements in praise of the medical care here bestowed on immigrants, of which the utmost is made, presumably with a design to dazzle the eyes of the Indian government, and prevent them from looking any further..."(27) This criticism is supported by the findings of the Royal Commission after surveying the evidence about the conditions of these estate 'hospitals'

"The result has been that there is scarcely a hospital in the island with the exception of Dr. Icery's hospital at Midlands, which can be considered complete, many are excellent and costly buildings, requiring but little to make them so; and many are of such a character as for it to be a gross misnomer to call them hospitals at all."(28)

The estate owners as part of their defence put forward the proposition that Indians in general are reluctant to seek medical care, and do not like to be admitted into these hospitals. Though the

Commission believed "in the truth of the alleged disinclination of Indians to remain and be treated in hospitals" they concluded that

"...the very comfortless and defective condition of the great number of them is quite enough to account for the same, and that if hospitals were placed on a proper footing, no repugnance would be evinced by immigrants to be treated therein."(29)

It is relevant to note that the 1865 Ordinance authorised employers to compel sick labourers to be admitted in these hospitals. "Some employers, however, forced labourers who were not sick to be illegally detained in hospital. This led to a circular being issued stating that "it had been brought to the notice of the Governor that some planters had used their hospitals as prisons."(30)

If the provisions left a lot to be desired, the service was equally inhuman and deplorable. The Commission report published a list of "persons who died in consequence of the defective state of the hospital system". Of the 39 cases cited, 19 patients hanged themselves. The lack of care, and the total negligence by those responsible are summed up by Commissioners

"Here are men dying in their huts, after long periods of sickness, without seeing a doctor, or being apparently inquired for; and men who go to hospital, who hang themselves during the absence of the attendant; a man who breaks his knee, and dies a fortnight later, because no Medical Attendant was sent for."(31)

Being an Indian immigrant meant that if he fell sick or died, he was the only one to blame. This is borne out in one particular case which attracted the attention of the Commissioners so much that they examined it at some length. It concerned a case where an Indian named "Parahoo' died as a consequence of neglect in an estate hospital. This is what the Commission concluded:

"We see in this case proof of what we have often observed, the

readiness of which all people ascribe the worst causes to the deaths of immigrants. Here Mr. Vitry, Mr. Rousselin, and Mr. Margeot, when they saw Parahoo, attributed his appearance to the use of gandia, or some narcotic, and Dr. Reid palliates Dr. Cordouan's neglect by the opinion expressed by the employer, and the idea that Parahoo was shamming or, at the most, under the parting effects of drink, the real cause never appears to have struck them. But because he was an Indian, he must, if suffering have been the cause of it himself."(32)

The exploitation of Indians must not be attributed only to the inhumanity of their employers but must be seen in the general context of colonialism. Cheap Indian labour was used also in the British East African colonies and in the West Indies. Their docility and dedication to hard work meant that cheap labour could not be drawn from a better source. But in order to make maximum profit, as little as possible was to be spent on the welfare of the labourer. Thus the hospital system operated in such a way as to deter patients from making use of the available 'facilities' so that as much economy as possible coud be made. Besides saving on the cost of care, the employer, by this policy, kept the sick labourer at work, instead of (being looked after) in hospital. A major deterrent to the use of the hospitals was in the form of loss of wages. The employment regulations were such that for each day in hospital, the Indian forfeited the pay of that day.

It has been proposed that the owners of the sugar estates only provided enough wages and welfare to enable the reproduction of labour power. Certainly the Mauritian case points in that direction. Here was a case where the employers were almost begging the Indian government to allow the Indians to emigrate to Mauritius when recruitment was interrupted and yet they ill treated them to the point of allowing them to die without 'adequate care'. The only explanation is that the employer

was prepared to offer as little as possible, so that these labourers could survive and keep on working. In wanting the labourer to reproduce his labour, the employer offered a ration of food, a semblance of medical care and barely hospitable lodgings. What he was not prepared to do was to spend money and resources in getting the sick worker back to work in cases where according to his capitalist mentality it would not be a viable economic proposition to do so, as he could get 'fresh' labourers if he wanted. In other words, he was interested in the welfare of his workers only insofar as they could keep on producing for him. The wages and other provisions were sometimes so low that the employer ran the risk of losing the worker through disease and death, mainly due to the lack of nutrition or overwork, or both, but this was a risk he was prepared to take. Doyal recalls similar experiences in East Africa

"The objective of keeping the African and Asian labour in good working condition was very much a subsidiary one. Where particular economic importance was attached to a certain form of production, or a particular category of worker, some attempt was made to provide rudimentary first aid. The building of the Uganda railway for example, in the early years of the century was seen as a vital link in the imperialist chain, and labourers were specially imported from India to construct it. This obviously put a premium on their health, and they were accordingly provided with basic medical facilities."(33)

It is particularly revealing to note that

"No proper provision was made for medical attendance on the women and children of the labourers, although, generally these were understood to be under the care of the medical man who visited the estate."(34)

Though the first generation of Indian immigrants were 'docile' and 'hardworking' as mentioned above, it was important for estate owners to ensure that their children (the immigrants') should be equally so. The

colonial education system was ready to provide the necessary back-up. Thus we find that the 'Committee on Education' "regard it as a serious duty that the children of those Indians whose continuous immigration is so indispensable to the prosperity of the Colony, should be rescued from the low state of ignorance and discipline in which they are now sunk, and should be moulded into docile and useful subjects."(35) However, the employers' greed for cheap labour sometimes took precedence over the desire to shape these children into 'docile' labourers. In 1870, J. Comber Browne, Superintendent of Government of Schools reported that

"Some sugar estates literally teem with children under twelve years of age, wild, dirty, and unclad. A supply of rations from the planter is deemed a sufficient recompense to the parents for such as are old enough to be employed in weeding and clearing the fields, whilst those who are too young to work are allowed to spend the years which should be devoted to instruction, in pilfering and play."(36)

The labourer was not only expected to keep himself in physically good working condition but also to be in a stable mental state so as not to disrupt production. In Mauritius, the male immigrants greatly out-numbered the female ones, and coupled with the fact of their deprived condition of life, this meant great psychological hardships for the labourers. The same occurred in other countries such as Tanganyika where "male workers were typically recruited from designated labour supply areas great distances from the centres of economic activity. This entailed prolonged family separations which had serious physical and psychological repercussions for all concerned."(37)

In these countries "the misery of the material, social and environmental deprivation caused by this fragmented existence took various forms, among them a high incidence of alcoholism and mental disorder and widespread resort to prostitution."(38) Heavy drinking

thus provided an outlet for boredom and frustration and prevented social disruption, while productivity continued unhindered. In Mauritius, besides drinking, the labourers were allowed to smoke "Gandia' (Cannabis). The law even permitted the possession of 20 grams of 'Gandia' per person per day. Later, at the turn of the century, the use of 'Gandia' was made illegal.

However, neither the use of alcohol or 'gandia' could prevent the psychological and physical sufferings of the Indians. Tragically, for too many of them, suicide was the only way out of their miseries. The Colonial report of 1870 reveals the following rate of suicides in the Colony, and compared it to the rates of suicides in England:

Indian population	280 per million)	in 1870
General population	67 per million)	
England	70 per million	in 1868

Suicides among Indians occurred in such large numbers and with such regularity that the Colonial Secretary recommended special inquests to be carried out in order to know "whether there are any other causes which might be considered as purely local, and not attributable to ethnological and physiological differences."(39)

Finally we can now turn to the effects of immigration on the local economy. Unlike many other colonies, Mauritius did not find her economy disrupted by colonialism for the simple reason that there were no natives before the Europeans settled on the island, and it was the latter who introduced the sugar cane and other plants such as cotton, indigo and spices. However, both the demand for sugar in Europe, and the comparative resistance of the sugar cane plant to the cyclones which regularly visit the island, were important in the choice of a profitable agricultural product for the settlers. As stated above, it was the import of cheap labour that finally opened the eyes of the settlers to

the potential profit they could make with sugar, which Britain was ready to buy. Therefore, as every bit of fertile land was put under cultivation, the form of the Mauritian economy was being slowly but decisively shaped. The planters began to realise the value of land, and kept a firmer grip on it, while sugar became the only product on which Mauritius could depend, as it has been to the present day. There is little doubt that it was Indian immigration which accelerated the process of total dependence on sugar, and the enrichment of the planters who up to this day constitute the oligarchy which controls the economy. One must also note here the emergence of an Indian bourgeoisie which was to play an important political role in the years to come. This bourgeoisie made up of shareholders in sugar estates and big planters, acquired access to the means of production in at least three ways as explained by Durand and Durand.(40) The official version as written in the report of the Royal Commission of 1909 reads as follows:

> "Estate owners, unable at times of increased and increasing competition to make their estates pay when carried on on the old lines, and unable or unwilling to modernise their methods and appliances, divided up the whole or portions of their land into small planters and offered them for sale, generally allowing payments by instalments."(41)

This opportunity was taken advantage of

> "... by Indian immigrants and their descendants accustomed to agricultural labour, and having saved some money they set themselves, with the aid of their families, either to grow canes and sell them to the factories or to produce vegetables and foodstuffs for local consumption."(42)

One cannot begrudge these small and big planters their newly acquired riches because for most of them it was through sheer hard work and sacrifice that this was achieved. However, the fact of having a stake in the means of production meant that they supported the status quo, and

as such found themselves in opposition to the class interest of the mass of labourers from whom they originated and who remained landless.

Mauritius at present depends on external sources for its staple diet which consists mainly of rice and flour. This dependency also has its roots in the colonial era. As sugar cane cultivation spread, the production of other foodstuffs was grossly neglected and as pointed out by the Colonial report of 1867 "total dependence on supplies of food from abroad has proved a hazardous and expensive policy."(43)
It suggested that

"It would, moreover, be better farming to plant maize, manioc sc and c, in rotation with the sugar cane, or even between the cane rows, as is done in Barbados, than to exhaust the soil by the perpetual repetition of the same crop."(44)
This dependence on imported food has been carried forward to the present time as the government finds it almost imposible to convince cane growers to diversify production so as to meet the dietary needs of the population. We will elaborate on this theme later in a section on 'nutrition'. What should be pointed out here is the fact that dependence on rice and flour is not accidental, but is a direct result of the entrepreneurial 'démarche' of some British capitalists such as James Blyth who saw in the coming of the Indians a golden opportunity to make money by supplying them with the same staple food that they were used to in India. The same companies which hired ships to bring indentured labourers to Mauritius were also involved in the importation of rice and other articles, thus making a double profit. The total import of five articles of consumption (rice, ghee, dhal, flour and cotton cloth) by the Indian labourers increased from £220,069 in 1835 to £420,566 in 1838.(45)

If some British capitalists became rich through this enterprise,

the estate owners complained each time the price of these commodities increased because as part of the contract with the labourers, they had to supply the latter with basic rations as follows:

Rice 750 grammes per diem

Dholl 250 grammes per week

Saltfish 250 " " "

Ghee or oil 125 grammes per week

Salt 125 grammes per week

Thus there was a conflict of interest between the British importers and the planters of European descent (mostly French). However the latter passed on the burden of extra cost to the labourers in the ways described in the report made by the "Commission of Enquiry into Unrest on Sugar Estates":

"The most usual complaint is that the quality of the rations is bad. They allege that the rice gives off an offensive odour when cooked and is of poor quality, and the same is the case in respect of dholl or lentils, which they saw is frequently of the type given to animals to eat. The other complaint is that they do not always receive full weight of rations to which they are entitled."(46)

Low wages, poor and inadequate rations of food were responsible for the poor physical state of the Indians as described by Dr. Icery earlier. But it was not only the Indians who were affected by regular increases in the price of imported commodities, but also the Creole population, and the resulting ill health is noted in the 1917 Colonial report,

"The city of Port Louis especially is very unhealthy and the high price of all food is reacting injuriously to the health of the labouring classes and that, in many cases, there is an impaired resistance to many diseases which, under better conditions, would not prove fatal."(47)

Indian immigration on such a large scale had both short and long term effects, which we can now summarize. The immediate consequences were reflected in the great number of deaths among the Indian population, and to a lesser extent among the Creoles too. The morbidity rate, though unrecorded, and certainly unquantifiable, must have been equally high especially in the living conditions where infections could readily multiply. The results of hard work in unbearably hot conditions in the fields, of malnutrition and undernutrition, and a whole host of other factors, together with the constant presence of diseases brought in by shiploads of immigrants themselves, can still be seen in today's generation of Indians who clearly show all the signs of stunted growth and development.

The long term effects cannot be examined here in their entirety. We shall name the main ones. Uncontrolled immigration at the beginning, unsupported by any material provision to help those who wished to return, resulted in a new community settling down on the island, despite the fact that many of those who came eventually made their way back to India at the expiration of their contracts. The increase in the number of inhabitants started to raise some questions, and in 1870 the Colonial report highlighted the problem.

"The immigration of Indian coolies, without the existence of any legislative measure to assist the return of any portion of those who might be unable to pay their own passage at the expiration of their identured services, still continues, and the Island is very rapidly becoming immoderately overstocked with a superabundant population..."(48)

It is interesting to note that as early as 1870, there were at least some people who were already worried about the overpopulation of the island. The same Colonial report tried to compare the situation with that in other countries.

"In illustration of the overcrowded state of the island it will not be out of place here to state that the recent census gives a population of 448 per square mile, whilst that of Great Britain and Ireland was computed a short time ago at 253 per square mile, and that of Belgium, the most populous country in Europe, at 430 per square mile."(49)

Yet immigration continued unabated until 1921 which tends to show the greed and power of the sugar oligarchy on the island.

Besides the dramatic increase in population, immigration was also to the detriment of the indigenous population, mainly the Creoles. The easy availability of cheap Indian labour meant that wages could be kept low, and this inevitably led to the undercutting of Creole labour at the same time. In 1903 it was reported that,

"The population of Mauritius is and must, I fear, continue to be poor. The estate owners have, for the most part, to bear a heavy burden of debt which has been borrowed at a high rate of interest, whilst the labouring classes can never hope to earn a higher wage even if the employers could afford it, for the standard of wage is necessarily governed by the facilities for the introduction of Indian labour."(50)
The result which is felt to this day is the increasing proletarianization of the Creoles.

Another effect of immigration, anticipated by some and not by others, was social conflict. In 1901 the Colonial Secretary suggested the emigration of Mauritians to South Africa in a bid to avert any future conflict that many arise as a result of the Indian population growing bigger in proportion to the indigenous population. He wrote,

"Such emigration can hardly fail to be beneficial, both to the emigrants and to the country that receives them, whilst it will relieve Mauritius of a serious social problem, i.e. the conflict of European and Asian civilisation in the poorer classes of the population."(51)

He pointed out further that already the Indian population outnumbered the Creole population by two to one, and that the potential for conflict was therefore present.

So far there have been few instances where communal conflicts have broken out. Most of these were quickly brought under control except for the one in 1968 when the fighting between the Muslim and Creole communities claimed over twenty lives.

Those[52] who have studied the situation closely in Mauritius have pointed to the possibility of conflict in the future. Certainly some of the warnings should be heeded as history has shown us that any country with an ethnic composition like that of Mauritius runs the risk of having one ethnic group exercising domination, be it political or economic or both, over the others; and this often results in the unequal distribution of resources, and more particularly, jobs.

Finally, as already mentioned, immigration made possible the development of the sugar industry, but at the same time made Mauritius dependent on a single crop. This dependence on sugar makes Mauritius vulnerable both to the vagaries of the weather, and the price on the world market. The process of spreading cane cultivation to every available piece of land has also prevented so far the production of food crops more relevant to the consumer needs of the population. At the same time we have seen how dependence on imported rice and flour, was actively encouraged by those whose only motive was the enormous pofit that they made.

(c) Early provision of health services on the island

Three hospitals were set up during the French settlement by the 'Companie des Indes'. The soldiers attached to it were the main users, especially during epidemics. In 1804 under Governor Decaen, a 'Board of

Health' was set up. This was apparently the first of its kind, though a temporary 'Conseil de Santé' was formed by all the municipalities during the smallpox epidemic of 1792.(53) The main duties of the Board of Health were "to verify amongst other things, the diplomas of medical men, health officers, apothecaries, midwives etc, who were desirous of practising in the colony." In 1817 under British administration a 'Medical Department' was created with at its head a Chief Medical Officer to whom the duties of the Board of Health were entrusted. Apart from exercising control over the practice of medicine, pharmacy and midwifery, this proclamation (Code Farquhar No. 225) made it the duty of doctors to report any cases of epidemics.(54)

If there is no mention of the provision of health services at this earlier period, it is because the settlers were attended by private doctors in their own homes, and so their slaves probably came under the same arrangements. However, after the abolition of slavery and the introduction of Indian labourers there was a need to provide medical care for those who could not afford it. Therefore in 1866 "it was made lawful for the General Board of Health in Mauritius and for the local Board of Health of Port Louis... to establish one or more hospitals" and also "to establish Dispensaries for the dispensing of Medicines and Medical Appliances gratuitously."(55) Two years later these 'duties' and 'powers' were transferred to the Poor Law Commission which came into existence in 1868. The reason for providing medical care was made clear in Article 4 of the Ordinance No. 28 of 1868.

"The primary object of the Poor Law Hospitals is to provide hospital accommodation and treatment for such of the poorer classes as shall be unable to procure proper medical treatment at "their own homes".(56)

If we bear in mind that Estate hospitals were intended for the Indian labourers and that estate owners and their families resorted to private

medical care, then it becomes clear that the medical care provided under the poor law was meant mostly for the Creoles. This situation is not unlike what happened in East Africa, as Mburu observed.

"Within a few years of Colonial establishment, Kenya, and the neighbouring countries, had three distinct racial groupings, the Europeans, the Asian and the 'African'. The three groups were the basis for the three medical systems."(57)

But later both the dissatisfaction with estate hospitals, and the increasing impoverishment of the Indians, led the latter to make use of the Civil Hospital in Port Louis. In 1886 the 'Societe Medicale de l'ile Maurice' noted the increasing tendency of Indians to leave their sick in front of the Civil Hospital and very often on the road itself. In the same article the 'Societé' complained about the extra burden that was being put on the resources of the Capital, while in fact the Indians should have reported to the district hospital or to their estate hospital. Apart from the two reasons mentioned above, the Civil Hospital being the largest one on the island must have represented, in the eyes of the Indians, the place where the 'best' medical care could be obtained.

Accommodation in hospitals was also provided "at a fair and moderate charge, for persons able and willing to pay for the same." The fees were fixed by the Chief Medical Officer, but the total cost of care was never charged. Members of the police force, officers of the prisons department, labourers in the government service, and some other categories of workers were entitled to medical treatment at the expense of the government, which reimbursed hospitals for part of the cost of treatment. In 1909 those who could not afford to pay anything at all constituted 95% of the patients in the Poor Law Hospitals and dispensaries. The other 5% paid Rs2.00 a day, for "first class care" and Rs1.00 a day

for "second class care" and 50 cents for labourers and servants under contract.(58)

As for the diet in hospitals, it was noted by the Commission appointed to enquire into the working of the Poor Laws that "observations had appeared in the local newspaper pointing out the insufficiency of the food furnished to the inmates of these hospitals."(59) There were two classes of diet available to patients. The Poor Law Medical Officer of Mahebourg made the following comments to the Commission,

"As regards the second class diet, I consider it almost ridiculous that Paupers admitted under that class should in my opinion be deprived of Beef, as the greater part of them are anaemic and cachextic, and surely 200 grams rice and 200 grams vegetables at dinner will not contribute to their prompt recovery; so that, instead of remaining a fortnight or a month to get cured, they will have to remain in hospital much longer, a fact which will not prove in favour of the proposed economy."(60)

The list of deficiencies of these services would be too long to deal with here especially if we are to make an analysis of the personnel situation and the level of care provided, but it would be a mistake to judge these early health services, which were rudimentary, by the standard of our time, nor is it the purpose of this chapter.

As could be expected the mortality rate during the colonial period (except at the end) was high. Since Malaria became endemic it accounted for the largest proportion of deaths every year. Epidemics of cholera, plague and small pox regularly swelled the number of deaths. Not surprisingly the authorities' main concern was with the eradication of these diseases. In 1911 they found

"... that 58.5% of the people who die in Mauritius die from diseases that are now looked upon as preventable ones and that with

proper sanitary precautions it should be possible to reduce the death-rate of the island considerably."(61)

It is difficult to calculate how much money was spent on curative and preventive services. After all the paupers who received free medical treatment were also in receipt of alimentary or pecuniary relief. The total amount spent by the hospitals and dispensaries was roughly Rs480,000 in 1909. The total expenditure of the Medical and Health Department of that year was Rs760,327.82, and this means that a little less than half of this sum was used by the sanitary branch on preventive measures.

The colonial government was determined in its fight against the diseases mentioned above. Quarantine and Sanitation Ordinances form the bulk of laws relating to 'health' that were passed year after year. There was also awareness of recent developments in the fight against diseases. Thus in 1900 it was decided to put some of the recently acquired knowledge into practice.

"In accordance with the recent discoveries of scientific enquiry into the agencies of the propagation of disease, particular attention is now being devoted to the measures best adopted to combat the propagation of plague by rats, and of malaria by mosquitoes."(62)

Apart from the drainage works in the Capital which began in 1895, other works undertaken by the sanitary branch include the draining of marshes at Central Flacq, Curepipe and Quatre Bornes, and modifications to rivers to prevent flooding after rain.

One should point out here that the Medical and Health Department which replaced the Board of Health in 1894-1895 consisted of two branches: Medical and Sanitary. There has been confusion over the years as to who should be responsible for sanitation. Often there was duplication of services, as noted by Dr. Rankine, who found that both

the Municipality of Port Louis and the Sanitary Branch were dealing with public health.(63) Gradually the Municipalities, and later on other Ministries, became responsible for carrying out sanitary tasks, and the Medical and Health Department (which later became the Ministry of Health) began to assume only a supervisory role in sanitary matters.

With the removal of sanitary duties from the Health Department, and the gradual but effective eradication of malaria and other epidemic diseases, the curative services began to absorb most of the resources allocated to the department. We shall elaborate on this in a later chapter. However, one point needs to be clarified. From the above accounts there is the impression that the colonial administrators were more concerned with preventing than with curing diseases. To some extent this was true. Curative services, as shown already, were meant to alleviate the suffering of those who could not afford to pay for private medical care, in order mainly that they could continue to be 'productive' workers. As for preventive services, O. Gish considered them an important component in the pattern of 'modern' medical care during the colonial era. Besides the urban hospital and the rural dispensary, for him,

"the third essential element of the Colonial medical system was that of hygiene or public health. With regard to health and health care, the colonial administrator faced two major problems. The most immediate one was the survival by Europeans in the hostile environments of Asia and Africa, and the second, the need to ensure the smooth flow of primary products such as tea, cocoa, jute and sisal, from his territory to the ships waiting at the coastal ports of the country. The first health problem was partly met by the urban hospital, and the second by the plantation dispensary."(64)

With some variations this was also true for Mauritius. In the latter the estate hospitals replaced the plantation dispensary, but unlike what

happened in other colonies, the urban hospitals were not "built in the first place to meet the needs of the colonial administrators and their families, and other Europeans resident in the Colony" as they resorted to private medical care. Instead, as already shown the hospitals and dispensaries were meant for use by paupers.

It has been suggested by Djurfeldt and Lindberg amongst others that 'diseases' have been defined in such a way as to deprive them of their socio-economic and political dimension. In "Pills against poverty" they wrote:

"Just as they (the colonialists) brought missionaries to save the savages from heathendom, they sent doctors to cure them from their "tropical" diseases. In this way the relation of health to economic and social processes was almost forgotten, and effectively prevented from having any practical effect on health policies. In consequence, health problems were defined as <u>technical</u> problems, rather than political and economic ones. This emphasis was nurtured by the progress in the medical sciences in the west."(65)

As the various quotations in this chapter have shown, it is not entirely correct to say that the relationship between diseases and poverty was 'almost forgotten'. It is not because diseases were defined in a technical way that they failed to have relevant health policies. However it is evident that the measures proposed and taken to combat diseases were in stark contradiction with their knowledge of aetiology and epidemiology of diseases. Like their successors of today, they failed to act according to their rhetoric, because it would have meant attacking poverty, which they were either not prepared or unwilling to do. Nothing supports this as clearly as does the Colonial report of 1907,

"The diseases prevalent in Mauritius, though not directly caused

by poverty, may be considered to be consequent on poverty, that is to say, on overcrowding, insufficient or bad food, want of clothing and bad sanitation. It is impossible to legislate against poverty or to control economic conditions, and the government is reduced to alleviating or curing diseases which under existing economic conditions it is powerless to prevent."(66)

On examining the kind of preventive measures that were taken, one can distinguish between those which do not interfere with poverty and those, as advocated by some modern apostles of prevention, which do so. It can be concluded that the draining of marshes, the provision of sewerage and 'safe' water in some areas (mainly urban), the spraying of DDT, the vaccination of children and other such measures, have contributed tremendously to reduce the likelihood of occurrence and spread of diseases. But when it comes to 'legislating against poverty', it seems that the colonial administrators found this an impossible task. One must agree with Djurfeldt and Lindberg(67) that the development of the medical sciences has increased the tendency to define diseases in a technical way; and this definition has been adopted by health authorities because health decisions are made by doctors who themselves train in and become proponents of, this view of medicine; and because it is consistent with the ideology of not intervening to attack poverty by changing the socio-economic structures of the country.

In summary then, the health services started by colonialism were not meant to prevent or cure the diseases for the majority of the population, though as time went on the services were 'improved'. In the next chapters we shall examine closely whether significant steps were taken to make the services available to the whole population, free of charge, as is presently claimed by the Ministry of Health.

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CHAPTER 5: DISEASE PANORAMA AND HEALTH STATUS

Following the trend in the developed countries and in some other developing ones, the pattern of diseases in Mauritius has changed over the years. Most of the diseases introduced earlier in the colonial days have now been brought under control or eradicated. In the years following the Second World War, there has been a marked decline in the Crude Death Rate (CDR) and the Infant Mortality Rate (IMR), with the fall in CDR reflecting chiefly the fall in IMR. In Europe as elsewhere there has been considerable speculation as to the factors responsible for these changes. In Part I we shall assess the early efforts made to control some of the infectious diseases introduced to the island, and evaluate in particular, the part played by the eradication of malaria in the considerable reduction in mortality rates. In Part II we shall look at the present health status of the population.

PART I

Cholera, small pox, plague, influenza, malaria, whooping cough, measles, tuberculosis were the main diseases which were the scourge of the inhabitants. However, the rate of mortality has been fairly stable for the second half of the nineteenth century up to 1946 except for the occasional virulence of certain epidemics and apart from cholera, these diseases still accounted for the majority of deaths during this period.

Small pox which was introduced to the island as early as 1754 occurred regularly until it was brought under control by 1913. It is improbable that its disappearance is due to the population becoming resistant to the disease. Certainly the decline in the number of

cases occurred simultaneously with such measures as the notification of the disease, quarantine and above all vaccination. It has not been possible to establish when vaccinations started or how effective they were. An ordinance was passed in 1889 "to provide for the immediate compulsory and gratuitous vaccination or re-vaccination of the persons residing in localities infected with small pox."(1) By 1892 the island was considered to be free from the disease but occasional outbreaks occurred after this date. The lymph used has invariably been calf lymph obtained from Europe but the human vaccine lymph was offered as an alternative. Full advantage was taken by the legal provision of compulsory vaccination at times of outbreaks and very quickly vaccination was extended to the newly born. In 1897, 10,334 such vaccinations were administered representing over three quarters of the children born, and the practice has continued up to 1980.

Though the control of small pox is credited to vaccinations it is likely that other accompanying measures must have played an important part. The isolation of notified cases, the practice of surveillance whereby fifty rupees were paid to anyone reporting a case of small pox, and the sensitisation of the public to the risk of contamination, were all part of the general strategy adopted towards the elimination of the disease.

As for plague it is much clearer how the disease was brought under control. The first outbreak occurred in 1899 and it took a while before the association between rats and the disease was established. At first attention was focussed on the insanitary conditions of buildings and steps were taken to remedy the situation. Dampness was removed, open air sewers properly paved, drains and privies were

repaired or reconstructed in accordance with the sanitary regulations, and houses unfit for human inhabitation were condemned. Once it became obvious that rats were the main culprits, anti-rodent measures were taken. In 1904 no fewer than 27,620 rats were caught in Port Louis between the month of May and December.(2) However, as Table 2 shows, deaths from the disease continued to occur until 1927.

Table 2

Plague cases and deaths

Year	Cases	Deaths	Year	Cases	Deaths
1899	1416	1117	1914	125	111
1900	796	593	1915	33	25
1901	1093	805	1916	22	15
1902	506	384	1917	8	7
1903	1395	1035	1918	-	-
1904	568	449	1919	-	-
1905	308	251	1920	-	-
1906	434	344	1921	375	297
1907	224	178	1922	98	75
1908	167	137	1923	139	118
1909	457	333	1924	161	144
1910	731	553	1925	74	65
1911	173	131	1926	46	41
1912	656	541	1927	7	5
1913	313	261	1928	-	-

[Compiled from Mauritius Administrative Reports]

By then a 'rat-proof' granary was built in Port Louis with the result that plague ceased to occur in Port Louis and elsewhere on the island.

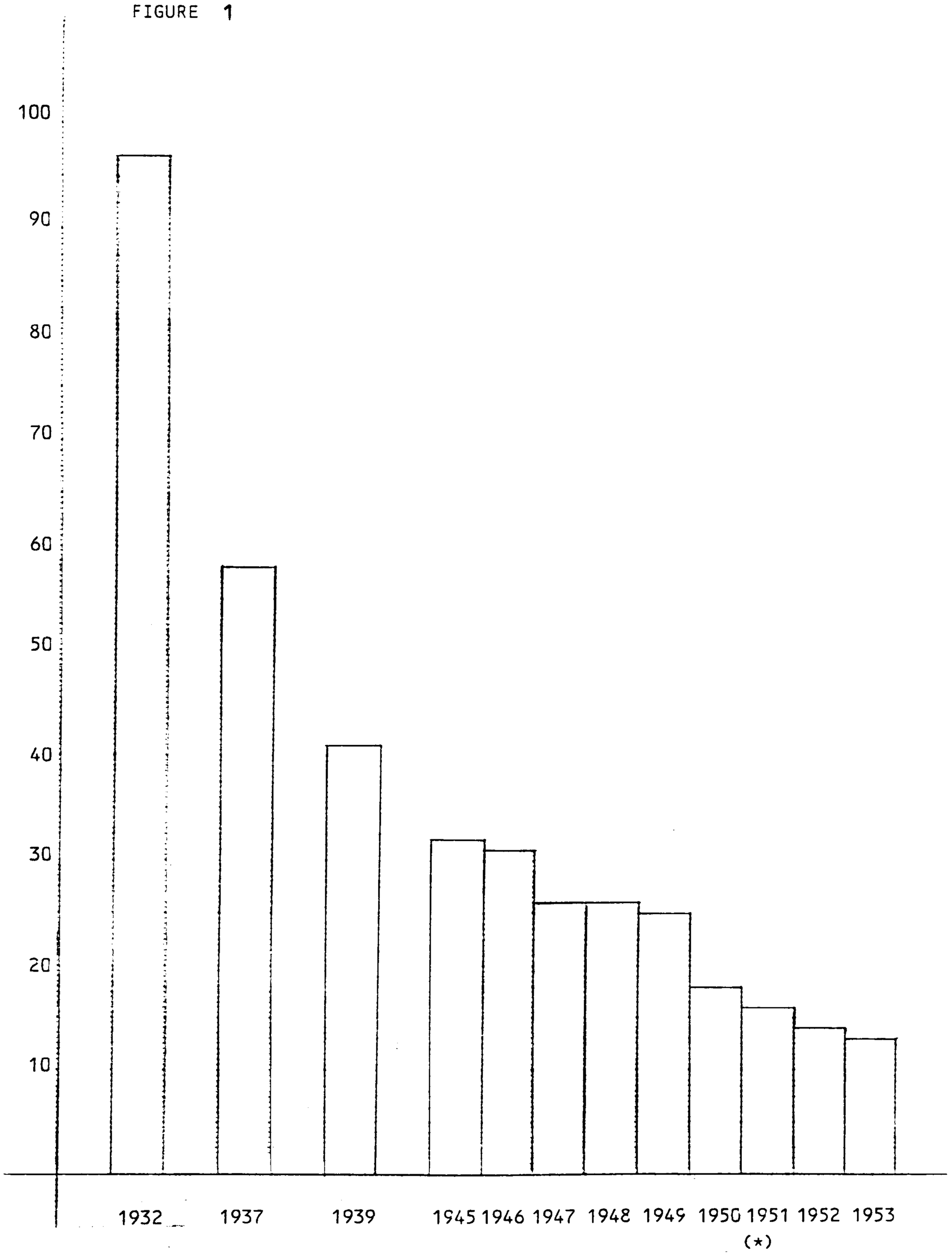
Mauritius is not the only country where mortality from small pox and plague was reduced in this way. Balfour, Evans, Notestein and Tauber report that colonial administrators achieved through specific public health measures the elimination of mortality from small pox and cholera in Indonesia during the 1920's and major reductions from small pox and plague in the Philippines by 1922.(3)

Tuberculosis on the other hand presents us with a different

picture. Though morbidity and mortality from the disease have been reduced considerably, it still presents a problem in Mauritius. By the 1930's the decline in the CDR for tuberculosis began to be noticed. The 1937 Annual Report of the Medical and Health Department assumed a change in the relationship between man and the disease. The report noted that it was difficult to ascertain the cause of the decline unless "we assume that the population is becoming slowly immunised as is the case with most European populations."(4) Whether this was the reason for the decline or whether the standard of living of the population was slowly improving is difficult to establish at this stage. Certainly there is no clear evidence of an improvement in living conditions and there is no scientific proof that the relationship between man and the tubercle bacillus was changing. Nor is there reason to believe that there was a change in the provision of medical care which could account for the lower mortality rate. Indeed if attendances at dispensaries and hospitals for tuberculosis cases are any indication of the incidence of the disease then it is quite clear that lower mortality rates reflect the lower incidence rate (see Figures 1 and 2). A BCG vaccination campaign was started in May 1951(5), and could only have contributed towards the reduction after that date.

Incidentally it will be noticed from Figure 2 that the decline is continuous except for the years between 1948 and 1952. No reason could be given to explain this rise in the number of deaths except that 1948 was the first year of compulsory medical certification of deaths in the towns. One can only assume that the number of deaths from tuberculosis in the previous years were under-recorded, but the decline would not have been affected.

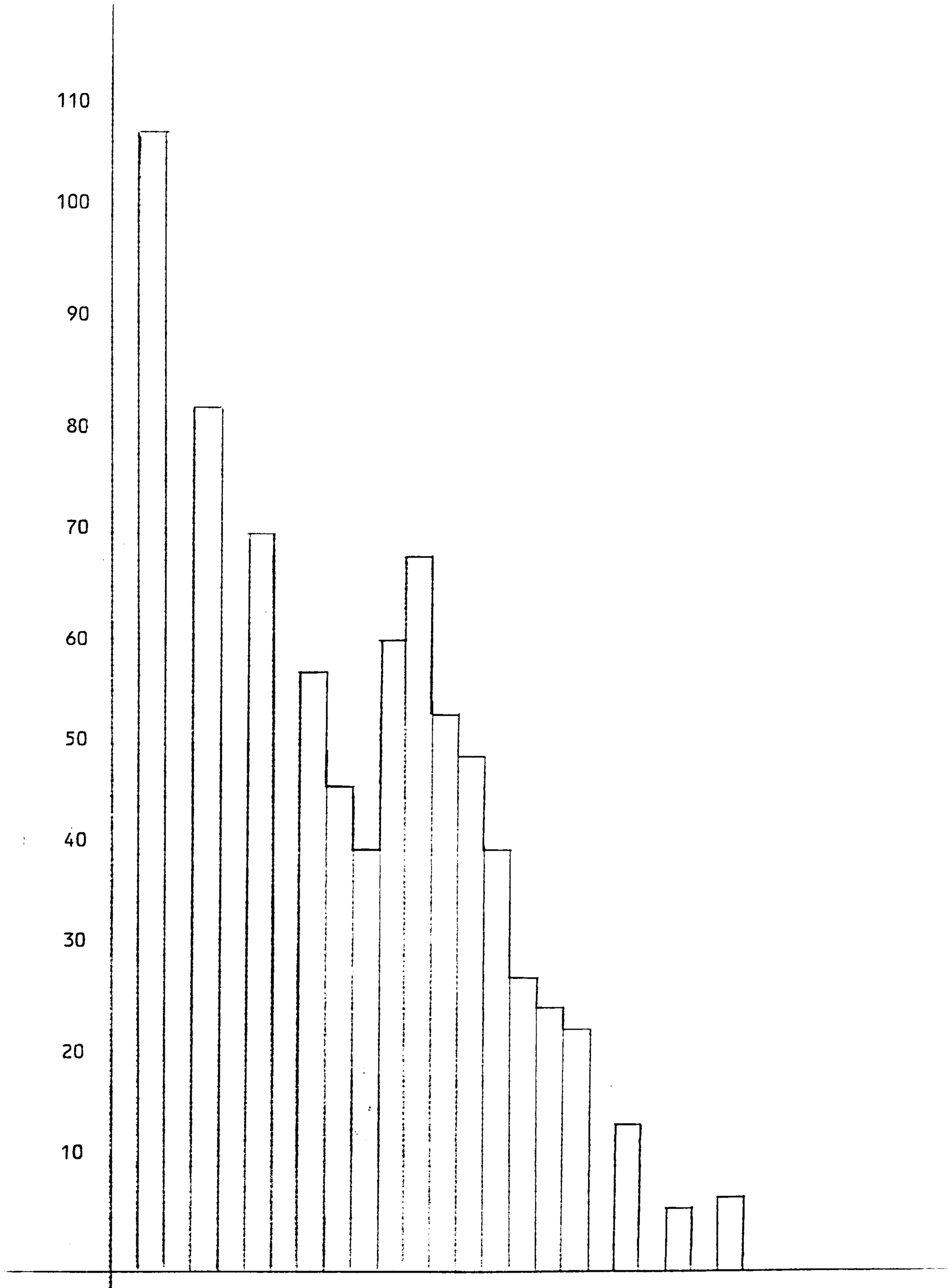
FIGURE 1



ATTENDANCES AT HOSPITALS AND DISPENSARIES FOR TUBERCULOSIS (PER 10,000 INHABITANTS)

(*) Spraying of DDT started in that year

FIGURE 2


110
100
90
80
70
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50
40
30
20
10
32 37 39 45 46 47 48 49 50 51 52 53 54 55 60 65 70
(*)
TUBERCULOSIS MORTALITY RATE PER 100,000 INHABITANTS
(*) Spraying of DDT started in that year

Malaria:

Though many of the infectious diseases already mentioned have been brought under control or eradicated, there was no significant change in the CDR from the second half of the nineteenth century up to 1946. The most dramatic fall in mortality rate recorded in the history of Mauritius occurred between 1947 and 1950 (see Table 3). From 29.5 in 1946 it fell to 13.9 in 1950. Reduction in malarial deaths accounted for the biggest share of the decline, from 2918 in 1946 to only three in 1955 (see Table 4). As malaria is a debilitating disease it is assumed that its eradication reduces deaths from other causes. Thus according to Newman, in the case of Ceylon, "the total deaths due to malaria were of the order of five times the number of deaths actually ascribed to malaria."(6)

Other developing countries, too, like British Guyana, and Costa Rica were experiencing such dramatic changes in death rates while also pursuing a malaria eradication policy. However, there were disagreements on whether malaria eradication should account fully or partly for the decline in mortality rate. Frederikson, one of the leading advocates of the importance of economic factors in mortality decline, argued that a rise in standard of living was responsible for virtually all the post-war reduction in mortality in the case of Ceylon, British Guyana and Mauritius.(7) His arguments regarding Ceylon and British Guyana have been examined by Newman(8) who believes that the whole decline can be credited to malaria eradication.

As far as Mauritius is concerned, Frederikson rejected Titmuss and Abel-Smith's claim that the eradication of malaria can be credited with the post war decline in death rate. He based his arguments on the fact that the spraying campaign (of insecticides) was started in

Table 3

Mortality Rates (all ages) 1932 - 1979

Year	Rate	Year	Rate
1932	32.8	1956	11.8
1933	27.3	1957	13.0
1934	25.7	1958	11.8
1935	26.5	1959	10.9
1936	26.4	1960	11.3
1937	28.8	1961	9.9
1938	29.9	1962	9.3
1939	28.0	1963	9.6
1940	25.5	1964	8.6
1941	-	1965	8.6
1942	29.2	1966	8.8
1943	25.9	1967	8.5
1944	27.1	1968	9.0
1945	36.1	1969	8.0
1946	29.5	1970	7.8
1947	20.1	1971	7.7
1948	23.8	1972	7.9
1949	16.6	1973	7.8
1950	13.9	1974	7.4
1951	14.9	1975	8.1
1952	14.8	1976	7.8
1953	16.1	1977	7.9
1954	16.0	1978	7.1
1955	12.9	1979	7.3

[Source: Annual Reports of the Medical and Health Department]

Table 4

Number of Malarial Deaths

Year	No. of Deaths
1932	3032
1933	2464
1934	1884
1935	2300
1936	2265
1937	2139
1938	2302
1939	1837
1940	2178
1941	2525
1942	3054
1943	2407
1944	2917
1945	3534
1946	2918
1947	1782
1948	1580
1949	936
1950	388
1951	285
1952	188
1953	61
1954	27
1955	3
1956	-
1957	-
1958	1
1959	-
1960	-

[Source: Annual Reports of the Medical and Health Departments]

1949, two years after the dramatic reduction in the death rate in 1947, and that the per capita production of sugar 'the staple industry and virtually the sole export of the island', rose sharply as mortality declined.(9)

Malaria eradication campaigns

Anti-malarial measures were taken in 1907 and continued until 1930 but slackened during the following fifteen years. Appreciable success in reducing malarial deaths was experienced but by and large "the story of the struggle against malaria in Mauritius from 1907 to 1942 had been one of the waves of optimism accompanied by high effort interspersed with troughs of comparative inactive depression."(10) Rankine attributed the failure to achieve the target forecasted by 'experts' to, amongst other things, policy not being adhered to, works executed not being pressed to a conclusion and the lack of adequate provision for maintenance.(11)

New impetus to malaria control was provided by the stationing of British Forces in Mauritius at the outbreak of the Second World War. A new Committee was set up and the work done consisted of the canalisation of rivers and streams, the draining of marshes and general maintenance. The support of the sugar estates was solicited and they began to take appropriate measures within their own areas. However, it was the institution of the Development and Welfare Fund (DWF) which gave the anti-malarial campaign the boost it needed. In 1947 credits provided by the Fund "enabled the works organisation to be substantially increased and operations on a large scale begun in the districts of Plaine Wilhems, Moka, Port Louis and Pamplemousses."(12) Funds for anti-malarial work alone amounted to Rs 1,719,236 between the

years 1946 and 1948. This, together with the active participation of the sugar estates and the involvement of the population, who formed self supporting committees, caused malaria to decrease before the spraying of DDT which started in 1949. The effectiveness of these anti-malarial measures (before DDT spraying) can be gauged by the fact that while there was a general reduction in malarial deaths throughout the island this was more marked in those districts (Port Louis, Pamplemousses, Plaine Wilhems, Moka and Grand Port) in which anti-malarial works had been carried out on a considerable scale between 1943 and 1948 (Table 5).[13]

Table 5

Deaths by District from Malaria per 1000 population in 1943* and 1948

	1943	1948	Decrease %
Port Louis	1.74	.96	44.8
Pamplemousses	9.88	5.31	46.2
Plaine Wilhems	2.34	1.15	50.8
Moka	5.84	2.11	63.8
Grand Port	9.10	4.15	54.3
Black River+	16.42	12.16	25.9
Riviere du Rempart	5.53	4.84	12.4
Savanne	3.80	3.29	13.4
Flacq	11.19	9.13	18.4

+ Experimental spraying of DDT in this district in 1948

* The year 1943 has been taken for comparison since it was the year of the lowest malaria figures in the years immediately preceding the beginning of the campaign.

DDT spraying complemented effectively the sustained attack on the larvae of mosquitoes which had been the main method used in the control of malaria up to the end of 1948. Therefore there is enough evidence to suggest that though DDT spraying started in 1949, the anti-malarial

campaign especially from 1946 to 1948, is responsible for the fall in the death rate during those years.

Sugar production and income:

Frederikson's other argument is based on the sharp rise in per capita production of sugar between 1947 and 1951 as shown in Table 6.[14]

Table 6

Year	Sugar Production (kilogrammes)
1937-41	720
1942-46	598
1947-51	918

Production in 1947 (the year of the biggest reduction in mortality) is only 24,546 tons higher than at the beginning of the war in 1941 (see Table 7 below). We also have to take into account that the population increased by more than 25,000 in that period.

Table 7

Year	Sugar Production (by metric tons)
1946	290,958
1947	347,587
1948	391,678
1949	416,023
1950	456,691
1951	484,086
1952	468,283
1953	512,225
1954	498,742
1941	323,041

(From: Highlights of the Mauritian Economy, 1946-56)[15]

Sugar export for the year 1947 was only 4910 tons more than in 1938 (Table 8).[16]

Table 8

Sugar Exports

Year	Metric Tons
1938	292,873
1943	299,726
1944	259,228
1945	134,087
1946	233,751
1947	297,783

It is true that sugar production continued to increase after 1947 and that the national income of the colony also showed similar increases (Table 9).

Table 9

National Income

Year	National Income (Unit = Rs 1 million)
1946	180
1947	257
1948	307
1949	349
1950	410
1951	465
1952	518
1953	583
1954	576
1955	594

(Source: as for Table 7)

But as Herchenroder pointed out:

"It is apparent at first sight that there has been a remarkable increase in the income since 1946, but it should be remembered that a considerable fraction of the increase here was due to mere price fluctuations, in other words to 'inflation'. It is perhaps more realistic to look at this inflation of prices as being in fact a decline in the purchasing power of money." (17)

The Salaries Commission of 1951 estimated that the overall external purchasing power of the rupee at the end of 1950 was not more than 25% of its pre-war purchasing power but that its overall internal purchasing power at the end of 1950 was for the lowest income group in the cost of living index 29% of its pre-war purchasing power and for the highest income group 40%.(18) The Report of the Mauritius Economic Commission 1947-1948 also observed that "the standard of living of the average labourer had not changed greatly during the war and post-war period as compared with the pre-war years."(19)

Thus, one cannot claim that sugar production increased significantly in the years when most of the mortality reduction occurred nor is there clear evidence that per capita increase in production benefitted those most likely to suffer from infectious diseases, that is the lower income groups.

Nutrition:

Better nutrition could have been one of the factors responsible for the decline in mortality as a result of infectious diseases. But here again there is little evidence that the situation in the post-war years was much better than the pre war period. A look at Table 10 (20) shows that local production of foodstuffs actually

remained fairly stable between the years 1947 to 1952. These figures should also be viewed against a background of continued increase in population in the same period.

Table 10

Production of local foodstuffs (metric tons)

Period	Maize	Manioc	Eddoes	Sweet Potatoes	Potatoes	Ground Nuts	Rice	Total
1947-48	6500	2800	1100	1200	3000	650	1500	17000
1948-49	7396	4496	1509	1142	3629	902	599	19673
1949-50	5250	3939	1092	494	3360	904	519	15558
1950-51	3427	3378	1044	1009	4470	723	418	14469
1951-52	3101	3079	1140	1326	4948	1406	75	15075
1952-53	2928	3060	1324	1615	7069	1306	69	17371

As for imports as Tables 11 to 15 [21] show, rice import in 1947 was below the level of 1938 but this was compensated by the substantial import of wheat flour. Lentils and dholl show a decrease on the 1938 figures. Soya bean oil and edible oils were also imported in lower quantities than in 1938. There was a small increase in the amount of potatoes imported and a greater increase in the amount of fruits. The latter consisting mainly of apples and oranges would not have been consumed, by and large, by the poor because of their high prices. Cattle and meat was on the increase while salted and pickled fish were imported in lower quantities in 1947 than in 1938.

Table 11

Quantity of rice imported

Year	Kgs
1938	38,038,144
1947	20,967,263
1948	30,647,433
1949	32,604,179
1950	45,169,462
1951	42,964,834

Table 12

Quantities of the main other grains and flour imported (metric tons)

	1938	1947	1948	1949	1950	1951
Wheat flour	9267	48,666	22,318	37,451	14,086	23,476
Dholl	3645	124	1,044	293	291	267
Lentils	2113	627	10	2,212	1,261	1,460
Bran	1092	179	101	-	-	-
Gram	384	15	49	87	71	44
Oats	302	163	330	68	131	163
Maize	-	1,702	-	-	-	-
Peas	248	2,644	1,707	1,701	2,184	1,083

Table 13

Import of Edible Oils, Lard, Ghee (in kilos)

	1938	1947	1948	1949	1950	1951
Mustard oil	242,353	-	4	-	1,875	27,929
Pistachio oil	1,338,227	916,165	1,523,237	1,957,275	1,915,247	112,957
Lard	203,951	101,181	73,684	23,487	49,383	129,223
Ghee	60,095	43,250	50,178	41,694	13,362	115,208
Olive oil	16,403	3,285	3,568	-	-	-
Soya bean & other edible oils (except gingely & animal oils)	1,250,492	547,130	83	3	536,097	1,626,042
Coconut oil	-	208,282	723,063	702,988	710,937	1,446,439

Table 14

Fresh Fruits, Vegetables and Spices Imported (in tons)

	1938	1947	1948	1949	1950	1951
Potatoes	1851	2574	3440	2581	2310	3559
Garlic Onions	387	214	192	249	360	297
Fresh fruits	168	623	315	414	477	518
Spices and spice seeds	461	317	216	-	-	-

Table 15

Imported Cattle and Meat (tons) and Fish (salted and pickled in kilos)

Year	Cattle Meat	Fish
1938	3579	646,633
1947	6942	636,846
1948	5848	845,938
1949	2566	775,998
1950	4415	733,795
1951	1430	788,609

It is clear that certain foodstuffs were imported in greater quantities than in 1938 to make up for the shortage of others. But it would be worth pointing out that popular foods of the poor: rice, oil, dholl, lentils and salted fish were imported less, while the dearer items like meat and fruits were on the increase. At the same time the population increased by over 30,000 between 1938 and 1947.

Comparing with the figures of 1938 can only show if there was an increase in quantity of food available to the population. According to the Mauritius Economic Report 1947-48 "the data available indicate that the overall food position in 1947 had almost reached the pre-war level and had even improved upon it in respect of calcium and iron."(22) But it was quick to point out, however,

that supplies were still below nutritional requirements and that requirement of foodstuffs should not be based on pre-war supplies but on nutritional needs.(23)

There are other clues which indicate that the necessary level of nutrition required to have produced such a decline in mortality was not reached in the post war years. Cases of anaemia treated at dispensaries and out patient department of hospitals actually increased in these years (Table 16).(24)

Table 16

Cases of anaemia

Year	Cases	Per 10,000 Population
1945	9,769	231
1946	10,835	255
1947	10,558	244
1951	19,753	408
1952	18,405	367
1953	21,150	403
1954	25,573	474

A survey carried out among 125 families in Bambous in 1948 (a comparatively poor village) showed an average level of intake that was low in respect of all nutrients.(25) Though an experimental feeding of 1600 school children started in 1943 and continued up to 1949, it was not until April 1950 that milk was supplied to all primary schools on the island.(26)

It is therefore difficult to conclude that there was a significant amelioration in the nutritional status of the population during the relevant years to account for the reduction in mortality.

Other Factors

There was no significant development in education or housing or in the provision of health services before 1950. An analysis of the expenditure incurred by the Colonial Development and Welfare Fund between 1946 and 1954 shows that Rs 5,351,311 out of Rs 5,892, 279 were spent on anti-malarial works. The other significant expenditure was in the provision of water supplies. Rs 28,817,837 were spent for the building of reservoirs for irrigation purposes, the production of electricity and for domestic use. Only a quarter of this sum was spent by 1950. The bulk of the expenditure on sewerage and housing were made use of after 1950.

Malaria, a debilating disease, accounts for other deaths. The reduction in mortality from all causes was just over three times the reduction in the number of deaths certified as due to malaria from December 1946 to December 1947. This is less than the "Five times" estimated by Newman. But still the above margin was further reduced as malaria was quickly brought under control. If economic growth was responsible for the decline in mortality, then as sugar production continued to rise up to 1953, general mortality should also have declined. Instead it increased. One can therefore conclude that the eradication of malaria is responsible for most of the decline in the post war mortality rate.

PART II: The present health status

Mortality rate

There has been a steady decline in the general mortality rate for the whole population following the massive reduction in the years between 1947 and 1950 (Table 3). The rate for 1979 is almost half that

of the post war years, while life expectancy has increased. In 1980 life expectancy was estimated at 67 years.(27)

Both the decline in mortality rate and the accompanying increase in life expectancy are world wide phenomenon. A United Nations Report in 1971 observed that "for the world as a whole life expectancy has increased from about 30 years in 1900 to an estimated 53 years in the late 1960's".(28) Several factors, in varying degrees, can account for this and they include the control of major infectious diseases, some improvement in living conditions, if not for the population as a whole, at least for some groups in society, the increase in health and medical knowledge, and the provision of health services.

Sex differentials in mortality have become more pronounced in Mauritius over the years, with male mortality exceeding that of females (Tables 17&18). Data for the years 1871, 1875 and 1880 show a higher female mortality rate for these years but more data are needed in order to confirm if this was a trend.

For the Indo-Mauritian population, a sex differential in mortality established itself firmly after 1954 while for the 'population générale' this trend started much earlier. It is difficult to venture an explanation for the lower female mortality rate trend especially in the last 100 years. Stolnitz(29) making international comparisons has demonstrated that higher male mortality is not so nearly as pervasive as commonly believed", and, according to Preston(30) it is clear that "the frequency of systematically higher female mortality is greatest in populations at lower levels of mortality and declines monotonically as mortality levels improve". In Mauritius where the ratio of males to females in 1827 was 1214 to 1000 among the white population, and 1611 to 1000 for the slaves and where the

Table 17

General Mortality rate by sex - for selected years

Year	Male	Female
1871	25.4	26.6
1875	24.5	26.4
1880	28.1	28.8
1885	34.3	33.0
1890	35.8	33.5
1895	38.7	36.1
1900	37.6	36.5
1905	41.4	40.1
1910	34.3	33.6
1915	34.9	34.7
1921	42.0	38.6

Table 18

Mortality Rate (Sex & Ethnicity) 1931-79 - All Ages

	Population Generale		Indo Mauritian	
	Male	Female	Male	Female
1931	35.5	31.2	41.0	42.6
32	30.8	27.3	36.4	32.8
33	26.8	22.5	28.5	28.7
34	25.4	21.4	27.2	26.4
35	24.6	21.4	28.0	28.4
36	24.6	22.0	27.9	28.0
37	27.6	25.7	29.4	30.4
38	28.3	25.0	31.9	31.2
39	27.9	26.8	27.2	29.6
1940	24.8	20.4	26.4	27.6
41	25.7	23.2	25.4	27.1
42	28.7	24.4	30.9	30.3
43	29.2	23.3	27.2	24.4
44	26.9	21.5	30.2	27.4
45	30.6	26.6	41.6	39.2
46	26.4	23.6	32.7	31.6
47	18.3	16.6	21.7	21.4
48	22.9	19.9	24.8	25.7
49	16.7	13.9	17.8	17.0
1950	13.7	12.1	15.2	13.7
51	15.3	12.9	15.9	14.8
52	17.1	13.8	14.5	14.6
53	18.6	16.6	15.4	15.2
54	18.3	17.4	14.8	15.3
55	14.5	13.7	12.5	12.1
56	13.8	12.2	11.7	10.9
57	13.5	11.7	13.5	12.7
58	12.4	10.9	12.3	11.5
59	11.2	10.4	11.1	10.7
1960	11.3	10.6	11.5	11.3
1961	10.0	9.4	10.1	9.6
62	8.9	8.9	9.8	9.1
63	9.4	8.7	10.0	9.6
64	9.2	8.1	8.8	8.2
65	9.2	8.2	9.1	7.9
66	9.5	8.3	9.2	8.3
67	9.8	8.2	8.6	7.8
68	10.0	8.6	9.2	8.6
69	9.1	8.1	8.1	7.5
1970	9.3	8.2	8.1	6.6
71	9.0	8.1	7.7	6.6
72	9.1	8.2	8.0	7.1
73	9.5	7.7	8.2	6.8
74	8.6	7.2	7.8	6.4
75	10.4	7.5	9.0	6.5
76	9.7	7.2	9.0	6.2
77	9.7	7.3	9.1	6.2
78	8.5	6.7	8.3	5.6
1979	9.4	6.2	8.6	5.5

[Source: Registrar General Department Reports]

immigration of indentured labourers contributed further to this imbalance, it would have been easier to explain a lower female mortality rate for the earlier years as women would have been more 'valuable' than men.

Ethnic differentials also present a complicated picture. The trend between the following years can be summed up thus (Table 19).

Table 19

Ethnic differential in mortality rate for Indo-Mauritian population and for 'population générale' for selected years

1875-1902	:	Mortality rates for 'population générale' higher than for Indo-Mauritians
1903-1923	:	No distinct trend.
1924-1951	:	Rates for 'Indo-Mauritian' population higher than for the 'population générale'.
1952-1963	:	No distinct trend.
1964-1979	:	Higher rate for 'population générale' than for Indo-Mauritian.

Explanations as to why such fluctuations have occurred over the years for two communities who live in the same country are beyond the scope of this thesis. Other things being equal, the causes may be found in living conditions, life styles and innate biological differences. Perhaps the latter could be ruled out since the difference in mortality rates for both ethnic groups have reversed more than once.

Infant Mortality

Figure 3 shows how infant mortality has declined from 1932 to 1981, and two distinct trends can be observed. First, the decline which started in 1947 came to a halt in 1956 when it remained more or less stable, with an average IMR of 63.9, up to 1973. The second

Table 20

Mortality Rate for Indo-Mauritians and 'Population Generale' - All Ages

Year	Indo Mauritian	Population Generale	Year	Indo Mauritian	Population Generale
1875	23.7	27.5	1929	31.7	28.4
76	26.9	28.8	30	35.6	34.8
77	25.8	31.4	31	41.8	33.3
78	26.9	27.8	32	34.6	29.0
79	33.4	29.6	33	28.6	24.6
1880	27.8	28.8	34	26.8	23.3
81	29.3	31.3	35	28.2	22.9
82	34.2	36.7	36	27.9	23.3
83	33.5	39.0	37	29.9	26.6
84	30.5	32.6	38	31.6	26.6
85	33.4	33.6	39	28.3	27.3
86	29.0	28.8	1940	27.0	22.5
87	34.3	34.8	41	26.2	24.4
88	29.4	32.6	42	30.6	26.5
89	34.6	31.9	43	25.8	26.1
1890	34.3	34.6	44	28.8	24.1
91	26.6	28.6	45	40.4	28.5
92	33.4	38.0	46	32.2	24.9
93	42.0	38.5	47	21.6	17.5
94	28.1	30.9	48	25.2	21.3
95	37.0	37.3	49	17.4	15.2
96	41.6	42.5	1950	14.5	12.9
97	29.2	30.2	51	15.3	14.1
98	31.7	32.4	52	14.6	15.4
99	34.2	36.0	53	15.3	17.5
1900	35.9	36.1	54	15.0	17.8
1	39.9	41.0	55	12.3	14.1
2	32.5	36.7	56	11.3	13.0
3	40.5	38.5	57	13.1	12.6
4	32.5	31.2	58	11.9	11.6
5	41.3	38.8	59	10.9	10.8
6	40.8	38.1	1960	11.2	11.6
7	39.1	35.3	61	9.8	10.2
8	41.4	37.0	62	9.5	8.9
9	38.4	32.7	63	9.8	9.0
1910	34.9	29.9	64	8.5	8.7
11	33.5	31.4	65	8.5	8.7
12	38.4	39.6	66	8.8	8.9
13	36.6	36.3	67	8.2	9.0
14	33.4	30.4	68	8.9	9.3
15	35.1	34.2	69	7.8	8.6
16	31.2	28.8	1970	7.3	8.8
17	31.9	33.6	71	7.2	8.6
18	32.4	37.4	72	7.5	8.6
19	64.9	64.7	73	7.5	8.6
1920	32.1	32.8	74	7.1	7.9
21	39.3	42.6	75	7.8	8.9
22	33.3	35.5	76	7.6	8.4
23	28.1	29.6	77	7.6	8.5
24	27.7	27.5	78	6.9	7.6
25	24.2	23.8	79	7.1	7.7
26	25.4	25.0			
27	25.8	23.6			
1928	28.8	27.0			

[Source: Registrar General Department Reports)

FIGURE 3

INFANT MORTALITY RATES , 1932-1981

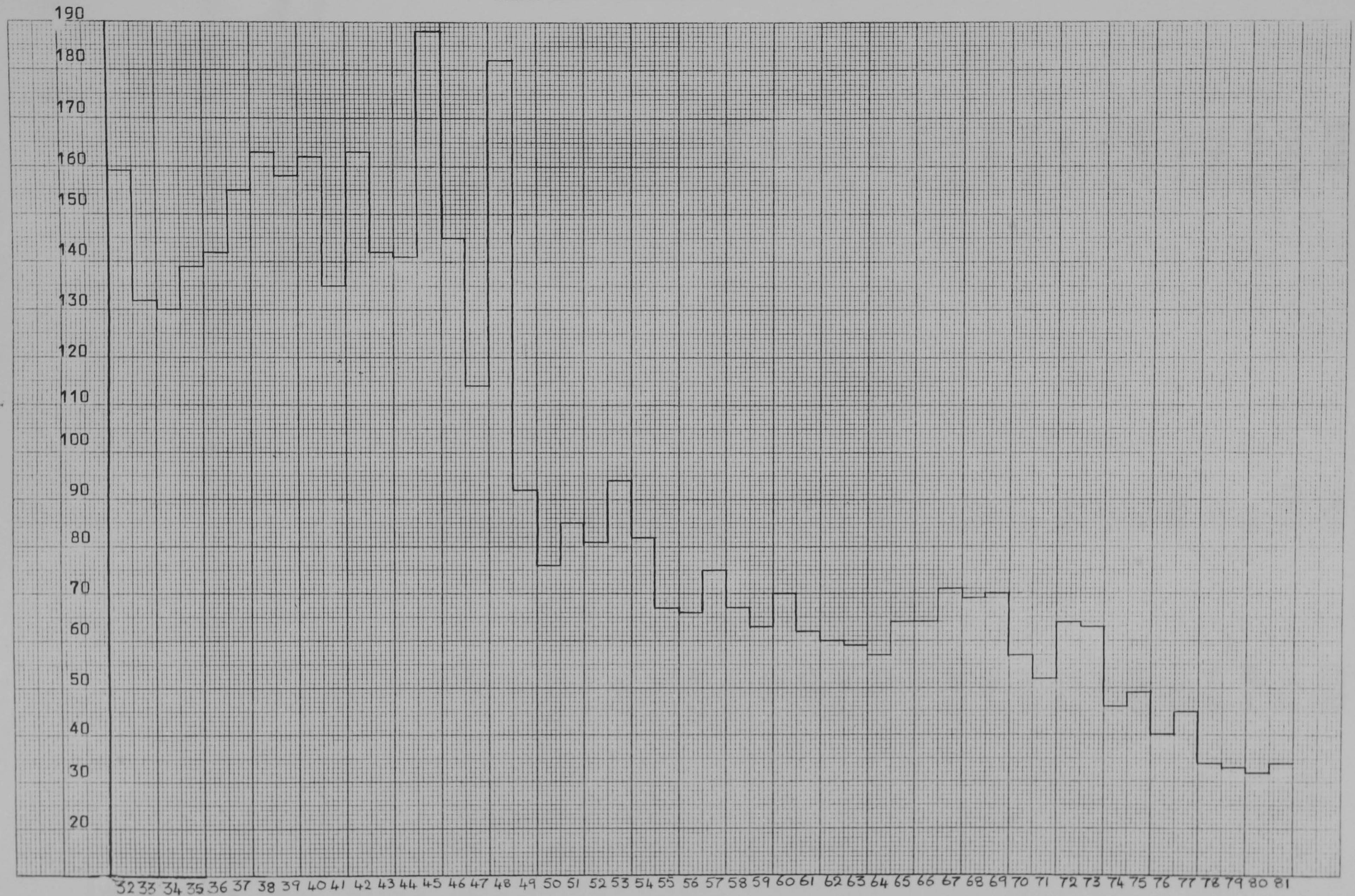

Table 21

Infant Mortality Rate 1932-80

Year	Rate	Year	Rate
1932	158.9	1957	75.1
33	131.5	58	67.4
34	129.8	59	62.5
35	139.4	1960	69.5
36	142.3	61	62.0
37	154.5	62	60.1
38	162.5	63	59.3
39	157.5	64	56.7
1940	162.0	65	64.1
41	134.8	66	64.2
42	163.4	67	70.5
43	141.5	68	69.1
44	141.0	69	70.4
45	188.0*	1970	57.0
46	145.2	71	51.7
47	113.9	72	63.8
48	181.5+	73	63.3
49	91.0	74	45.6
50	76.3	75	48.7
51	84.5	76	40.4
52	80.8	77	45.0
53	93.5	78	33.9
54	81.1	79	32.9
55	67.2	1980	32.3
1956	66.0		

* Epidemics of Poliomyelitis

+ Epidemics of Whooping Cough

[Source: Annual Reports of the Medical & Health Department]

stage in reduction of the IMR started in 1974 and stabilised in the years 1978-81. The IMR was reduced from 63.3 in 1973 to 32.3 in 1980 (Table 21). The greatest decline took place between the years 1974 and 1978. Similar reductions have been achieved in the last decade by Costa Rica, Chile, Brunei, while in the Caribbean many countries appear to have greatly reduced mortality among infants during the last 20 year period.(31)

One is tempted to attribute this second phase of decline to economic factors especially as the economic stagnation which prevailed from 1964 to 1972 (with a growth of GDP at an average of 1.75% per year) was followed by a period of economic grcwth estimated at an average rate of 8 percent per year for the years 1973-1979.(32)

The creation of more jobs in the manufacturing industries together with big increases in wages and salaries between 1973 and 1978 after a period of wage restraint in the preceding years seem to point to a better economic climate which may have been conducive to better health. It is difficult to gauge the exact part played by economic factors in the reduction of infant mortality during these years. However, it is useful to point out that the Mauritius Export Processing industries generated mostly female low paid jobs, taken up mainly by young unmarried girls. No doubt their wages served to increase the family income but their nutritional condition as potential mothers did not change significantly. In fact surveys carried out in EPZ showed a slight deterioration in their nutritional status.(33)

On the other hand, the increases in pay in the public and private sector including labourers served to increase demand in consumer goods. Imports rose for these growth years as did prices. The unwaged could not have benefitted and indeed their positions would

have been worse by the rise in prices of imported goods. However, more jobs would have been created in the service sector.

Local food production did not increase significantly. The attractive price of sugar meant that more land was devoted to sugar cane than to vegetables. But there was an increase in the production of potatoes and poultry. The money generated in the economy helped the better off to improve their housing conditions, but as will be shown later the situation remained the same or got worse for the lower income groups, especially those who live in the 'cités'.

Medical provision improved to a certain extent. The number of maternal and child health clinics increased from 43 in 1971 to 65 in 1975 and 71 in 1980.(34) Though the number of government trained midwives did not increase greatly, the extension of these services must have facilitated access to them. The number of hospital beds did not increase, and the three new health centres did not start to operate until 1979. The impression gained from the contradictory figures in the official publications seems to suggest that the nursing staff increased somewhat. On the other hand doctors in the public service remained stable in terms of numbers between 1970 and 1973 (except for 1971) and started to increase gradually as these figures from the Annual Reports of the Ministry of Health shows:

	1970	71	72	73	74	75	76	77	1981
No. of doctors	166	185	161	163	181	212	284	308	384

According to recent government publication,(35) the doctor per thousand population ratio for Mauritius (including Rodrigues) has improved from 0.27 in 1971 to 0.5 in 1979.

If the role played by economic factors or the provision of services in the reduction of infant deaths is not clear, government sources (36) on the other hand give the credit to better medical technology. The argument is based on the fact that while the number of discharges from hospitals due to enteritis and other diarrhoeal diseases (accounting for 49% of total post-neonatal deaths in 1980) have increased, the percentages of deaths to the number of cases treated in hospitals have decreased. (Table 22).

Table 22

Discharges and deaths due to enteritis and other diarrhoeal diseases in general hospitals

	Less than 1 year			1-4 years		
Year	Discharge inc. deaths	Deaths	% Deaths to discharges	Discharges inc. deaths	Deaths	% Deaths to discharges
1975	1,268	89	7.0	1,209	50	4.1
1979	1,573	66	4.2	1,339	28	2.1
1980	2,473	85	3.4	2,220	36	1.6

The reduction in infant deaths does not necessarily entail a lower incidence of disease. In fact the Economic Review 1977-80 observed that environmental conditions which are intimately associated with infant and child morbidity have not improved. Attendances at dispensaries for 'Enteritis and other Diarrhoeal diseases' for all ages have in fact increased if we compare the figures for the following years (see Table 23) (37)

Table 23

Attendances at dispensaries (static and mobile) per 1000 population for Enteritis and other diarrhoeal diseases

1970	1971	1979
37.5	42.1	49.3

There is no clear indication that better nutrition can account for the decline in case fatality. The percentage of low birth weight infants has fallen from 20.08 percent in 1971 to 10.59 percent in 1978. However, only hospital births were surveyed and these constituted about 58 percent of total live births in 1978.(38) Nutritional surveys carried out in the late seventies, on the other hand, showed a slight deterioration in the nutrition status of a significant proportion of expectant and nursing mothers and school children.(39) At the height of the economic boom in 1975, immaturity accounted for 40 percent of neo-natal deaths compared to 35% in 1980.

The increase in the number of doctors can partly explain the decline in case fatality, because more sick infants would have been attended by a doctor and perhaps more quickly than before. Besides the evident benefits of prompt treatment, the parents would have gained more confidence in the hospital service. The decrease in length of stay in hospitals reflects an amelioration in the standard of care, while an increase in admissions could indicate amongst other things that parents are willing to make use of these services when these are available. We shall show later that in cases of infant's sickness, parents resort to allopathic health care in the first place. The timely and appropriate use of existing health services no doubt plays an important part in deciding the outcome of an illness episode.

The parents' attitude to the use of services is also governed to some extent by their educational status. Cross-cultural studies(40) have shown the importance of maternal education in reducing mortality. We have looked briefly at the relationship between education and health in Part I, and pointed out that according to one study by Krishnan the decline in mortality rate in India between the years 1951-61 was partly

due to literacy, the indirect effects of which seemed to be almost as large as the direct effect of the doctor/population ratio.

With the lack of research one can only speculate that the high literacy rate in Mauritius must have a great influence on the population's use of services. Table 24 gives an idea of the educational attainments of the parents in the sample of the 100 families with infant/child deaths. The absence of a control group makes comparison impossible. More detailed studies need to be carried out in order to understand the real effects of education on the health of the population.

One important development in the last decade which can account for a share in the decline in infant mortality in developing countries has only recently been receiving recognition. The high priority given by WHO/UNICEF to oral rehydration with glucose-electrolyte solution for the treatment of diarrhoea by primary health workers proved to be very beneficial. For example, in India and Bangladesh, community-based oral rehydration programmes have decreased considerably the case fatality for diarrhoeal disease. The practice of withholding fluids from infants and children with diarrhoea is common in many developing countries and dehydration is one of the main causes of deaths in these cases. The message from health workers that fluids can save the infant's life, is finally being taken seriously by parents in Mauritius, judging by the replies of respondents during my fieldwork.

One can see that many factors are responsible for the reduction of infant mortality from 1973 onwards, but closer studies are required to identify which ones are more influential. The better economic climate of the mid-seventies coincided with the decline and must surely have contributed to it. However, the diffusion of medical and health

technology especially from developed to developing countries, for example in the form of vaccinations, antibiotics and oral rehydration packs can account for the reduction in mortality independent of the economic level of a developing country. Sometimes developments in the health sector of a country are financed from outside. For example, the malaria eradication programme in Mauritius after the second World War was financed from the Colonial Development and Welfare Fund, to which Britain contributed a large part. The extension of maternal and child health services to the rural areas from 1972 onwards was made possible through grants from the 'United Nations Fund for Population Activities'. Factors exogenous to a country's current level of income probably account for 75-90% of the growth in life expectancy for the world as a whole between the 1930's and the 1960's. Income growth per se accounts for only 10-25%.(41)

Finally, one has to bear in mind that diseases can persist in the face of considerable increase in the medical and public health services available to the population. Diseases like diarrhoea are prompted by poverty and ignorance and it remains closely connected to a nation's level of social and economic development.(42)

Table 24: Educational attainment of mother and father in sample

		Mother	Father
No schooling	PRIMARY	22	18
Std. II		2	6
Std. III		6	5
Std. IV		6	5
Std. V		5	3
Std. VI		48	43
Form 1	SECONDARY	0	3
Form II		1	2
Form III		2	2
Form IV		4	0
Form V SC & OL		4	9
Form VI HSC & AL		0	2
Total		100	98*

*1 unmarried mother
1 don't know

	Women	Men
Primary education	89	80
Secondary education	11	18

Sex differentials in IMR

Data from 1875 onwards show that for each year until the present the IMR has been consistently higher for males despite the preference for sons exhibited in Mauritian society. Studies done in India show incidence of higher female IMR in the North while in the South the female rates are slightly lower.(43) Since more Indian immigrants came from North than from South India, it could be expected that the Mauritian rates at least for the Indian community, would reflect the ones of Northern India. The demographic situation which showed a severe imbalance of the sexes especially in the Indian community must have placed some value on female infants. Preston offers a different view as to why the rate of male infant deaths should be higher. According to him "in view of the greater emphasis on son than daughter survival exhibited in many societies, the compelling interpretation is that a male baby has on average a serious innate biological disadvantage in survival through the first year of life, a disadvantage that manifests itself in every major cause of death.(44)

As the child ages, this disadvantage is supposed to become either quickly inoperative or is readily obscured by offsetting factors when health conditions are poor.(45)

The North and South Indian studies show that between the ages of one to four, the female disadvantage becomes more pronounced, as shown below in Table 25).(46)

Table 25

Sex differentials in childhood mortality rates (1-4)

Sex	The Khanna Study (North India)	The Narangwal Study (North India)	The Vellore Study (South India)
Male	19.4	29.0	21.6
Female	36.9	58.0	25.1

Unfortunately for Mauritius, because of lack of data, only figures for 1944, 1952, 1962, 1972 and 1981 were available, and they show a slightly higher female child mortality rate for the first four of these years and a lower one for 1981 (Table 26).[47]

Table 26

Child Mortality Rate (1 - 4)

Year	Male	Female
1944	21.3	22.7
1952	12.4	13.3
1962	5.3	6.5
1972	5.7	6.3
1981	2.0	1.9

These data are too few for any trend to be established. Apart from a considerable decline in the rates these figures suggest that the male-female difference has not been as high as the studies in India show.

Figures compiled at different intervals between 1875 and 1952 for mortality between the ages 0-5 (Table 27)[48] give no indication of a trend in higher female mortality rate for these ages. Again more studies are needed for any firm conclusion to be drawn.

Table 27 reveals an alarming ethnic differential in mortality between these ages though their IMR's do not show the same. It appears that mortality rate for the 'population générale' for the 0-5 age group has been consistently higher than for the Indo-Mauritian population, except for 1944. The difference has been as high as 46 deaths per 1000 population, although there is an indication that the gap between the two communities is narrowing. Unfortunately the form in which official data has been collected in recent years has not

Table 27

Mortality (0 - 5)

	Population Generale		Indo-Mauritian		Total Popn.	Total popn.	Total "popn.	Total	X minus Y
	Male	Female	Male	Female	Male	Female	generale" (X)	Indo-Mauritian (Y)	
1875	98.4	99.2	78.0	71.0	88.2	85.1	98.8	74.5	24.3
1880	98.8	95.0	75.0	75.2	86.9	85.1	96.9	75.1	21.8
1885	107.4	105.9	76.2	81.7	91.8	93.8	106.7	79.0	27.7
1890	114.1	109.3	87.3	79.2	100.8	94.3	111.7	83.4	28.3
1895	132.3	124.8	97.1	96.9	114.7	110.9	128.6	97.0	31.6
1900	116.4	124.3	94.9	92.2	105.7	108.3	120.4	93.6	26.8
1905	125.3	125.3	91.3	100.8	108.3	113.1	125.3	96.1	29.2
1910	90.3	89.5	73.0	74.6	81.7	82.1	89.9	73.8	16.1
1921	123.8	113.4	72.1	71.3	98.0	92.4	118.6	71.7	46.9
1931	94.2	92.0	77.0	84.5	85.6	88.3	93.1	80.8	12.3
1944	61.8	56.0	62.7	58.3	62.3	57.2	58.9	60.5	-1.6
1952	51.6	38.6	32.5	32.2	42.1	35.4	45.1	32.4	12.7

[Source: Annual Reports of Registrar General Department]

made it possible to calculate whether this trend continues up to the present time. Perhaps closer sociological and anthropological studies will cast some light on why such a difference should exist.

Class differential in IMR

Information on class differential mortality in developing nations is not especially abundant, although it is growing. As no official data on class differential in infant mortality was available in Mauritius, an attempt was made to find out how mortality was related to the income of the families in the sample of the survey on infant/child mortality (4 weeks - 5 years) carried out for this thesis. Figure 4 shows the distribution of these families according to the different income range. These income figures represent the entire earnings of the household, according to the answers obtained from the respondents. The poverty datum line in 1979 was estimated at RS1600 [49] and it is clear that 95% of these families fall under this line.

The absence of a control group means that real comparison between poor and rich families is not possible. However, if we apply the results obtained from the survey to the income distribution of households in Mauritius in 1979 (Table 28) we find that:

76 cases are from the 53.1% of households earning below Rs1000

and 24 cases are from the 46.9% of households earning above Rs1000

The occupations of the parents are detailed in Table 29 Forty four percent of men are labourers, while most of the women (86%) are housewives. Another indication of class differentials in infant mortality can be obtained if we compare the figures of the nine districts in Mauritius (Table 30).

Figure 4

INCOME OF THE FAMILY

Income Ranging from:				No.
I	Rs 1	to	Rs 250	3
II	Rs 251	to	Rs 500	1
III	Rs 501	to	Rs 750	41
IV	Rs 751	to	Rs 1000	29
V	Rs 1001	to	Rs 1250	7
VI	Rs 1251	to	Rs 1500	12
VII	Rs 1501	to	Rs 2000*	3
VIII	Rs 2001	to	Rs 2500*	1
IX	Rs 2501	to	Rs 3000*	1
	Unemployed without income			2
			Total	100

* In 4 out of these 5 cases the income represents the earnings of more than 1 person

Income under Rs 750	45	(47 if we include the two unemployed)
Income from Rs 750 to Rs 1500	48	
Income above Rs 1500	5	

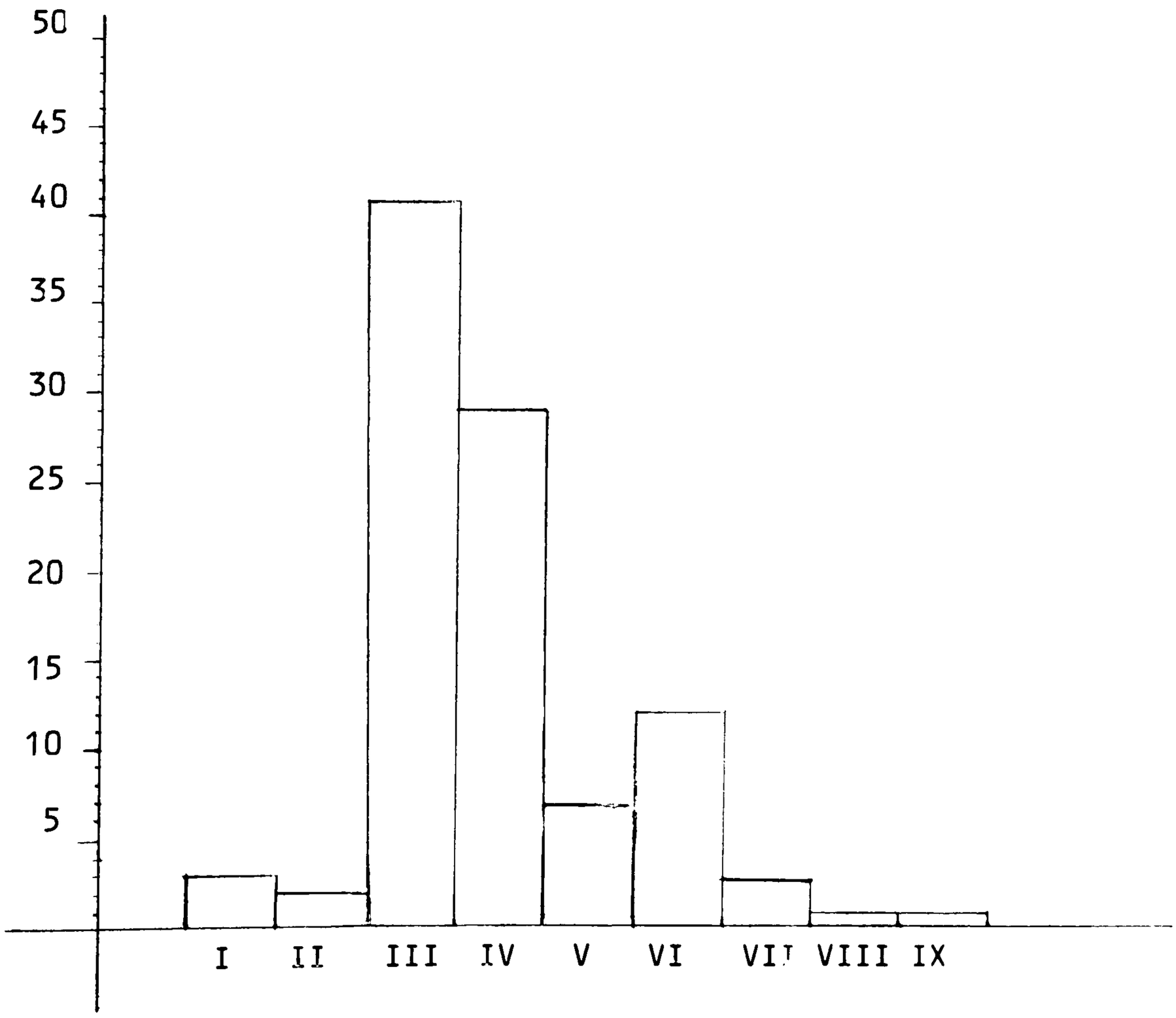

Table 28

Income Distribution 1979

Income Range per month	Household Percentage	Cumulative Percentage
0 - 150	2.8	2.8
150 - 300	4.2	7.0
300 - 500	4.7	11.7
500 - 750	21.2	32.9
750 - 1000	20.2	53.1
1000 - 1500	18.8	71.9
1500 - 2000	10.3	82.2
2000 - 3000	9.1	91.3
3000 over	8.7	100.00

(Source: Central Statistics Office)

Table 29

Infant Mortality Rates per 1000 live births by District

	1971	1973	1975	1977	1978	1979	1980
Port Louis	57.9	59.5	52.0	47.6	35.6	41.4	35.1
Pamplemousses	61.2	65.7	59.0	40.6	37.1	32.6	32.2
Riv. du Rempart	47.0	56.2	48.2	46.3	32.1	38.1	44.7
Flacq	51.7	70.6	52.6	42.0	44.9	33.8	44.1
Grand Port	48.3	77.7	56.7	57.9	38.9	35.6	33.7
Savanne	69.4	67.9	50.2	43.6	27.6	25.9	26.6
PL. Wilhems	39.2	53.3	36.1	37.6	25.9	26.6	23.8
Moka	51.5	62.4	55.7	42.8	35.5	35.6	28.9
Black River	89.2	97.4	55.4	75.7	43.2	36.6	33.8

The rate for Plaine Wilhems, except for 1979, is consistently the lowest of all districts. Plaine Wilhems also happens to be the district where the most affluent people of the island reside. Besides the property owning community, the professional class and the bureaucratic class live in places like Curepipe, Quatre Bornes, Beau Bassin, and Rose Hill within the Plaine Wilhems district. This large district

Table 30

Occupation of Father

OCCUPATION		No.
Carpenter		5
Bricklayer	Including 1 apprentice	3
Police constable		3
Caretaker		1
Boiler		1
Mechanic	On sugar estates	1
Welder		1
Tractor driver		1
HGV driver		1
Lorry driver		2
Plumber		1
Taxi driver		1
Bus conductor		2
Clerk	Development work corporation	1
Driver		1
Fisherman		2
Bus cleaner		2
Factory worker		2
Stevedore		2
Helping hand	On lorries	2
Cleaner	Office	2
Metal worker		1
Porter	Hotel	1
Tailor		1
Fishseller		1
Primary School Teacher		1
School Caretaker		1
Basket maker		1
Grave digger		1
Vegetable seller		1
Shopkeeper		1
Sirdar	Supervision of labourers	1
Salesman		2
Labourer		44
Unemployed		3
Deceased		1
Separated		1
Old age pensioner		1
	Total	100

Occupation of Mother

	No.
Labourer	9
Factory	3
Servant	1
Asst/shopkeeper	1
Housewife	86
Total	100

also comprises pockets of lower class areas. A comparison between the more affluent parts of Plaine Wilhems and the housing estates of the Central Housing Authority would no doubt reveal a greater disparity between their infant mortality rates.

Low nutritional status of mothers is considered to be one of the important causes of neo-natal deaths, as immaturity accounted for 35% of these deaths in 1980 against 40% in 1975.(50) It is likely that a low nutritional intake reflects the economic condition of the poor more than their cultural habits. This high percentage of deaths due to immaturity is likely to come from poor families.

A comparison between the still birth rates of private clinics (attended mostly by those who can afford the fees), and of the island as a whole further shows the disparity between classes, if one takes the view once more that the nutritional status of the mothers has a bearing on whether the outcome of a pregnancy would be a live or a still birth. The most sophisticated medical technology of the private clinics can only possibly prevent neo-natal deaths but not still births. The figures in Table 31 (51) show the comparison.

Table 31

Comparison of still birth rates of private clinics and of the island as a whole

	Private clinics	Island
1973	20.2	34.5
1974	16.3	35.9
1975	19.0	40.0
1976	10.0	34.0
1977	13.5	30.4
1978	11.5	26.2
1979	8.3	25.3
1980	14.0	24.3

International comparison of IMR

The problems with comparing rates from different countries are many. First, international agencies such as the UN and the WHO are not up-to-date with their figures. When they produce tables for international comparisons, the period for which data was collected differ. Secondly, as we have seen earlier, there are exogenous factors which have accounted for the decline in mortality rate in developing countries, and that these rates cannot always be taken as an index of the development status of a country. Therefore if broad comparisons are made of different countries, the real reasons for infant mortality decline are missed. Thirdly, comparing countries with about the same GNP does not give a real picture of what the economy consists of or whether most of the revenues come from mineral resources, including oil. Fourthly, apart from the fact that many countries do not keep adequate records or that these are not entirely reliable, the form in which these data are collected present problems for comparison. For example some countries when they supply the figures for the number of physicians for the whole country take into account only those working in the public service, others group both the private and public service, while in some cases the figures given are those who register in the country but do not necessarily work there. Finally, death certification (by cause) presents problems of its own. Not all countries have compulsory medical certification and within the same country only in some urban areas is this legal provision enforced.

Bearing in mind these limitations, we can tentatively make the following comparisons to show how Mauritius fares internationally.(52)

Table 32

Infant mortality rates for selected countries in 1968 and 1978 (unless otherwise stated)

Countries	Rates 1968	1978	
Mauritius	69.1	33.9	
Trinidad and Tobago	36.6	28.6	
Jamaica	34.7	16.0	
Barbados	45.9	26.3	(1977)
Sri Lanka	50.3	43.9	(1976)
Hong Kong	-	13.9	(1977)
Singapore	23.4	12.5	
Sweden	13.8	7.8	
England and Wales	18.3	13.1	

Compared to the many countries on the continent of Africa where the IMR is estimated to be over 100 per 1000 live births, the progress made in Mauritius in bringing down infant mortality is very encouraging. But compared with the Caribbean and some other developing countries there is still room for further improvement. The rates for the developed countries show what remains to be achieved.

Changes in the pattern of diseases and deaths

As deaths caused by infectious diseases such as malaria, tuberculosis etc decreased, the percentage of total deaths due to diseases of the circulatory system and neoplasms increased. This comparative increase would not have been alarming if it were not for the fact that in absolute terms there has been an increase in the rate of circulatory diseases and neoplasms.

Since International Classifications of Diseases (ICD) have changed several times over the last seven decades direct comparison with the figures of the 1930's is not possible. However, because

the diseases classified under 'neoplasms' do not seem to have varied significantly over the years, the increase in the number of deaths per 10,000 inhabitants can be seen from the Table 33.

A recent WHO report observes that in the developing countries as a whole, mortality as a result of diseases due to 'neoplasms' are increasing. (53)

Though there have been a few changes relating to diseases classified under the rubric 'circulatory system', the increase in the number of deaths due to these diseases are indicated in Table 34.

Table 35 gives a more accurate picture if we compare the death rate per 10,000 population over the last eleven years using the same ICD (1965 revision), while Figure 5 shows these changes graphically.

The principal causes of deaths (all ages) for 1979 by ICD section (1965 revision) are given in Table 36 and these figures show a marked difference from the groups of diseases which account for neo-natal, post-natal and infant mortality (Tables 37 and 38). Infective and parasitic diseases and immaturity still account for a large share of mortality.

Morbidity figures, too, as indicated partly by attendances at dispensaries reveal a high proportion of diseases due to infection (if one groups together Infective and Parasitic Diseases and Diseases of the Respiratory system) and a high incidence of accidents, poisonings and violence (Table 39).

One must point out here to the limitations of disease classifications and diagnosis. Mauritius has an exceptionally high proportion

Table 33

Deaths due to Neoplasms

Year	Percentage of Total Deaths	Deaths per 10,000 inhabitants due to Neoplasms
1932	0.69	2.28
1940	0.72	1.84
1950	1.89	2.63
1960	3.45	3.85
1970	5.56	4.32
1980	6.22	4.47

Table 34

Deaths due to Diseases of the Circulatory System

Year	Percentage of Total Deaths	Deaths due to diseases of the circulatory system per 10,000 inhabitants
1935	2.59	6.87
1940	1.95	4.99
1950	6.35	8.82
1960	11.30	12.33
1970	23.87	18.51
1980	38.06	27.36

Table 35

Deaths due to diseases of the circulatory system (ICD 1965 revision) - Per 10,000 inhabitants 1970 - 1980

Year	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980
Rate	18.51	19.51	18.29	17.86	18.07	22.83	23.00	24.44	23.0	24.65	27.36

FIGURE 5

DEATHS DUE TO DISEASES OF THE CIRCULATORY SYSTEM PER 10,000 INHABITANTS, 1970–1980.

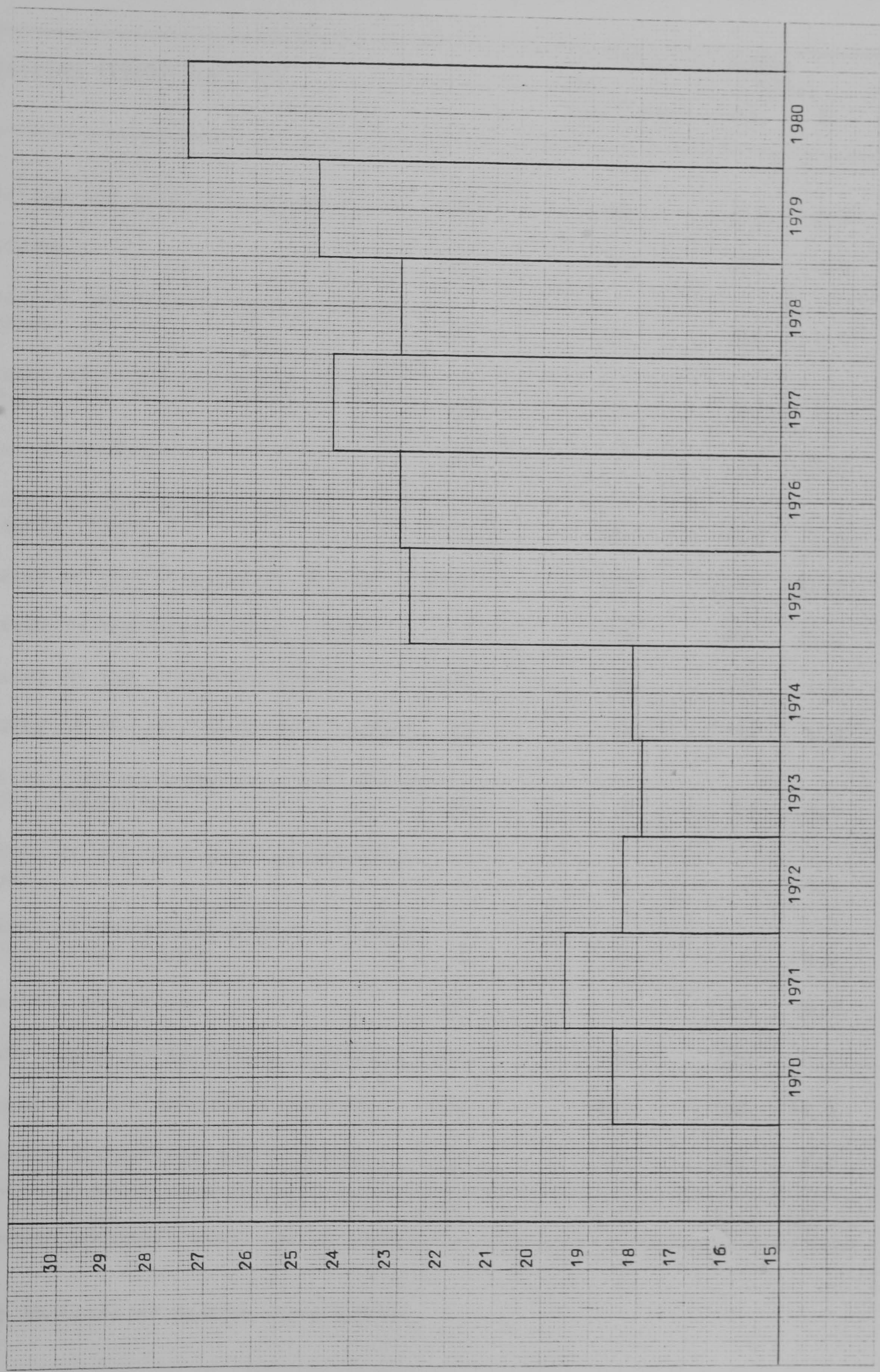

Table 36

Causes of death by section of the International Classification - 1979 (all ages)

I.C.D. Section (1965) Revision	Number of deaths Certified	Not Certified	Total No.	Total %
1. Infective and parasitic diseases	323	93	416	6.3
2. Neoplasms	411	16	427	6.4
3. Endocrine, nutritional and metabolic diseases	295	43	338	5.1
4. Diseases of blood and blood-forming organs	68	9	77	1.2
5. Mental disorders	24	1	25	0.4
6. Diseases of the nervous system and sense organs	102	26	128	1.9
7. Diseases of the circulatory system	2167	112	2279	34.4
8. Diseases of the respiratory system	570	115	685	10.3
9. Diseases of the digestive system	290	16	306	4.6
10. Diseases of the genito-urinary system	98	1	99	1.5
11. Complications of pregnancy, childbirth and the puerperium	24	1	25	0.4
12. Diseases of the skin and subcutaneous tissue	6	2	8	0.1
13. Diseases of the musculoskeletal system and connective tissue	3	6	9	0.1
14. Congenital anomalies	50	-	50	0.8
15. Certain causes of perinatal mortality	307	15	322	4.9
16. Symptoms and ill-defined conditions	517	431	948	14.3
17. Accidents, poisonings and violence	477	6	483	7.3
Total	5732	893	6625	100.0

[Source: Ministry of Health, Port Louis]

Table 37

Principal Causes of Early Neonatal Deaths* - 1979

Cause (ICD 1965 Revision)	Deaths No.	Deaths % of total
1. Immaturity	171	39.6
2. Asphyxia, anoxia and hypoxia	100	23.1
3. Congenital anomalies	26	6.0
4. Septicaemia	22	5.1
5. Pneumonias	14	3.2
6. Acute heart failure, undefined	12	2.8
7. Birth injury without mention of cause	9	2.1
8. Pyrexia of unknown origin	6	1.4
9. Enteritis and other diarrhoeal diseases	4	0.9
10. Tetanus	4	0.9
All other causes	64	14.8
Total	432	100.0

*Deaths under one week

Principal Causes of Neonatal Deaths*

Cause (ICD 1965 Revision)	Deaths No.	Deaths % of total
1. Immaturity	193	37.7
2. Asphyxia, anoxia and hypoxia	104	20.3
3. Congenital anomalies	35	6.8
4. Septicaemia	29	5.7
5. Pneumonias	16	3.1
6. Acute heart failure, undefined	13	2.5
7. Enteritis and other diarrhoeal diseases	13	2.5
8. Tetanus	10	2.0
9. Birth injury without mention of cause	9	1.8
10. Pyrexia of unknown origin	8	1.6
All other causes	82	16.0
Total	512	100.0

*Deaths under four weeks

Note: For the purpose of this classification, an immature infant is a live born infant with a birth weight of 5 1/2 pounds (2 1/2kg) or less. When this criterion is not applicable, a period of gestation of less than 37 weeks may be considered as its equivalent.

[Source: Ministry of Health, Port Louis]

Table 38

Principal Causes of Post-Neonatal Deaths* - 1979

Cause (ICD 1965 Revision)	Deaths	
	No.	% of total
1. Enteritis and other diarrhoeal diseases	138	44.2
2. Pneumonias	50	16.0
3. Pyrexia of unknown origin	23	7.4
4. Septicaemia	12	3.8
5. Bronchitis	11	3.5
6. Congenital anomalies	10	3.2
7. Acute heart failure, undefined	5	1.6
8. Debility and undue fatigue	5	1.6
9. Avitaminoses and other nutritional deficiency	4	1.3
All other causes	54	17.3
Total	312	100.0

*Deaths between four weeks and one year

Principal Causes of Infant Deaths* - 1979

Cause (ICD 1965 Revision)	Deaths	
	No.	% of total
1. Immaturity	196	23.8
2. Enteritis and other diarrhoeal diseases	151	18.3
3. Asphyxia, anoxia and hypoxia	104	12.6
4. Pneumonias	66	8.0
5. Congenital anomalies	45	5.5
6. Septicaemia	41	5.0
7. Pyrexia of unknown origin	31	3.8
8. Acute heart failure, undefined	18	2.2
9. Bronchitis	14	1.7
10. Tetanus	12	1.5
All other causes	146	17.7
Total	824	100.0

*Deaths under one year

Note: For the purpose of this classification, an immature infant is a live born infant with a birth weight of 5 1/2 pounds (2 1/2kg) or less. When this criterion is not applicable, a period of gestation of less than 37 weeks may be considered as its equivalent.

[Source: Ministry of Health, Port Louis]

Table 39

Attendances at Dispensaries by I.C.D. Section - 1979
(Static & Mobile)
(excluding Prisons Dispensaries)

Section (I.C.D. 1965 Revision)	Attendances	
	No.	% of total
1. Infective and Parasitic Diseases	275,672	14.4
2. Neoplasms	1,168	0.1
3. Endocrine, Nutritional, and Metabolic diseases	187,938	9.8
4. Diseases of the Blood and Blood-forming Organs	147,008	7.7
5. Mental Disorders	499	0.0
6. Diseases of the Nervous System and Sense Organs	74,231	3.9
7. Diseases of the Circulatory System	76,787	4.0
8. Diseases of the Respiratory System	310,532	16.2
9. Diseases of the Digestive System	163,250	8.5
10. Diseases of the Genito-Urinary System	19,081	1.0
11. Complications of Pregnancy, Childbirth and the Puerperium	1,286	0.1
12. Diseases of the Skin and Subcutaneous tissue	81,189	4.2
13. Diseases of the Musculoskeletal System and Connective Tissue	82,224	4.3
14. Congenital Anomalies	2	0.0
15. Certain Causes of Perinatal Morbidity and Mortality	1	0.0
16. Symptoms and Ill-defined Conditions	64,629	3.4
17. Accident, Poisonings, and Violence	429,697	22.4
Total	1,915,194	100.00

of deaths ascribed to "other and unknown causes".[54] Preston also remarked that the category 'other Infectious and Parasitic diseases' "is probably somewhat under recorded in statistically poor populations because of a tendency to assign deaths to terminal conditions (e.g. pneumonia) or to symptoms (e.g. Fever) rather than to specific underlying cause." [55] The system of compulsory certification of deaths in only two districts in Mauritius (Port Louis and Plaine Wilhems) contributes further to this problem. The progress made in medical technology has no doubt enhanced the accuracy of diagnosis and that many more deaths are ascribed to 'neoplasms' or 'diseases of the circulatory system' now than before, but the absence of medical certification in some areas does not help to give an accurate picture of the causes of deaths in Mauritius. Preston goes further by assuming that it is possible that some deaths in 'statistically poor populations' are improperly assigned to infectious diseases.[56] An examination of the death certificates of the sample of the 100 cases of infant/child deaths gives examples of poor diagnosis when such terms as "fever" or "pyrexia of unknown origin" are given as cause of death.

Hospital and dispensary attendances:

Attendances began to increase in the years following World War II. In recent years there has been an increase in hospital admissions from 62,031 in 1971 to 124,791 in 1980 (an increase of 69%).[57] The waiting lists for operation in general hospitals show that for 'general surgery' the list was longer in 1980 than in the previous years.[58] This is perhaps due partly to the increase in the number of diseases of the circulatory system and neoplasms.

Attendances figures at dispensaries and outpatients departments

of hospitals have risen slightly if we compare data from 1968 and 1979.

1968	2.7 million attendances (3.5 per head)
1979	3.5 million attendances (3.6 per head)

This could be explained by the availability of more services or that people are aware of what they should do when they fall ill or both. Or it could be that the state of health of the population has not improved as dramatically as the figures on mortality and life expectancy would suggest.

Summary and Conclusions

Significant changes have taken place in the pattern of diseases from the beginning of this century to the present time. Malaria, small-pox and plague have been eradicated. Tuberculosis and typhoid have been brought under control. Life expectation has increased while mortality has declined considerably.

Improvement in the curative service which has resulted in a reduction in infant mortaltiy in the last decade has taken attention away from the more serious problem of how these diseases are caused in the first place. While everything possible must be done to cure an infant from gastro-enteritis, the same child goes back to the same environment perhaps to be affected by the same diseases over and over again. We have seen that there has been no decline in the number of cases of gastro-enteritis and other diarrhoeal diseases which were brought to dispensaries in the last decade. There are also indications of class differences in infant mortality.

While infections still present a major threat especially to the health of infants and children, the increase in the incidence of carcinomas and diseases of the circulatory system points to the likely

pattern of diseases in the years to come. Action must be taken now in order to prevent these 'new' diseases from assuming epidemic proportions as is the case at present in the developed countries.

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CHAPTER 6: THE ORGANISATION AND DISTRIBUTION OF HEALTH CARE

At the end of Chapter 1 the task set was the examination of the contemporary organisation and distribution of health care in Mauritius in the light of the theoretical approaches which were discussed. We can recall that generalisations were made about most post-independent health services, mainly that these were inherited from colonialism and as such retained certain characteristic features, such as clinical orientation, with urban and class bias both in terms of availability and access of care. We have also seen from the history of health care in Mauritius that the health services under colonialism were intended to provide basic medical relief for paupers. We shall now examine closely the present set-up and determine the direction of developments and what the trends in health planning are. Only the main services will be dealt with here.

For clarity this chapter will be divided into the following sections:

1. The Public Health Services
2. The Preventive Services
3. Private Medicine
4. Summary and Discussion

1. The Public Health Services

The Ministry of Health is responsible for the organisation and distribution of health services. The Medical and Health Department, mentioned earlier, finally became the Ministry of Health in 1959. There have been regular reorganisations of duties within the body responsible for health over the years. The signficant changes are:

(i) The provision of medical relief was removed from the jurisdiction of the Poor Law Commission and placed under a Medical and Health

Department in 1881; while the Poor Law Department became the Public Assistance Department in 1947, and finally came under the Ministry of Social Security in 1959.

(ii) The sanitary branch which together with the Medical Branch formed the Medical and Health Department in 1894-95 slowly lost its importance.

(iii) In 1962 new changes were brought in. An administrative division was created concerned with "the formulation of policy, the handling of establishment and personnel matters, the control of expenditure and generally with all administrative and executive matters."(1)

Apart from the administrative section, the Ministry was divided into a Curative and a Preventive division with a Principal Medical Officer at the head of each section.

The present set up is different. There is now an administrative side and a technical side. The Principal Assistant Secretary is the head of the Administrative Division while the Chief Medical Officer is the head of the professional and technical side of the Ministry. The functions of the Ministry, according to the annual report of the Ministry of Health(2) are:

a) to investigate the influence of social environment and domestic factors on the incidence of human disease and disability;

b) to plan and carry out measures for the promotion of health;

c) to institute and maintain measures for the prevention of diseases;

d) to provide a quarantine service for preventing the introduction of infections and quarantinable diseases by sea or air;

e) to provide facilities for treatment of the disease, including mental disease, by maintenance of hospital and dispensary services;

f) to make provisions for the rehabilitation of the disabled;

g) to control the practice of medicine, dentistry and pharmacy;

h) to provide facilities for the training of nursing officers, midwives, ancillary hospital and laboratory staff and health inspectors;

i) to advise local government authorities regarding health services and to inspect these services;

j) to prepare and publish reports and statistical or other information relating to health; and

k) to implement a Family Planning, Maternal and Child Health Programme.

The Chief Medical Officer, who is the Head of the professional and technical side "advises the Minister and the Permanent Secretary on the formulation of health policies and programmes in the curative, preventive and promotive fields, directs and supervises implementation of health programmes."(3) According to the annual report(4), he is also responsible for the smooth discharge of the work of all professional and technical officers of the Ministry. He is assisted by:

a) a Principal Medical Officer (Curative) who is in charge of all curative services i.e. hospitals, dispensaries and all other institutions for the treatment of the sick;

b) a Principal Medical Officer (Family Planning, Maternal and Child Health Services) who is responsible for the national family planning programme and the maternal and child health services outside hospitals;

c) a Principal Medical Officer (Planning) who is responsible for framing development plans and health programmes in accordance with approved policy and their implementation, training of the health personnel both abroad and locally, collection and analysis of all health statistics;

d) A Principal Medical Officer (Preventive) in charge of all the environmental health services, port health services, school health services, immunisation services and the public health laboratories.

As can be seen from the list of duties, the Ministry of Health only acts as an advisory and supervisory body for the services provided by the local authorities or other Ministries in such areas as sanitation, the provision of sewerage etc. Secondly, the decision making process is highly centralised. All the decisions are taken at the seat of the Ministry of Health which is situated in Port Louis. The local authorities have no 'power' or 'say' in matters regarding the health of their citizens. Thirdly, the decisions are taken mostly by doctors and administrators. Doctors are in charge of each of the four technical sections of the Ministry, and as they are 'experts' in their fields, they 'advise' the administrative side on the formulation of health policies and programmes.

Medical care is dispensed mainly at hospitals and dispensaries. Maternal and child health clinics have recently been providing care on certain days of the week at social welfare centres and finally estate hospitals have been fulfilling the same purpose, though they have experienced a declining popularity over the years.

a) <u>Hospitals:</u>

Table 40 shows that there are at present 3 Regional hospitals

TABLE 40

AVAILABILITY OF HEALTH SERVICE AS AT 31.12.1979

INSTITUTION	No. of Units	No. of Beds
Regional (Principal) General Hospital	3	1,398
District General Hospital	4	359
Psychiatric Hospital	1	832
Chest Hospital	1	98
Eye Hospital	1	57
Skin Diseases Infirmary*	1	48
ENT Centre**	1	35
Health Centre	1	5
Dispensary	48	-
Health Office	13	-
Maternal and Child Health and Family Planning Clinic	71+	-
Family Planning (only): (i) Clinic	18+	-
(ii) Supply centre	37	-
Dental Clinic	10	-
Social Hygiene Clinic	1	-
Chest Clinic	1	-
Prisons Hospital	1@	13
Prisons Dispensary	2	-
Sugar Estate Hospital	17	198
Sugar Estate Dispensary	19	-
Private Clinic	6	190
Mobile Dispensary	5	-
Mobile Ante-Natal and Family Planning Clinic	1	-
Mobile Dental Clinic	2	-

* administratively attached to SSRN Hospital

** administratively attached to Victoria Hospital

\+ excluding activities at L'Escalier Health Centre

@ excluding Beau Bassin prisons Hospitals (not operational as at 31.12.79)

[Source: Ministry of Health, Port Louis]

(Civil, Victoria and Sir Seewoosagar Ramgoolam), and 4 district hospitals (Long Mountain, Souillac, Mahebourg and Flacq), 1 psychiatric hospital (Brown Sequard). Apart from the Sir Seewoosagar Ramgoolam hospital (SSRH) in Pamplemousses, the number of hospitals has remained the same for more than fifty years. The main developments have been the addition of beds to the existing hospitals. The other major additions were an Orthopaedic Centre to Victoria hospital and a Chest Clinic for Tuberculosis to the Civil hospital.

In 1967, the annual report of the Ministry of Health announced the building of a hospital in the northern part of the Island. It was to bear the name of the Prime Minister, Sir. S. Ramgoolam. The hospital also happens to be in the constituency of which he had been an MP for more than 20 years. This is how the project is described in the report.

"By far the most significant project - indeed at Rs28 million the largest and most complex building project ever undertaken in Mauritius - was the construction of Stage I (355 general beds) of Central Hospital North, on which a 2-year building period had begun in mid-1966 on a site near Pamplemousses. Steady building progress to a strict time table was made throughout 1967, which also saw the placing of overseas orders for some Rs2 million of technical equipment for the hospital in order to ensure that this would be available when required in 1968-69".(5)

With the view to maximising the use of expensive equipment and trained personnel, some disciplines have been centralized. The Moka Hospital was converted into a specialised eye hospital in 1971. The Poudre d'Or Tuberculosis and Chest Diseases Hospital was enlarged and upgraded to accommodate 146 beds for cases needing inpatient treatment. The ex HMS Mauritius Hospital at Vacoas, was converted into an ENT Centre, equipped with 30 beds, an operating theatre and an out-patient department.(6)

The increase in the number of beds has not kept pace with the increase in population. The result is that in some cases two patients have to share a bed. In that respect the situation has not changed much since the second World War. In 1944, the Rankine report made the following observations:

"With the exception of certain district hospitals, it may be stated that over-crowding in wards in general. As a rule insufficient floor space is available for the number of beds but, apart from this, two children not infrequently occupy one bed, while the placing of two beds in juxtaposition in order to accommodate three patients is not unknown."(7)

The ratio of hospital beds to the estimated population at the time of the report was 2.7 per 1000. It is now slightly lower (2:1000).

The Civil hospital in Port Louis has been under severe criticism from the press, the personnel and the patients. Leaking roofs, dirty toilets, wild cats, are part of life at the hospital. There have been reports in newspapers(8) of bad sanitary conditions at the Civil hospital, especially concerning the presence of rats and cockroaches and the inadequate supply of water. The Civil hospital was originally designed as a college and though Rankine made some valuable criticisms and suggestions, not many of these have been taken into account. Thus one can still find that some wards at the Civil hospital which houses acute cases haveno ramp, and elderly patients have very often to get out of wheelchairs and confront the steps.

Though in theory there are 3 regional hospitals and 4 district ones, in practice it means that the districts of Black River, Moka and Riviere du Rempart are without a general hospital. As can be seen from Table (40) both beds and personnel are concentrated in the three

regional hospitals. The four district hospitals do not provide the same range of services as do the Civil, Victoria and SSR hospitals, and they do not benefit fully from the services of specialists, as do the regional hospitals. Therefore many cases which could have received treatment at the district hospitals have to be referred to the Regional hospitals, and this means considerable hardship for those who have to travel long distances to attend them.

The development of hospitals has been piecemeal rather than planned. As some specialised services became necessary they were just added to the existing hospitals. There has never been a reorganisation in order to redistribute the health care to the population all over the island. The Civil and Victoria hospitals have had more beds, personnel and equipment allocated to them, and the services that they provide means that those who live in these urban areas are more fortunate because they do not have to travel far and they get the best care that these institutions can dispense. It can be argued that the SSR hospital was built to cater for the needs of a rural population but the fact remains that its services are concentrated in one place, and people have still to travel long distances in order to make use of them. Though certain experts had advised against the building of this 'prestige' hospital, the project went ahead and now it is the most expensive to maintain. With the same resources perhaps more than ten health centres could have been built and would have been fully operational. However, the government was more interested in providing centres of excellence than in meeting the health needs of the population in a comprehensive way. This is clearly borne out in the Annual report of the Ministry of Health.:

"Victoria, Civil and Sir Seewoosagar Ramgoolam National Hospitals are the three regional hospitals. Each caters for a well defined

catchment zone, and offers a multidisciplinary service under the direct attention and supervision of specialists. These hospitals are equipped and staffed to serve as centres of excellence for diagnosis and treatment."(9)

b) Dispensaries

There are 48 static and 5 mobile dispensaries all over the island as the map (page 181) shows. Most of them originated in the Colonial period. The main functions of these dispensaries are listed as:

i) Screening of patients applying for admission to hospitals to avoid unwarranted filling of scarce and expensive beds;

ii) Diagnosis and treatment of simple cases and provision of first aid;

iii) Follow-up of patients discharged from hospitals; and

iv) health education(10)

Like the hospitals, the dispensaries were designed to provide medical care and relief to paupers. They functioned also as 'soup-kitchens'. There have been many observations made about dispensaries. Balfour(11) in 1922, found that they were lacking in 3 main areas. Writing about the dispensaries of the time, he said:

"The system is inefficient because the cases are not followed up at their homes but also because proper facilities for diagnosis are lacking."

Secondly, he found that "the dispensaries do not serve as centres for the education of their clients into the more simple tenets of tropical

REGIONAL HOSPITAL
DISTRICT HOSPITAL
SPECIALISED HOSPITAL
DISPENSARY
HEALTH OFFICE
MATERNAL & CHILD HEALTH & FAMILY PLANNING CLINIC
FAMILY PLANNING CENTRE
DENTAL CLINIC

Cap Malheureux
Grand Gaube
Grand Bay
Mon Loisir
Goodlands
Poudre d'Or
Triolet
Plaines des Papayes
Pte aux Piments
Cottage
Mon Piton
S.S.R.N.
Riv. du Rempart
Pamplemousses
Belle Vue
Tombeau Bay
Amaury
Terre Rouge
Roche Bois
Ste. Croix
St. Francois
La Paix Street
Plaine Verte
Vallée des Pretre
Victoria square
Cité Vallijee
Long Mountain
Laventure
Centre de Flacq
Brisee Verdiere
Mare la Chaux
Civil
Lalmatie
Bramstan
Trou d'Eau Douce
Pte. Riviere
Reduit
Moka
St. Pierre
St. J. D'Hotman
Medine
Quartier Militaire
Camp de Masque pave
Bel Air
Beau Bassin
Mont Roches
Mare Jacquot
Rose Hill
Dagotiere
Bambous
Belle Rose
Q. Bornes
Camp Fouquereaux
st. Paul
Montagne Blanche
Sebastopol
Palma
Candos
Dubreuil
Midlands
Grand Sable
Phoenix
Vacoas
Curepipe
Bambous Viereux
La Caverne
Forest Side
Tamarin
Henrietta
St. Hubert
Vieux Grd. Port
Rose Belle
Mahebourg
La Rosa
Grand Bois
Plaisance Airport
Riv. du Poste
Plaine Magnien
Grande Case Noyale
L'Escalier
Camp Diable
Riv. des Anguilles
Chemin Grenier
Choisy
Bel Ombre
Surinam
Souillac

government health institutions

Cartographic Section,
Ministry of Housing, Lands and
Town and Country Planning

hygiene." "Occasionally" he wrote "one may see a placard referring to the danger of promiscuous expectoration in cases of pulmonary tuberculosis, but a great deal more might be, and should be done, given a sufficient medical staff, keen on their work and anxious to aid the sanitary department." He also would have liked to see a Resident Doctor attached to the dispensary who would "be provided with a motor bicycle so that he will be able to pay daily visits to the dispensaries, and to get about his district, following up the cases and treating the sick poor in their own houses. He will carry with him not only medicines, dressings and instruments, but a microscope and facilities for clinical microscopy." Shortage of doctors at the time (despite Balfour's advice about recruiting from India) is supposed to be what prevented the dispensary from providing a kind of 'home-visiting' which indeed would have lessened the pressure on hospital beds, and would have been economical. After more than half a century, with the availability of more trained personnel, including doctors, the role of the dispensaries has never been revised. They continue to provide basic curative services. If they do screen patients to lessen attendances at and admissions to hospitals, nevertheless sometimes with lack of basic equipment or facilities, and sometimes because of lack of foresight, the dispensaries do not even fulfil the curative role as efficiently as they could. For example simple procedures like the 'syringing' of the ear, or suturing in cases of simple laceration, have to be performed in hospitals. Besides, dispensaries in most cases (except in some urban areas) do not receive daily visits from doctors. It is inconceivable that so many of the doctors now employed by the Ministry of Health spend most of their time in hospitals. Visits to dispensaries vary according to areas, from thrice weekly to once weekly. And visits are confined to only a few hours on some such

occasions. Patients have to queue up early, and the doctor has to see about 100 patients in three hours and on Mondays sometimes between 120 and 150 patients during that short period (according to the doctors interviewed). As one of the latter puts it: "One cannot examine a patient as a doctor should during that period of time". Sometimes the waiting is so long that patients 'lose their patience' and have fights with other patients and mainly with the health officials. In some cases the authorities have responded to such disruptions by increasing the number of visits by doctors. The facilities for waiting leave a lot to be desired. Sometimes people have to wait for long hours in the sun and have no protection from the rain either. On one occasion one Youth Club had to write to the Permanent Secretary of the Ministry of Health to point out certain deficiencies of the Plaine Verte dispensary. The letter made the following observations:

1. The premises are too small to cater for the population of the region.

2. The work is not well organised, so that members of staff have to shout all the time.

3. The place has no adequate sanitary facilities e.g. no w.c.

and

4. Patients, especially old, weak ones, have to queue in the sun before they reach the doctor.

As for health education, there was no evidence of it being carried out during the observations made at several dispensaries. Apart from brief advice given during the course of a consultation there is no comprehensive programme of health education.

c) Estate Hospitals

Much has been said already about these. There are now (1979) seventeen estate hospitals with a total of 198 beds. They are still fully financed by the Sugar Estates. These hospitals have decreased in numbers, and because they are unpopular, the beds available are not fully used. We have elaborated on the reasons for the under-use of these facilities. One additional reason is the fact that the government hospitals provide better and more specialised care while estate hospitals provide little more than a place for treating the minor illnesses of monthly paid workers and looking after more serious cases for short periods until they can be moved to the government hospitals. In the mind of the patient there is also the possibility that the doctor at the estate hospital might collude with the Estate owner in playing down his illness. One must also remember that in the past "some employers... forced labourers who were not sick to be illegally detained in hospital",(12) thus using their hospitals as prisons. Useful proposals were made by Titmuss and Abel-Smith concerning these hospitals as far back as 1960, but as yet the estate hospitals continue to function as before.

d) Maternal and Child Health Services

This aspect of health care is important because of its role in the prevention of death and disease. It would be interesting at the outset to look at the historical development of the Maternal and Child Services in Mauritius in order that we may assess the developments in this field so far.

As early as 1803 the French administration passed laws to control the practice of midwifery in the island. These laws continued to be in operation under British rule, but as there were not enough trained

midwives, an Ordinance was passed in 1939 allowing untrained midwives (sage femmes) to practise. The laws restricting the practice of midwifery by qualified personnel only have remained a dead letter to this day, as people still make use of traditional midwives. In 1917 a provisional scheme for the training of midwives was set up at Civil hospital, and the Governor expressed the hope that women who were making their living as traditional midwives would realise that unless they secured the necessary instruction, they would before long, lose their business. "He underrated the power of passive resistance when it is supported by an influential body of public opinion, none the less powerful through not being voiced."(13)

It was the heavy infant mortality among the Indian community which drew the attention of the health authorities, and which led to an individual initiative, by Dr. de Chazal, to institute a fund to train midwives and to establish maternity and paediatric beds. Prior to this "The Medical Director suggested the introduction of three lady doctors. The Protector of Immigrants pointed out that Indian women strongly objected to being treated in childbirth by women not of their own race and recommended the introduction from India of midwives trained under Lady Dufferin's scheme. The Indian government were requested by letter to state if they would be prepared to select and send to Mauritius a number of Government "dais" or midwives. An answer was received to the effect that there were no 'Government' midwives in India."(14)

The initial training scheme failed because according to what the authorities called "the complete failure of the Indian community to avail itself of it." Another problem pointed out was the reticence of Indians to be trained as midwives.

Those midwives trained under the scheme worked also on the sugar estates where they were partly paid by the latter and partly by the 'Fund'. But when the Labour Ordinance of 1922 was passed, the sugar estates retaliated by withdrawing their support. The subsidy from the 'Fund' was also stopped in 1927.

The second phase in the development of maternal and child health started in 1922 when the work done in South Africa in this field was brought to the knowledge of those interested, in his 8th interim report by Dr. A. Balfour. A society called Child Welfare was formed again by individual initiative, but the enthusiasm soon died down. The idea of a Child Welfare Society lay dormant until 1925 when, as a result of a petition from a number of certified midwives stating that they were destitute through the "deceits of many women styling themselves midwives" and praying to be employed as salaried midwives of the government, Sir Herbert Read, the Governor, appointed, under the presidency of Lady Read, a committee "to enquire into and report upon existing arrangements in regard to child welfare and its associated branches, i.e. training of midwives, creches, etc and to make recommendations, financial and other, for placing on a sound and adequate footing a society to be designated "Maternity and Child Welfare".(15) Thus the Child Welfare Society owes its existence to the labours of this Committee.

At the same time, in 1927, funds were raised by public subscription, and a sum of Rs11,000 was collected with a view to forming what came to be known as "L'Oeuvre Pasteur de la Goutte de Lait" in honour of Louis Pasteur, the famous French scientist. The aims of this association which opened its door in April 1927 were:

a. the supply to infants of milk properly sterilised;

b. the conduct of an antenatal clinic; and

c. the conduct of a clinic for infants.

The Society operated in Port Louis only, and obtained grants from the Municipality of Port Louis, and as was the case with the "Maternal and Child Welfare Society" grants were also made available by the government.

While the Government Medical Service and the estate medical services owe their origin mainly to legislation, the development of the Child Welfare and Maternity services was due to private initative.(16) We have already seen how there was no provision in the law for medical care to the wives and children on the sugar estates. While the productive capacity of the man was the main concern of the employers and the State, women's labour was considered unproductive, unless she participated directly by working in the fields. Her role in 'servicing' the husband emotionally, physically and mentally was not recognised. If one takes into account that even the male labourers were replaceable, then there is little doubt that the woman was thought of as expendable. Up to this day she is treated as such to a certain extent. And even when apparently concern is shown for her health, the real concern is for the unborn child as was pointed out in the Lancet(17) when reviewing nutrition programmes in India.

"The nutritional problems of Indian women have been generally considered to be the nutritional problems of pregnant and lactating mothers. Nutritionists seem to view the female albeit unintentionally, only in the context of motherhood."

So it was that the health of women and infants in Mauritius was left in the hands of ladies of leisure, who with their patronising disposition, hoped to complement the work of their husbands as regards the health of male labourers and paupers by advising expectant mothers of the "less

prosperous classes" of the community during the period of their pregnancy, by providing some medical and nursing assistance before, during or after their confinement and by educating and helping them in the care of their babies up to five years of age. These are what they regarded as their tasks and no doubt some valuable contribution was made. Thus the government was absolved of its responsibility for the health of women and children. The only contribution was in the form of grants. However, the neglect of maternal and child health did not pass unnoticed. In 1923 "a Despatch was received from the Secretary of State for the Colonies enclosing an extract from the Colonial Advisory Medical and Sanitary Committee which stated that "apart from the de Chazal Fund for the training of midwives no attention has been given to questions of maternity and child welfare."(18) The Governor in reply pointed out that a sum of Rs5,000 had been provided in the Estimates for 1923-24 for the training of midwives to supplement the de Chazal Fund. It was a meagre and insignificant contribution to the most felt health needs of the population, even by the standards of the time.

Whatever the criticisms of the Maternity and Child Welfare Society are, its contribution should be commended. But however worthwhile the work was, it is nevertheless a fact that its activities were concentrated mainly in urban areas and in very few rural areas and reached only a small proportion of the population. A look at these figures(19) indicates the enormity of the task left to be done:

No. of confinements by the Society in 1951	2,480
No. of confinements by the Medical & Health Dept. in 1951	1,533
Live births in Mauritius in 1951 were	22,361

Even if we leave out of account the number of deliveries in 1951 which did not result in a live birth, we can have an idea from the above

figures of the number of deliveries by traditional midwives.

The Medical and Health Department gradually increased its grants and took a greater interest in the activities of the society. In addition, the midwives were 'government servants' seconded from the Health Department, and the Medical Stores supplied to the society drugs and equipment free of charge on the requisition of the clinic doctors. The cost of milk distributed to babies of poor families was refunded to the Society on the Public Assistance Account.

The third stage which marks a turning point in the history of Maternal and Child health care began when the Ministry of Health integrated these services into the mainstream health service. This is how this new development is described in the 1975-80 5 year plan:

"The Family Planning, Maternal and Child Health Division of the Ministry of Health was created in 1972 with the intention of integrating the services hitherto provided by the Mauritius Family Planning Association and the midwifery and paediatric services of the Ministry. The inclusion of Maternal and Child Health in this Division reflected Government's concern for the vulnerable group which constitutes two thirds of the population and reflected the desire to improve the quality of life as distinct from merely regulating births."(20)

The Sugar Industry Labour Welfare Fund which had built social welfare centres in different parts of the island, has made these centres available for one day each week to the Maternal and Child Health Services. The expansion of these services between the years 1973-1977 and 1979 is shown as follows.(21)

	1973	1974	1975	1976	1977	1979
Maternal and Child Health Clinics (static)	53	56	65	68	70	71
Maternal and Child Health Clinics (mobile)	1	1	1	1	1	1

Most of these clinics are visited once weekly by a doctor, while in some places the midwives attached to them continue their work during the rest of the week. Apart from the ante-natal and post-natal examinations at the clinic, a domiciliary service is carried out. In many cases the midwife delivers the baby in the home of the pregnant woman. In cases of complication and also for the first delivery, the case is referred to a district or regional hospital. The clinics also carry out BCG, small-pox, poliomyelitis and other vaccinations, and distribute powdered milk to pregnant women and children under 5 years, according to a scheme devised by the World Food Programme. There are occasional talks on health matters delivered to those who attend. Table (41) gives a summary of the activities of the Maternal and Child Health Services in 1979.

It is clear that these services are popular since according to government figures 65% of deliveries in 1979 took place in hospitals, 3% by government trained midwives, at home. We shall discuss the role of the traditional midwife later on. However, before leaving this section we need to point to certain deficiencies of these services.

Firstly, as revealed by the interviews carried out in conjunction with the questionnaire on infant mortality, the nearer the pregnant mothers are to the regional and district hospitals, the more and better care they received. In fact those who live near the regional hospitals benefit from the specialized services available at these institutions,

TABLE 41

ACTIVITIES OF THE MATERNAL & CHILD HEALTH SERVICES - 1979
(excluding activities carried out at l'Escalier health Centre)

ACTIVITY	NUMBER	
	STATIC CLINICS	MOBILE CLINICS WITH DOCTOR COVERAGE
DOMICILIARY CONFINEMENTS BY MIDWIVES		
Live births	1,375	-
Stillbirths	17	-
CASES REFERRED TO HOSPITAL		
By midwives		
During labour	378	-
After confinement	62	-
By doctors		
For confinement	4,252	2
For treatment	3,393	3
DOMICILIARY VISITS BY MIDWIVES		
Ante-natal	2,658	6
Post-natal	58,511	7
EXAMINATIONS CARRIED OUT AT CENTRE		
Ante-natal examinations by midwives		
First attendances	16,769	32
Subsequent attendances	66,047	45
Ante-natal examinations by doctors		
First attendances	16,578	34
Subsequent attendances	37,057	19
Post-natal examinations by doctors		
First attendances	4,917	1
Subsequent attendances	508	-
Examinations of children under 5 by doctors		
First attendances	14,177	59
Subsequent attendances	21,219	10
RATIONS OF MILK AND FOOD DISTRIBUTED		
Prepared milk	21,579	-
Skim milk	80,258	-
Corn soya milk	40,502	-
Flour	-	-
Rice	-	-

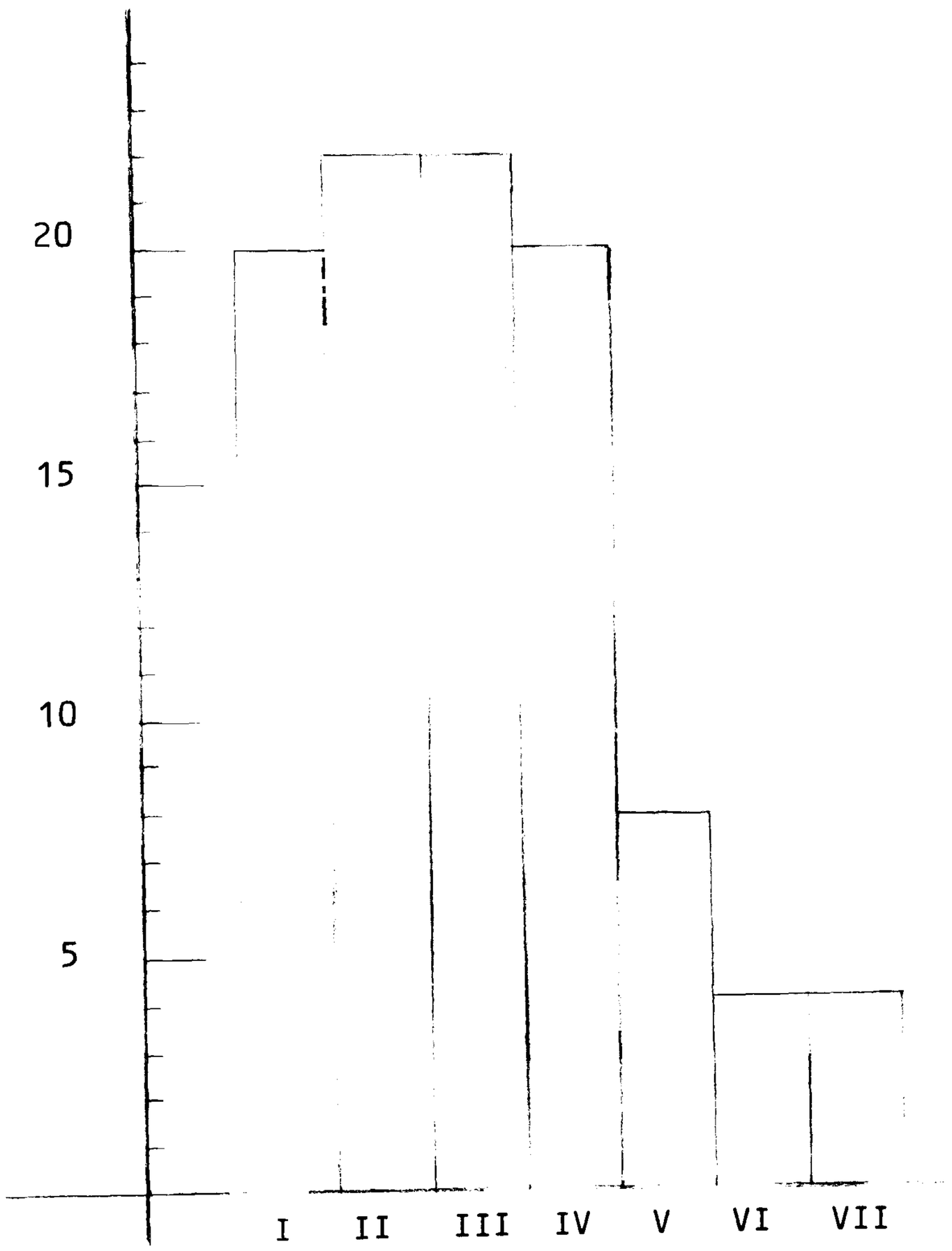
TABLE 41 (contd)

ACTIVITY	NUMBER	
	STATIC CLINICS	MOBILE CLINICS WITH DOCTOR COVERAGE
IMMUNIZATIONS PERFORMED		
BCG	21,025	-
Smallpox	21,220	-
DPT & Poliomyelitis		
1st dose	23,454	-
2nd dose	21,709	-
3rd dose	20,808	-
DT & Poliomyelitis		
1st dose	768	-
2nd dose	713	-
3rd dose	627	-
Boosters	16,103	-

FIGURE 6

AGE DISTRIBUTION

I	4 weeks	to	3 months	20
II	3 months	to	6 months	22
III	6 months	to	1 year	20
IV	1 year	to	2 years	8
V	2 years	to	3 years	4
VI	3 years	to	4 years	4
VII	4 years	to	5 years	4
			Total	100



while certain rural places received no post-natal visits at all. In most cases the post-natal visits are limited to two or three visits, which in practice means until the umbilical cord is healed. In cases where a baby is delivered by a 'Dai', no post-natal visit takes place, because either the authorities do not know about it or do not want to know, as the mother did not attend ante-natal clinics.

From the time the last post-natal visit takes place, which is normally about 4 weeks after birth, until the child enters primary school (usually at around 5 years old), the health authorities 'lose sight' of the child. It is possible that sometimes the distribution of milk at the centres acts as an incentive for the parents to take their child to be weighed at the centre, but, by and large, the services available tend to concentrate on ante-natal and post-natal care only. The lack of services for the monitoring of children between 4 weeks and 5 years is particularly felt if we consider the fact that a high proportion of infant and child deaths occur during that period. In 1979 out of 992 deaths that occurred between 0-4 years, 480 deaths took place between 4 weeks and 4 years.(22) Figure 6 shows the age distribution of those in the sample chosen for the questionnaire on infant/child mortality.

There is no community service which could help to locate and treat sick children, some of whom are clearly at risk. Some of the parents interviewed during the survey reveal complete lack of understanding of their children's health problems. In some cases both the parents and the children need help from health workers, but because no records are kept for families with recurrent infant deaths, nothing is done to cater for them. Among the 100 families in the sample, 20 of them have had an infant death already, and seven had more than one death, as shown in Table 42.

Table 42: Number of infant/child deaths in the (100) families

Other infant/child	Deaths
Families with 1 death	13
2 deaths	4
3 "	1
6 "	1
10 "	1
Total	20

When this 20% is translated into national figures, the extent of the problem can be revealed. If the government's objective of lowering further the infant/child mortality rate is to be realised, something will have to be done to identify and bring help to families who need support and whose children run the risk of knowing the same fate as an unfortunate brother or sister.

In 1981 the "Mauritius Junior Chamber of Economics" initiated a Pilot Scheme which involved the issue of a 'Carnet de Santé' (Health Notebook). These were to be distributed to parents at certain centres and would contain valuable information including past diseases, vaccinations, weight chart etc. This is a great step forward and should no doubt help in the prevention and treatment of children's diseases and would perhaps offer continuity of care which is badly lacking. UNICEF has agreed to finance most of the project which will also benefit from the support of the Ministry of Health.[23] The sad thing is that a project of this kind did not originate from the Ministry itself, whose staff is supposed to be the 'Think Tank' on health matters. It is also regrettable that the Ministry is content to offer mere 'support' and to leave such important matters to private initiative. It is not a bad thing when individuals or groups become concerned with certain problems

and take actions to remedy them, but like many private initiatives, the enthusiasm can soon subside. It is up to the Ministry to carry out this project themselves, and make sure that it goes beyond the pilot stage. There is also the possibility that because the cards are left in the care of parents, some will be lost. Therefore it would be useful if the information is also recorded in the health offices.

e) Health Centres

At the moment it is fashionable to talk of primary health care (PHC). The World Health Organisation has stated that if PHC policies, as developed at the Alma Ata Conference in 1978, are carried out, the objective "health for all" by the year 2000 will be reached. In the theoretical section, the obstacles to the realisation of such high hopes have been pointed out.

Though the PHC concept itself is relatively new, some of its main components like the 'health centre' and the use of auxiliaries were already developed. O. Gish has traced the occurrence of these ideas in the past.

"The Indian Bhore Committee report in 1946 set out the need for a primary health center in each "development block" (then around 60,000 people) with a group of related sub-centres. The concept was extended in East Africa and later widely publicised in Maurice King's well known book* to the more extensive use of a "medical assistant" in place of the graduate doctor."(24)

Even before Alma Ata resolutions were passed, the World Bank in 1975(25) issued a Health Sector Policy Statement and emphasised the importance of basic health services in contradistinction to large hospitals. But

* King, M. Medical care in developing countries, OUP, 1966.

it was largely due to the efforts of WHO and UNICEF that we owe the concept of a 'PHC' which takes into account other factors which together can contribute to a fuller development of the individual.

Mauritius presents us with an opportunity to assess what is being done in the field of 'PHC', and what the prospects of any achievement are. In the 4 year plan, 1971-75, the intention of the government was made clear as regards the building of health centres:

"Basic health services, Family Planning, Maternal and Child Care, institutional midwifery, immunisation, nutrition and health education, environmental health, as well as general curative services - will be provided at 50 health centres, each catering for a population of 15,000 to 20,000. Thirty of these centres will be built in the plan period."(26)

In 1975, at the end of the plan period not a single Health Centre had been built.

In the following 5 year plan, 1975-1980, fifteen Health Centres were to be built during this period, and the main function of these centres was explained thus:

"The concept of integration will be extended further by the setting up of Health Centres which will bring under one roof the services that have hitherto been scattered and will utilise efficiently the different groups of health workers."(27)

By 1979, only one Health Centre (at l'Escalier) was built and was operational. In 1981, two more (one at Brisée Verdière and the other at Black River) were opened. It is not clear why the government changed its mind and reduced the number of Health Centres to be built in the second plan.

The activities at L'Escalier Health Centre meet the expectations

TABLE 43

M.C.H. ACTIVITIES CARRIED OUT AT L'ESCALIER HEALTH CENTRE

(19th April - 31st December 1979)

ACTIVITY	NUMBER
CONFINEMENTS CARRIED OUT AT CENTRE	
Live Births	75
Stillbirths	2
CASES REFERRED TO HOSPITAL	
Primiparium	26
Grand multiparium	14
Rhesus negative	6
Passed expected delivery date	5
Pre-eclamptic toxaemia	3
Other obstetric reasons	9
Medical reasons	6
Reason not stated	3
ANTENATAL EXAMINATIONS AT CENTRE	
Sessions held	70
First attendances	218
Subsequent attendances	1,046
POSTNATAL CASES VISITED	
Cases delivered at the Centre	76
Cases delivered at hospitals	82
Cases delivered at home	18
Total number of visits made	1,204
WELL BABY CLINIC	
Sessions held	27
First attendances	158
Subsequent attendances	131
IMMUNIZATIONS PERFORMED	
BCG	175
Smallpox	146
DPT & Poliomyelitis	
1st dose	223
2nd dose	180
3rd dose	162
DPT & Poliomyelitis (boosters)	138

[Source: Ministry of Health, Port Louis]

TABLE 44

DISPENSARY ACTIVITIES CARRIED OUT AT L'ESCALIER HEALTH CENTRE (19th April to 31st December 1979)

GREATEST NUMBER OF ATTENDANCES BY CAUSE

CAUSE	ATTENDANCES Number	% of total
1. Avitaminoses and other nutritional deficiency	4,432	12.6
2. Scabies	1,551	4.4
3. Diabetes mellitus	1,508	4.3
4. Hypertensive disease	1,061	3.0
5. Otitis media and mastoiditis	897	2.5
6. Asthma	813	2.3
7. Non-articular rheumatism & rheumatism unspecified	802	2.3
8. Complications of pregnancy, childbirth and the Puerperium	463	1.3
9. Enteritis and other diarrhoeal diseases	433	1.2
All other causes	23,315	66.1
TOTAL ALL CAUSES	35,275	100.0

ATTENDANCE BY I.C.D. SECTION

SECTION (I.C.D. 1965 Revision)			
1	Infective and parasitic diseases	2,274	6.4
2	Neoplasms	-	-
3	Endocrine, nutritional and metabolic diseases	5,940	16.8
4	Diseases of the blood and blood-forming organs	327	0.9
5	Mental disorders	-	-
6	Diseases of the nervous system and sense organs	1,288	3.7
7	Diseases of the circulatory system	1,077	3.1
8	Diseases of the respiratory system	7,024	19.9
9	Diseases of the digestive system	157	0.4
10	Diseases of the genito-urinary system	189	0.5
11	Complications of pregnancy, childbirth and the puerperium	463	1.3
12	Diseases of the skin and subcutaneous tissue	728	2.1
13	Diseases of the musculoskeletal system and connective tissue	802	2.3
14	Congenital anomalies	-	-
15	Certain causes of perinatal morbidity and mortality	-	-
16	Symptoms and ill-defined conditions	8,640	24.5
17	Accidents, poisonings and violence	6,366	18.0
	TOTAL ALL SECTIONS	35,275	100.0

TABLE 45

ACTIVITIES OF THE HEALTH INSPECTOR ATTACHED TO L'ESCALIER HEALTH CENTRE
(19th April to 31st December 1979)

A C T I V I T Y	NUMBER
INSPECTION OF PRIVATE PREMISES	
Premises inspected	1,668
on which:	
WC's and pit latrines inspected	1,568
Absorption pits inspected	2,363
Pigsties inspected	17
Cow sheds "	106
Goat pens "	108
INSPECTION OF CENTRAL AND LOCAL GOVERNMENT PREMISES	
Public conveniences	121
Social Welfare Centres	3
Hospitals and dispensaries	124
Scavenging and dumping grounds	29
Cremation grounds	11
INSPECTION OF OTHER PREMISES	
Sugar factories and SE camps	6
Cinema halls	29
Offensive trades (stone crushing plant, sawmills etc)	6
SCABIES CLINICS	
Sessions held	25
Patients seen	172
CONTROL OF IMPORTATION OF COMMUNICABLE DISEASES	
Incoming passengers referred	9
Incoming passengers traced	8
Visits to incoming passengers	14
INSPECTION OF SCHOOLS	
Infant schools inspected	8
Visits to infant schools	15
Primary schools inspected	3
Visits to primary schools	15
Secondary schools inspected	1
Visits to secondary schools	5
MISCELLANEOUS	
Notices served	287
Contraventions established	6
Cremations registered	4
Inspections of other nuisances (mainly complaints on bad state of houses by tenants	12

of the health authorities as far as the services offered are concerned. Tables (43,44 & 45) provide a summary of the work performed at the centre for the year 1979. The services of a doctor are available on Mondays to Fridays between 9am and 4pm, and for half a day on Saturdays. Confinements can either take place at the centre which has 6 beds, or at the home of the patient. There is maternity cover for 24 hours.

There have been many criticisms[28] of the health centres to which we shall make only passing reference. L'Express pointed out that numerous cases have to be referred to Victoria Hospital and Mahebourg hospital because of the lack of equipment. The paper noted the fact thatno medical care is available after 4pm. The Public Accounts Committee Report made the following remarks about l'Escalier Health Centre:

"It is felt that the building is too large and that the quarters attached to the Centre are not really necessary. It is also thought that the domiciliary midwifery service will have to be cancelled due to lack of demand for the service. Satisfactory use is being made of the day services being provided but there is practically no demand for night services."[29]

To be fair there are likely to be teething problems for projects such as these. According to F.M. Mburu[30] there is often a temporal gap between "policy objectives" and "policy activity". However, it is at a conceptual level that the greatest charge can be brought against Primary Health Care in Mauritius. So far the policies as reflected in the activities of l'Escalier Health Centre have been to group the various services under one roof. And this seems to be the main objective as evidenced by the two plans referred to above. These services (Family Planning, Maternal and Child Health Care and dispensaries) were already available to the population within a range of 20 miles or less. The only addition is the services of a health inspector. One can only say that

'PHC' as understood by the Ministry differs from WHO's conception of the term. If we refer to the Alma Ata declaration, we find that

"PHC is a practical approach to making essential health care universally accessible to individuals and families in the community in an acceptable and affordable way and with their full participation. But it means much more than the mere extension of basic health services. It has social and developmental dimensions and if properly applied will influence the way in which the rest of the health system functions."(31)

All the important components that are the integral part of PHC are missing. First, there is no co-ordination with sectors other than health. Apart from the intention of disseminating information about health and nutrition, there is no plan at the local level to co-ordinate activities of other sectors involved with development. The Alma Ata declaration made clear the value of a multi-sectoral approach:

"Health cannot be attained by the health sector alone. In developing countries in particular, economic development, anti-poverty measures, food production, water, sanitation, housing, environmental protection and education all contribute to health and have the same goal of human development. Primary Health Care, as an integral part of the health system and of overall social and economic development will of necessity rest on proper co-ordination at all levels between the health and all other sections concerned."(32)

The 'new' contribution that l'Escalier Health Centre offers is the services of a health inspector whose job it is to report on infringements of the law, and to seek to enforce the latter. Secondly, and perhaps, more important, is the complete absence of community participation. Policies are still decided by the planners of the Ministry of Health and the local community are at the receiving end of these services. Thus, besides not participating in decision making about their

own health needs, they are not given any responsibility. The use of 'village health workers' as proposed in the PHC approach cannot be envisaged in the circumstances. The benefits of community participation are clearly ignored. The 'WHO', though, has no doubt of the role of the community in their own development.

"Its (the PHC approach's) shape is determined by social goals, such as the improvement of the quality of life and maximum health benefits to the greatest number; and these goals are attained by social means, such as the acceptance of greater responsibility for health by communities and individuals and their active participation in attaining it."(33)

As for decentralisation of the decision making process, there is nothing to indicate that each district will be encouraged to formulate and carry out policies on their own with overall guidance at the national level. As mentioned before all planning and financing of decisions are taken at the seat of the Ministry of Health in Port Louis. Just as the local community is denied any role in deciding on and carrying out activities concerning their own health, so services are not accountable to them. This cannot help to build the mutual trust and confidence that people need to have for those who are supposed to serve them. Of overriding importance in the Primary Health Care approach "is the principle that public services should be accountable to the communities they serve, in particular for resources that the latter have invested."(34)

We have seen so far how the vital components of the PHC approach are missing in the health plans and policies of the Ministry. There is therefore a serious question mark hanging over the intention of the Ministry to carry out PHC policies along 'WHO's' line. First,

the considerable delay in implementing the four-year and five-year plans as regards the building of Health Centres despite the availability of World Bank funds, point to a lack of intent on the part of policy makers. But what is most revealing is the fact that no consideration has been given to reorganisation of the present health system with a view to giving health centres and with them the PHC approach the prominence that they deserve. Instead one can assume that because World Bank's funds were available, and that 'WHO' favoured PHC, health planners decided to build health centres without seriously considering giving them the important role and function that is necessary if the health needs of the people are to be met. Lack of planning is also reflected in the fact that no prior assessment of the health needs of the local population was made. This 'amateurish' approach to planning is criticised in the Public Accounts Committee report. Referring to the l'Escalier Health Centre project, it wrote:

"Your committee is concerned that the Ministry went ahead with this project without carrying out a preliminary survey to determine the exact needs in terms of medical services of the people of the region concerned."(35)

The Health Centres already built are in areas where there was little or no medical cover. In a way one can say that these centres came to fill a gap in the distribution of basic medical services. If that was the intention of the health planners they could not have done better. But this is a far cry from WHO's belief that if the PHC approach is properly adopted it should "influence the way in which the rest of the health system functions." Instead it seems that WHO's fears that "there may be misguided support for primary health care based on the wrong assumption that it implies the cheapest form of medical care for the poor, with the bare minimum of financial and technical support"(36),

are not without foundation.

If primary health care is to assume an important role in preventing and curing diseases there should be a reallocation of resources away from the hospital-based health services. It is admittedly not an easy task to carry out and it can only be done slowly and in stages. However on close examination of the distribution of funds voted to fulfil the programmes set out in the 71-75 4 year plan, we find that the capital cost of establishing the 30 health centres and quarters for the staff was Rs 9.1 million. In the same plan it was proposed to spend Rs 10.1 million over the next four years on the upgrading of hospitals throughout the island, through a programme of conversions, extensions and the provision of additional facilities wherever these are needed.(37) These figures hardly indicate a major redirection of funds towards PHC.

We can conclude this section by saying that the building of Health Centres do not in themselves mean that the PHC approach as proposed at the Alma Ata Conference is being adopted and followed. Instead we have found that no clear policies to develop the PHC approach have been drawn up and even if they were it would take more than token gestures for them to bring meaningful results. As Mburu rightly puts it

"It would be too much to expect that PHC will revolutionize the health of the majority of the people in the poor areas without a conceptual revolution among the policy makers in health and other areas."(38)

2. Preventive Services

While the quarantine and sanitary measures of the colonial period

were designed to control or eradicate the major epidemic diseases such as plague, small pox, cholera, malaria etc, it was undoubtedly the eradication of malaria in the fifties which stands as the remarkable achievement in the field of prevention. In fact, the malaria eradication scheme was so successful that it must have surprised the leaders of the time "who were convinced that Malaria can be controlled but never conquered." The first lesson to be learnt is that such programmes are both viable and indispensable. De Chazal's words in 1943 must have sounded utopian when he wrote,

"The eradication of malaria from a small densely populated island, like Mauritius, is not wishful thinking, or the dream of an idealist. It is both practicable and an economical proposition."(39)

But perhaps the greatest lesson to be learnt is that such proposals can only be successful if a multi-sectoral approach is taken together with community participation. It is interesting to note that the Malaria Advisory Board formed to tackle this particular problem consisted of the:

1. Director of the Medical and Health Department
2. Director of Public Works Department
3. Director of Agriculture
4. The Conservator of Forests
5. The Director of Education
6. The Labour Commissioner
7. The President of the Mauritius Chamber of Agriculture.

As for community participation we can perhaps recall de Chazal's words when he wrote that "no scheme for the improvement of health and the promotion of social welfare, no malaria or ankylostomiasis campaign, can possibly succeed without the co-operation of the people. It is the business of the State and of the leaders of the people to obtain this co-operation not by legal enactments and fines, but by Health Education

introduced where it is most likely to bear fruit namely the Home and the School."(40)

With the disappearance of these major diseases, the 'public health' concept was enlarged to include such aspects as health education, school medical care and nutrition services. But as will be argued in this section, some of these services are not as developed as they could be, if full commitment were given to a 'preventive' as against 'curative' approach. We shall examine the main components of public health services as organised and distributed in Mauritius.

The Preventive Division is concerned, according to reports of the Ministry of Health, with services such as Environmental Sanitation, Communicable Diseases, Quality Control of Food Commodities (at the Ports of entry and in the distributive trade, eating establishments and food handlers), the School Medical Services, International vaccination, Factory premises, among others. To these could be added Health Education and nutrition services. "At present new legislation regarding occupational health is being prepared but the main problem with the newly created unit is still a lack of staff in the enforcement branch."(41)

Most of the staff employed in Public Health are concerned with sanitation. As the Annual Report of 1973-77 puts it "The Health Inspectorate is the mainstay of the Preventive Division." This section is responsible for enforcing the Public Health Acts regarding sanitation. In 1980 it was staffed by just over one hundred inspectors of one type or another.

About 110 field workers are employed to go from door to door and collect blood and sputum samples from the population. However owing to the large area covered by each of them, and the amateurish organisation

of these services, little use is made of them. The field workers pay irregular visits and often do not report back to the users if there is no disease. This practice does not help to build the necessary confidence that people need to have in the providers of such services. If the latter were better organised and with more staff they would have fulfilled an important screening function. The lack of a community service at the local level means that the extent of morbidity cannot be fully gauged. These Field Officers are also among the lowest paid workers of the Ministry. Their services could be more efficiently used if they were integrated into a community service.

The resources allocated to preventive health are totally inadequate. This is indeed very serious when one considers that 25% of attendance at dispensaries and 35% of morbidity seen at primary school children check ups are due to eminently preventable diseases, such as worms, scabies, anaemia and deficiencies. Added to these are other diseases that are aggravated by malnutrition, bad hygiene and lack of health education.(42)

As is the case for developed and developing countries there is a lack of specially trained medical staff in all sections of the preventive services. This is explained partly by the fact that there is no lucrative private practice connected with the specialities involved. This is supported by the observation made in the 1973-77 Annual Report of the Ministry of Health that "there has not been any change in the number of doctors working in the Preventive Division between 1973-1977."(43) The Ministry's impotence when faced with the power of the Medical Profession or because of its reluctance to fulfill its commitment to Public Health can be illustrated by the fact that though the number of doctors increased from 167 in 1973 to 309 in 1977,

the additional 145 doctors were used in other sectors than in public health. The following figures[44] show the increase in the number of doctors over the last few years:

	1973	1974	1975	1976	1977	1981
No. of doctors	163	181	212	284	308	384

a) School Medical Services

These were introduced in 1952. Up to the latter part of 1977, The School Medical Division was centralised and was covering the schools of the whole island, according to the reports of the Ministry of Health. "The routine activities include vaccination of set groups, screening of new entrants, follow-up scabies surveys, cleanliness surveys, vision tests, examination of new entrants to the Teachers Training College".[45]

The importance of screening school children cannot be underestimated especially if we take into account that between the ages of four weeks and five years, the child is outside the control of health authorities. The value of such care is further demonstrated by the extent of diseases detected each year among school children especially the new entrants.

In 1979, 68% of the school children screened had a health problem of one kind or other (see table 46). However, these services have known little expansion since their inception. Lack of staff means that visits have to be confined to one or two annually. Only 36% of the school population was screened in 1979 (Table 46). The Medical staff at the Division has not varied between 1973-77 being of one Senior Schools Medical Officer and two other medical officers.[45] These three medical officers provide their services to 236 primary

TABLE 46

ACTIVITIES OF THE SCHOOL HEALTH SERVICE - 1979

EXAMINATION OF PRIMARY SCHOOL CHILDREN

ACTIVITY	NEW	INTER MEDIATE (STANDARD III)	OTHERS	TOTAL
No. of schools visited	243	243	243	243
School population	16,615	17,881	83,638	118,134
No. of school children screened	14,159	4,798	23,926	42,883
RESULT OF EXAMINATION AND SURVEY				
Scabies	693	577	1,983	3,253
Poor condition	2,343	1,370	5,027	8,740
Skin diseases	351	143	539	1,033
Anaemia (mostly mild)	1,782	957	4,327	7,066
Abdominal pain	2,512	1,012	4,256	7,780
Otorrhoea	16	5	18	39
Other ear diseases	38	7	45	90
Nose and throat diseases	98	17	128	243
Diseases of cardiovascular system	34	8	9	51
Diseases of respiratory system	156	33	132	321
Defective vision	15	261	62	338
Other eye defects	48	25	286	359
Educationally subnormal	6	2	3	11
No. of school children referred to dentists	868	435	1,527	2,830
No. of school children referred to specialists	72	214	127	413
IMMUNIZATIONS				
Smallpox	676	-	16,594	17,270
Poliomyelitis (boosters)	14,487	-	-	14,487
Diptheria - Tetanus	14,487	-	-	14,487
Tetanus	16,674	-	-	16,674

schools with a school population of 136,019 in 1977. Table 46 gives an indication of the work performed.

There is no proper School Medical Service in the secondary schools. Only state schools seem entitled to visits from the School Service of the Ministry of Health and according to a government report, there was evidence that even this service was performed in a rather cursory manner.(46)

b) Health Education

We shall look in detail at this aspect of preventive health because of its great importance for the health of the population. The value of Health Education has for a long time been praised. In the 1920's Balfour wrote at length on the subject. He offered useful and pratical advice which was thoroughly ignored. Whatever the reasons, health education was still absent in 1944 when Dr. Rankine wrote his report and found that "there was no definite machinery for imparting health education." It was in the 1950's that gradually health education came into existence as a section of the Department of Health. One should differentiate here between advice given on health by health workers during the course of their interactions with patients,and a comprehensive system of health education, whereby conscious and organised attempts are made to impart health and other information to people to help them to prevent diseases, promote health, and even treat certain minor cases of diseases or injuries. It is with health education organised as a body within the Ministry of Health that this section will deal mainly.

In 1952 the Annual Report of the Medical and Health Department credited Health Education for part of the success of the malaria eradication

scheme mentioned above. It wrote:

"... it was conclusively proved that Malaria - the one disease which the Mauritians thought would never be brought under control - could be eliminated from the island, with the result that the instrument of health education, the gradual introduction of which into the local background is perhaps the most significant development of recent years, is fast becoming an accepted aid of the Colony's daily life."(47)

Perhaps these words were written too soon. In 1981 we can find that not much progress has been made in this field. The Minister of Health in a statement to the press voiced his dissatisfaction with the Health Education programme which did not achieve the desired objective. He would have liked to see Health Education carried out at the level of villages.(48)

We need to look at the organisation of Health Education within the Ministry of Health in order to understand why the desired health objectives are not achieved. The Health Education Section is based in Port Louis, and is staffed by two Health Education Officers. This number has not been increased since 1973.

Different methods are used to impart information on 'health'. Thrice weekly programmes of 30 minutes each are shown on TV. There has been much improvement in the quality and content of these programmes in which local languages are used in order that they may reach as many people as possible. The draft report of the MMM's Health Commission in 1980 has guarded praise for the efforts made by the organisers of such programmes:

"We recognise that the Government has had very many, very accurate and even interesting and accessible radio and television programmes on health education. But, we also maintain that the success

of these programmes in clarifying people's ideas about health has been limited. We go even further, we claim that many trained health cadres - nurses and even doctors - do not themselves have clear ideas about health and illnesses."(49)

We shall come back to this criticism of the impact of such programmes later on.

Health Education is also carried out by radio and by posters. Occasional talks on health matters are delivered at social centres throughout the island. The Cine-Mobile Unit of the Ministry of Information brings its valuable contribution to the dissemination of useful health information.

The Health Education programme on TV represents by far the most important part of the effort of the Ministry of Health. There is little criticism that can be brought against the way these programmes are carried out. It would perhaps, be more desirable, if fewer imported films were used as these are either in English or French. As mentioned above, the local made ones deserve the praise accorded to them. However, Family Planning programmes share these thrice weekly slots and thus reduce the time allotted to Health Education proper.

Showing Health Education programmes on TV does not mean that people are watching them or that indeed these programmes reach them. Televisions are still among the most expensive imported products of the Third World, and Mauritius is not exempt from the dependency on such commodities. Relying mainly on this form of communicating health information, as the Ministry does, has several pitfalls, as we shall see. First , the poor cannot afford to buy a TV set, but as it represents an important form of entertainment for them, they do make

an effort to acquire one. No reliable figures could be obtained on how many households in Mauritius own a TV set. In the circumstances, it is understandable that there is no further information such as the distribution of sets among the different income groups. The Ministry of Health carried out a survey[50] on the impact of the timing of Television Health Education/Family Planning programmes in Mauritius in 1980. Despite its interesting and valuable findings, it is unfortunate that the organisers missed an excellent opportunity to gather information about the number of people interviewed who had a TV set. Our questionnaire shows that:

38 families had a TV set

60 " " no " "

2 " shared a TV set with other families.

It must, however, be pointed out that the majority of the families in the sample belong to the lower income group. Yet despite the fact that people may, for different reasons, deny possession of a TV set, it is revealing that a high proportion of families in the low income group have no TV and are therefore, not exposed to Health Education programmes at home. It can be argued that they can still watch these programmes on a neighbour's set or at the Social Centres. However, there is little evidence to show that people are so concerned with health that they will 'inconvenience'their neighbours or make the 'displacement' to Social Centres, in order to watch such programmes. It is more likely that they will save their time and effort to watch the popular movie instead.

The possession of a TV set does not necessarily mean that people will watch health programmes, or even do so regularly. The Ministry of Health survey brings an important contribution to a better under-

standing of people's viewing habits. For example, to the question "Do you watch Health Education/FP programmes?", 56.4% answered "No" at the time of the interview. Among the 43.6% who said they watched the programme, their frequency of watching is shown in the table below.(51)

TABLE 47

PROPORTION OF RESPONDENTS WHO WATCH HEALTH EDUCATION/FAMILY PLANNING PROGRAMMES BY THEIR FREQUENCY OF WATCH BY AGE GROUP

Frequency of Watching	% who watch TV progs. by age group				% of total respondents	No. of total respondents
	12-19	20-24	25-34	35 & above		
Every week	15.8	22.5	8.0	15.8	14.8	49
Occasionally	47.4	47.5	60.2	58.5	54.1	181
Rarely	36.8	30.0	31.8	25.6	31.1	102
Total No. of Respondents	57	80	113	82		332

Only 14.8% of the respondents were regular viewers. The survey's main findings were as follows:(52)

1. Most of the respondents stated watching television after 6.30pm i.e. <u>after</u> the screening of the Health Education/Family Planning programmes.

2. 74.4% of the respondents believed that the timing of the programmes is not appropriate.

3. Amongst those who watch the programmes only 14.8% are regular viewers.

4. 85% preferred the programme to be screened after 7.30pm.

5. The majority of the respondents who watch the programmes alleged that there was no inhibition to do so in the presence of other members of the family.

Such efforts to gauge people's response and attitude to useful programmes by health workers are commendable. They enable health planners to have more insight into the problems facing them, while at the same time they can have an idea of the extent of success or failure of particular programmes and projects. What is regrettable is the fact that despite the resources spent on such a survey, the findings were not acted upon. Though 85% of those interviewed preferred the programme to be screened after 7.30pm, there has been no change in the timing of such programmes. There may be many reasons why nothing has been done. One can assume, for example, that either the time preferred by the respondents is normally occupied by programmes which are likely to attract commercial advertisements or that 'Panorama' which is daily scheduled at 7.30pm represents a crucial time for 'political' broadcasting. Whatever the reasons, the results of the survey remain firmly stuck in one of the drawers at the Ministry of Health.

As for the other media through which Health Education is carried out, there is little need to dwell on the severe limitation of the impact of radio programmes and posters can have on people's health.

Perhaps the most important institution which can carry out Health Education efficiently is the school, and as observed in the Lancet "although schools are an obvious target for health promotion, their potential is often neglected in developing countries."(53) Mauritius is a case in point. If one excludes certain messages that lessons in other subjects carry over, and the occasional advice by nurses and doctors who visit school children once or twice annually, there is very

little formal health education in schools. Therefore the important contribution that teachers can bring to health is never realised.

In the 1954 Annual Report of the Medical and Health Department we find that the monthly magazine "Better Health" was sent regularly to every school in Mauritius. About the end of the year, complimentary copies of "Family Doctor", the monthly journal published by the BMA were received and one was sent to every school through the Area Superintendent. Head teachers were encouraged to subscribe privately to this magazine as it contained useful and 'expert' opinion on health matters. One wonders how relevant these journals were for the local health problems of these school children.

To get an idea of how much Health Education is taught at present in primary schools and the teachers' attitude to 'health' as a subject, a questionnaire was carried out. We shall now discuss the results of the survey and draw some conclusions as regards Health Education in the primary schools in Mauritius. A copy of the questionnaire is in the Appendix.

One hundred questionnaires were administered to primary school teachers in 5 different schools in the island, 3 in rural areas and 2 in urban ones. The results obtained matched the observations made during visits to primary schools and from interviews with teachers. To the question of "How many hours a week do you devote to 'Health Education' on its own?", the following answers were obtained:

No. of Teachers	Hours spent on Health Education in one week
16	None
18	15 minutes
33	30 "
7	45 "
20	1 hour
2	$1\frac{1}{4}$ hours
2	$1\frac{1}{2}$ "
Total 98 *	* 2 teachers did not answer this question

It is interesting to note that 67 out of 100 teachers taught 'Health Education' for 30 minutes or less or not at all, during the period of 1 week. This is not surprising as 'Health' is taught to children only when the teacher has time to spare. And with the number of official subjects that are taught, there is very little time left. But what is more important is the fact that the teacher's ability and efficiency is judged amongst other things by the kind of results he or she obtains based on the performance of his pupils in the examinations in academic subjects such as English, French, Arithmetics and Geography. Therefore, it is not a surprise that though 'Health' as a subject will in fact benefit the pupil to a great extent in his or her life, it is taught on the fringe of other subjects. It is possible that while teaching those subjects, some health messages are conveyed, but by and large, one must admit that this form of teaching 'Health Education' and the amount of time devoted to Health Education over a period of 1 week is totally inadequate if the 'school' is to bring a worthwhile contribution to 'health'.

When asked how many hours per week they think 'Health Education' should be taught, the replies showed the following:

No. of Teachers	Time to be spent on Health Education per week
5	30 minutes
6	45 "
35	1 hour
25	$1\frac{1}{2}$ hours
10	2 hours
11	$2\frac{1}{2}$ hours
2	3 hours
2	5 hours
1	between 5-7 hours

Total 97*

* 1 don't know

2 did not answer the question

This shows that about 86 out of 100 believe that Health Education should be taught for an hour or more. It gives an indication that teachers value the subject more than the amount of time spent on teaching it at present seems to suggest. This is supported by the answers they gave to the question of "What importance should Health Education be given with regards to other subjects such as English, French and Maths?"

	No. of teachers
Equal importance	66
Less importance	14
More importance	20
Total	100

Therefore, while 86% believed that 'Health Education' should be given the same or more importance than these other subjects, they still treat it with less importance. There seems to be an inconsistency between their beliefs and their actions. Part of the answer to this problem has been given above. It is difficult to understand why the teachers as a body cannot press for more time and importance to be granted to Health Education. Perhaps it is because teachers are supposed to concern themselves with 'education', and in Mauritius this invariably means the obtaining of knowledge in English, French, Arithmetic and Geography (in primary schools). So until there is a change in attitude to the content of the education that should be imparted to the pupils, teachers will be trapped in a system whereby they are unlikely to teach things that they know should have equal, if not more, importance than the subjects taught at present, and which they know are going to benefit the pupils in their lives later on.

As regards their own training in Health Education, it is clear that most teachers do not rate it highly.

	No. of teachers
Well trained	8
Not well trained	71
Fairly well trained	21

Interviews with teachers reveal in most cases inadequate health knowledge, so that in certain cases it could even be dangerous for them to carry out 'Health Education'. It is no fault of their own if this is the case as their training includes only token lectures on the subject. Doctors deliver a few lectures every year to teachers in training, and the latter spend the rest of the time on other subjects. In the schools visited no curriculum on 'Health Education' was available, and the teaching of the subject was not included in the time-table. There is no need to stress the desirability or even the danger of teaching a subject that one hardly knows anything about. Balfour, a long time ago, drew our attention to this problem when he wrote that

"No one should be asked to teach the latter (hygiene) who does not appreciate its true meaning, and who has not been trained to use his or her powers of observation in the daily things of life."(54)

and again

"It is no use having teachers of hygiene who know next to nothing about it. They are merely blind leaders of the blind."(55)

Though these words of Balfour are old (he referred to 'hygiene' instead of Health Education), they still retain their relevance to the contemporary situation.

Asked whether they think that there should be a special teacher trained in Health Education to teach the subject (just as there are oriental language teachers), they gave the following replies:

	No. of teachers
Yes	69
No	25
Don't know	6
Total	100

Oriental language teachers are employed to teach specific languages such as Hindi, Urdu, Tamil etc and in each school there is one or more of these teachers, and they are employed to teach these special subjects only. It seems that 70% of the teachers questioned prefer to have Health Education taught by a special teacher, and this perhaps reflects their belief that they are inadequately trained to do so and would prefer special teachers in whom probably the 'health knowledge' would be invested and to whom everybody could turn to for help on health matters. The employment of teachers specially trained in 'Health Education' is neither viable nor practical. Firstly, it will add additional pressure on already strained reources. Secondly, learning the subject from a special teacher would give the pupils the impression that the subject is not important and thus Health Education as a subject will still remain on the fringe of teaching in primary schools. What is needed is the inclusion of 'Health Education' in the training syllabus of teachers.

When asked if their schools possess any basic audio-visual equipment to teach 'Health Education', 7 answered 'Yes', 91 'No' and 2 did not know. This again is hardly surprising due to the lack of

seriousness with which the subject is regarded. There can be no doubt that the use of basic audio-visual equipment together with the use of examples drawn from local situations would make it an interesting subject. As before, the advice of Balfour has been quietly ignored.

"No child should be forced to learn the subject unless the teacher is supplied with pictures and diagrams, many of which can be made exceedingly attractive, and is prepared to supplement the mere book work by lessons in the field, and by the display of specimen, as for example, mosquito larvae and pupae, various species of noxious insects, samples of foodstuffs, small cheap models of sanitary contrivances and so forth."(56)

Finally 56% of the teachers believe that their pupils should be assessed on health matters taught to them as against 34% who do not think it necessary to do so.

In general the questionnaire shows that Health Education is taught only when the teacher has enough spare time; that teachers believe it should get more importance than it has at present, and that they are not adequately trained to teach the subject. It is also interesting to note a discrepancy between two different answers to one question put in two different forms. As shown above when the teachers were asked whether 'Health Education' should be given equal, more or less importance than the other subjects, they overwhelmingly (86%) believed that it should have equal or more importance. However, when this question was asked in a different form i.e. "How many hours a week do you think Health Education should be taught in primary schools?", only 3 teachers backed up their answers to the previous question by stating that it should be taught for 5 hours or more, which is the time actually devoted to English, French, Arithmetic and Geography. This discrepancy tends to back up the point made in the chapter on 'methods and concepts' as

regards the reliability of questionnaires. Perhaps if question (2) was asked immediately after question (4) [see Appendix], the answers might have been different. Nevertheless, though the number of hours proposed by the teachers are still less than the actual time spent on the other subjects at present, in general teachers advocated more than double the time spent on Health Education at the moment. Therefore, as argued in the previous chapter, answers to the questionnaire should be analysed in conjunction with the observations made and the interviews carried out.

If the picture that one has of Health Education in schools is a bleak one, there is scope in this area for a comprehensive plan to be drawn up and carried out. As mentioned before, the schools and its teachers are under-used as far as their role in 'health' is concerned. But perhaps the one most important reason why 'Health Education' should be seriously taught in the schools is because this institution has the enviable benefit of being a principal agency of socialisation, and it can affect the lives of thousands of school children who pass through its doors each year. Besides the fact that children of school age have a better capacity to learn, and that what they learn at that stage influences their future behaviour, a golden opportunity to make the most of their attendances at school is missed. Later on, when they become adults, health workers find that they are reluctant to come to talks given at Social Centres or that people do not take an interest in health programmes on TV or Radio. Therefore, while children have to attend schools and follow lessons under the guidance and supervision of their teachers, the opportunity to educate them on health matters should not be allowed to pass by just because of lack of comprehensive planning in or commitment to public health.

Balfour has already pleaded for Health Education to be made more interesting in schools by the use of teaching aids and specially

examples from local instances with which children are more familiar. But if it is made more useful, greater interest will be drawn to it and maximum benefit derived from it. Thus if 'Health Education' achieves the same status as the other subjects, a special curriculum has to be drawn up, which should cover the essential aspects of health that the children should be taught at different stages of development. However, one should refrain from equating 'Hygiene' with 'Health Education'. Neither should 'Health Education' be taken solely in the sense that it means 'behaviour change' as far as health beliefs and health habits are concerned. There is a need to look beyond behaviour change and towards incorporating a social change dimension in 'Health Education'. This means making the children and adolescents fully aware of the issues in health that concern them, and this includes not only what they need to know to change their present health behaviour if it is detrimental to 'health', but also their rights to health care, a knowledge of the services available and what use could be made of them, their individual and collective responsibilities in health matters, a knowledge of the history of health care of their country, and last but not least, how local, national and international issues directly or indirectly affect their health. Obviously there is a need for a graduated programme to suit the different ages of the pupils and care should be taken not to 'flood' them with information. In any case 'education on health' is better achieved through discussion and participation instead of what has been termed the 'feeding method' i.e. the giving of lectures to students who remain passive recipients of these lessons. In some developing countries children have been made to participate in the spreading of useful health information to their villages and appreciable success has been achieved in this way. J. E. Rohde and J. Sadjimin reporting on a project in Indonesia where elementary-school children participated in school health programmes in Primary Health Care, summarised their findings thus:

"The high proportion of children attending primary schools in rural parts of Indonesia and the low health care cover in these areas prompted a plan to involve school children in a health-education programme. Action-oriented health lessons aimed at modifying community-health-related behavior were designed to suit the teaching format familiar to rural teachers. The lessons involved pupils in health activities in their own homes and neighbourhoods. Evaluation of the teaching module on diarrhoea showed a substantial improvement in knowledge, skills, and attitudes of rural families regarding this illness, and indicated how a vastly increased outreach of primary health-care activities is possible through a well-designed school-health programme."(57)

In one Bangladesh project the emphasis was put on the role of teachers as health educators for the community. In 1975 a female primary school teacher was appointed and given some months' training in basic pathology, hygiene, sanitation, nutrition and family planning. After a teaching programme was designed, she went out to the primary schools in the villages to give basic health education. As. F. Wisloff found out,

"We soon realised that her efficacy would be much increased if she started out by instructing the teachers, who would then carry the course to the classes."(58)

The specific characteristics of each developing country point to different strategies that could be adopted. But the lessons to be learnt are there, but so far in most developing countries the will and commitment to health education is lacking. What is common also in these countries is the failure to use the school and its teachers as health educators, and the low value that Health Education as a subject has. S. Ahmed, writing on the Kenyan situation, sums up these views succintly,

"I believe that teachers represent a valuable and under-used resource for health education. Just as literacy and numeracy are essential for national and personal welfare, so too is health knowledge. I suggest that if the principles of health care were made compulsory subjects up to C.P.E. level, this would help to remedy deficiencies (both in quality and in coverage) of existing public-health education."(59)

The efforts for educating the masses on health matters can be directed on two main fronts. First, as proposed above, educating the children and adolescents of today in schools and colleges will help to prepare future generations of health conscious adults. Secondly, the adults of today who missed the opportunity of acquiring basic health knowledge need special efforts and commitment on the part of health workers in order that progress could be made towards a better understanding of health and health problems. The education of the 'grown-ups' remains a formidable challenge to health educators and other health workers, because as the MMM report puts it

"If for 20 years, a person has been informed lovingly and caringly by all his closest relatives and dearest friends as to what, for example, "tansyon" [blood pressure] is, where it comes from and how to cure it, it would be presumptious of any health educator to think that his 15 minutes of explanation (or in the case of trained cadres, his few hours a day) will eradicate all previous ideas, and the new ideas immediately take root and grow! People are not, mercifully, as gullible as that!"(60)

Specific and useful propositions are made in the above report, and the lessons derived from the experience of the "Bambous Health Project" in the field of Health Education, could be made to benefit the masses. However, it is not only with changing beliefs about and

attitudes towards diseases and health that health educators should be concerned. To imply that the individual alone is responsible for his or own her health is to ignore the social, economic and ecological causes of diseases and ill health. Health Educators generally tend to tell people what to do. For example people are advised not to smoke or not to drink alcohol in excess. While advice like this is brimming with good intentions, the specific conditions in which people are more prone to acquire these harmful habits are left untouched. As E.R. Brown and G.E. Margo explain,

"Persuading smokers to kick the habit is certainly in their interest, but when smoking behaviour is a response to stressful conditions and no one helps smokers examine or change those conditions that create the "need" to smoke, then anti-smoking campaigns become the "blaming the victim" crusades."(61)

Certainly it can be argued that such bodies as the Health Education Council in Britain are concerned with wider issues than just behaviour change. For example the Council is vehemently opposed to the unfair advantage that tobacco advertising has against the relative low exposure of people to health education information. But the specific conditions which give rise or promote such behaviour as drinking, smoking or drug-taking are left untouched. This 'blaming the victim' approach is criticised by Brown and Margo:

"There is a strong tendency to blame industrial accidents on "behaviour problems of workers" and to conclude that health status will improve when people take "individual action" to stop smoking, drink less alcohol, eat better, and get more exercise. Epidemiological evidence contradicts these simplistic conclusions."(62)

There is a strong suggestion that because Health Educators are employed by the State, their role is to support the status-quo.

Certainly the remarks made by the founder of the health education profession in the US, D. Nyswander, seem to suggest this.

"My efforts were expended in working on the symptoms of closed societies, the basic conditions giving rise to the symptoms were untouched.... Have I had actually helped to maintain the status-quo in these situations? Have I not taught people to accept those gifts approved by the establishment which would make life more bearable but which would not threaten the power of the establishment."(63)

The broad and ambiguous role definition of the health educator contributes to putting the latter in a confusing situation indeed. In essence they have come to be known as 'behaviour change technicians'. But if they are to achieve any worthwhile results in Third World countries, they will have to transcend this role. Brown and Margo put forward what they believe should be the function of Health Educators:

"Health educators should not only explain to people what behaviours or conditions should be beneficial to their health, they should also help them act to remove health-damaging conditions and substitute health-promoting ones. Because both kinds of conditions are usually outside any individual and often beyond the power of any individual to change, the health educator must be a kind of community organizer as well."(64)

The call for a community development approach to health education is not a new one. P. Draper et al trace its roots in developing countries themselves and in the American "War on Poverty" in the sixties. As they explain:

"The essence of this approach is that health educators enter into a dialogue with the community, encouraging its members to articulate their needs, and conveying skills and information to help them take

actions to overcome health and related social problems."(65)
Such an approach would fit with Primary Health Care schemes as the Alma Ata proposals make clear,

"The educational sector also has an important part to play in the development and operation of primary health care. Community education helps people to understand their health problems, possible solutions to them and the cost of different alternatives. Instructive literature can be developed and distributed through the educational system. Association of parents and teachers can assume certain responsibilities for primary health care activities within schools and the community, such as sanitation programmes, food-for-health campaigns or courses on nutrition and first-aid."(66)

Only if the health educator is prepared to deal with social, economic and ecological issues concerning disease and health would his or her contribution be more productive. In the case of Mauritius, with the building of Health centres, a health educator could be allocated to each locality, and his or her role would be not only to teach the inhabitants 'healthy habits' but also help them understand the other factors that have a bearing on their lives. Provision of safe water, sanitation, availability of cheap and nutritious food in the area etc should form part of this community approach to Health Education. This means that other sectors will have to work in co-ordination with the health sector towards the achievement of individual and community 'health'.

The health educator can also be useful in providing information for factory workers to understand, for example, the effects of noise and pollution in their working environment. Besides teaching the

workers safe habits to adopt in order to avoid accidents etc, he or she will provide them with information that will stimulate them to act in order tomake factories a safer and healthier place. No doubt in some quarters the employers would regard the health educator as a 'trouble maker'. This need not be so if the employers are made to understand that profit need not always be to the detriment of the health of the workers. But as is sadly often the case

"When profit is the primary goal in organising production and other economic and social relations, those who control these resources will tend to have a careless attitude toward workers' lives and the physical environment."(67)

Given that quite often national policies have a direct bearing on the health of the people, the health educator would find himself or herself in the difficult position of informing people on the health damaging effects of some of these policies. Such a stance would seem anathema to the health education profession as it is today. But until they move beyond their role of 'behaviour change technicians' and 'supporters of the status-quo' towards that of a community organiser, the impact of their efforts will be wasted.

3. Private Medicine

(a) Private clinics

Private medical care is provided mainly by doctors who offer their services in return for a fee. They have surgeries mostly in urban areas, though recently rural areas have started to benefit from their services also. The medical profession and its activities in both the public and private sector is discussed further in a later chapter.

Here we shall look simply at medical care which is provided by

TABLE 48

ADMISSIONS TO NURSING HOMES BY CAUSE AND SEX - 1979

CAUSE OF ADMISSION	NUMBER OF ADMISSIONS		
	Male	Female	Total
Infectious gastro-enteritis and colitis	352	324	676
Food poisoning	4	4	8
Malaria	6	1	7
Schistosomiasis (bilharziasis)	1	-	1
Typhoid fever	2	-	2
Tuberculosis	8	-	8
All other infective and parasitic diseases	4	7	11
Neoplasm	49	77	126
Diabetes mellitus	124	132	256
All other endocrine and metabolic diseases	6	16	22
Anaemias	57	93	150
All other diseases of the blood and blood-forming organs	13	6	19
Mental disorders	157	172	329
Diseases of the nervous system and sense organs	355	277	632
Heart diseases*	270	172	442
Active rheumatic fever	19	23	42
Hypertensive diseases	153	132	285
Cerebrovascular diseases	84	66	150
All other diseases of the circulatory system	146	100	246
Bronchitis, emphysema and asthma	148	123	271
All other diseases of the respiratory system	331	310	641
Peptic ulcer	204	109	313
Appendicitis	158	147	305
Cholelithiasis and Cholecystitis	100	126	226
All other diseases of the digestive system	419	253	672
Diseases of the genito-urinary system	349	816	1,165
Delivery without mention of complication	-	1,026	1,026
Abortion and its sequelae	-	341	341
All other complications of pregnancy, childbirth, and the puerperium	-	650	650
Diseases of the skin and subcutaneous tissue	197	136	333
Diseases of the musculoskeletal system and connective tissue	242	124	366
Congenital anomalies	6	7	13
Diseases and injuries originating in the perinatal period	3	-	3
Symptoms and ill-defined conditions	350	299	649
Accidents, poisonings and violence	324	166	490
TOTAL ALL CAUSES	4,641	6,235	10,876

*excluding "Active rheumatic fever" and "Hypertensive diseases"

TABLE 49

OPERATIONS AND OTHER PROCEDURES PERFORMED AT NURSING HOMES - 1979

OPERATION	NUMBER OPERATED UPON		
	Male	Female	Total
Neurosurgery	9	8	17
Ophthalmology	193	166	359
Otorhinolaryngology	278	285	563
Operations on thyroid, parathyroid, thymus & adrenals	2	14	16
Vascular and cardiac surgery	13	12	25
Thoracic surgery	7	1	8
Abdominal surgery	374	298	672
Proctological surgery	212	89	301
Urological surgery	142	19	161
Breast surgery	3	77	80
Gynaecological surgery (including D & C not associated with abortion or delivery)	-	796	796
Orthopaedic surgery	213	105	318
Operations on skin and subcutaneous tissue	357	195	552
Oral and maxillofacial surgery	10	6	16
Plastic surgery	14	8	22
Dental surgery	21	23	44
Other procedures (Biopsy, Diagnostic endoscopy, etc)	80	87	167
TOTAL	1,928	2,189	4,117

OBSTETRICAL PROCEDURES

TYPE OF DELIVERY	LIVE BIRTHS	STILL BIRTHS	TOTAL
Normal delivery by midwife	69	4	73
Normal delivery by doctor	706	4	710
Instrumental delivery	426	-	426
Caesarean section	232	3	235
Other obstetrical procedures (associated with delivery)	9	1	10
TOTAL DELIVERIES	1,442	12	1,454
D & C associated with abortion or delivery			264
Other obstetrical procedures (not associated with delivery)			9

[Source: Ministry of Health, Port Louis]

private clinics. There are at present 6 clinics in Mauritius and they are all to be found in the urban areas. The services they provide are the same that public hospitals in general offer, but the clinics cannot in practice perform all the functions of these hospitals. With time they have increased the range of services to include facilities for laboratory analyses, radiography etc. In 1979, the total number of beds in these clinics was 190 compared to 2840 beds in public hospitals. The total deliveries in the same year was 1454 or 5.7% of the island's total. The activities of the clinics are listed in Tables 48 and 49. It can be seen from these statistics that the clinics offer a wide range of services.

Not all these clinics have the same structural organisation, but by and large they offer general nursing care and from this the bulk of the profit is made, while the doctors who have an agreement with the clinics claim the medical fees. We shall now look closely at one of the clinics which was visited, but it must be pointed out that while in general they work on the basis explained above, they are not totally similar.

Clinic 'X' is popular and is known by the users to offer good services. Though these clinics in general cater for people who can afford to pay, some of them have within the same institution, different categories of beds. Thus clinic 'X' has two common rooms each with 17 beds. These beds are meant to be for people in the low income group i.e. labourers, factory workers, small planters etc and the cost of care is about Rs100 per day (in 1979) and this includes food, bedding, nursing care, but excludes medication, medical fees, laboratory investigations and radiography etc.

The second category consists of 7 rooms with 2 beds in each.

These beds cost more to the occupants and were in 1979 around Rs150 per day. Finally, the clinic also has private rooms with single beds, with private bathroom etc, and the nursing care which costs about Rs 325 per day (in 1979). These latter rooms are often used for maternity purposes. The cost of delivering a baby in the clinic comes to about Rs 2500 - (more than 3 months pay for a labourer). Certain major operations can cost anything between Rs 7000 and Rs 8000 - and the cost varies between the occupants of the 3 types of beds.

The medical fees are decided by the doctors, but the clinic imposes some kind of 'ceiling' in order to have more or less standard practice. But sometimes the doctor and the patient make their own arrangements concerning costs. The Director of the clinic claims that people of all social classes make use of these clinics. When asked why he thought the clinics attract clients, he replied that:

a) the long waiting list in hospitals deter those who believe they need urgent care;

b) the staff are more welcoming and more personal care can be dispensed, and

c) the clients can see a specialist on demand.

It must be pointed out here that the husband can be present when his wife is giving birth, while in hospitals this is not allowed. In some cases one of the relatives can stay overnight with the patient.

Some of the clinics also function as outpatient departments where specialists are available at fees which, according to the Director of clinic 'X', are below those claimed by individual specialists elsewhere. These 'outpatients' can also make use of the laboratory and radiology services of these clinics. Finally, it was also revealed

that the nursing staff working in these clinics are recruited from those already working in the hospitals or those who have just returned from UK after training as nurses. Thus the clinics benefit from the fact that these nurses are already trained and therefore do not have to incur the cost of training them. There is also a high proportion of auxiliary nurses i.e. assistant nurses who receive only basic nursing instructions at the clinic itself. The Director of the clinic also admitted that the nursing staff receive less pay than government nurses, and he explained that this is so because of the "financial situation" of the clinic. He nevertheless pointed out that his nurses receive such fringe benefits as food on the premises, free uniforms and discounts of up to 80% when they use the services of the clinics.

As mentioned above, the other clinics do not all have the same internal organisational structure, nor are there necessarily different classes of beds, but they all cater for people who can afford and who want prompt and personal services. By and large this means that those who make use of these clinics are in the upper income bracket or the poor who, faced with what they consider a life or death situation, borrow money in order to avail themselves of the services on offer by private clinics. It would be of interest to those concerned with health care in Mauritius to carry out, in the future, studies on the users of private care as provided by the clinics. There was no account of any such studies at the time the field work was carried out in Mauritius.

Though the services offered are expensive, it is nevertheless believed that people are generally satisfied with what they get in return. However, a few points need to be raised concerning private medical care in developing countries. First, it means that there are two standards of health services. Secondly, it tends to absolve the

government from its responsibility of solving the waiting list problem. Some people would go further and suggest that the kind of services dispensed in hospitals push these patients into the arms of private practitioners and private clinics. This is clearly stated in the MMM's report

"The free medical services are often unsatisfactory enough as to push an ever increasing number of workers into the sphere of private medicine where they spend a day's wages for consulting and on average two day's wages for the prescribed medicines."(68)

The same reports points to 'conflict of interests' faced by specialists who are allowed to do private practice as well as public. It is clearly not possible to substantiate claims that some specialists 'advise' their patients in hospital to seek admission to certain clinics where the same specialists would carry out the operation or treatment in return for a fee. But as the MMM report observed

"... the same persons who are in a position to determine the level of medical care and efficiency of hospitals and dispensaries also happen to benefit financially if people are forced to rely more and more on private medical services because they are dissatisfied with hospitals and dispensaries."(69)

There are certain conditions under which specialists are allowed to do private practice. They are:

a) that it should be outside working hours (9am - 4pm)

b) that they should see only referred cases, and

c) that they should deal only with cases related to their speciality.

In practice these rules are not observed very strictly: the specialists very often needing to attend urgently to their patients in private clinics at all times of day.(70)

Thirdly, the existence of private medical care means that resources and manpower are diverted away from more practical and efficient uses. There is little argument that private clinics are curative institutions, and it is particularly revealing and sad to note that they are places where well qualified and experienced medical personnel spend most of their time and effort, looking after a select group of patients, whose only credentials are that they can afford to pay for these services.

Thus medical and health manpower is used in a dual system of Health Care and this inhibits planning at both governmental and ministerial level, as the authorities 'lose control of where that medical manpower works.'

Fourthly, the rich, often the more educated and more powerful as pressure groups have little interest in advocating better health care in hospitals and dispensaries since they hardly use the services of these institutions. Therefore, as Abel-Smith points out,

"The use of the public service by the more fortunate members of the community could bring greater public awareness of its achievements and shortcomings."(71)

We cannot, at this stage of the thesis, discuss the viability of private practice in Mauritius and its contribution to the health of the population. Further studies should be carried out to determine whether it should continue to flourish or not. Perhaps we could conclude this section by pondering on a quotation from Abel-Smith on the same subject:

"The conflict between the demands of the more affluent section of the urban population and the needs of the rural population between private practice and public service, lies at the heart of the problem of health planning in most developing countries. Often the public sector is planned and the private sector is left to develop in response to

market forces. But too often these forces frustrate the implementation of plans for the public sector. Only if a country plans its health services - public and private - will plans have a prospect of success."(72)

4. Summary and Discussion

We are now in a position to make a few general comments on the organisation and distribution of health care in Mauritius. We can do so by looking at the following headings:

a) The decision making process

b) Centralisation and urban bias in the organisation and distribution of services

c) Class nature of medicine

d) Curative bias or lack of commitment to prevention in health

a) The decision making process

There is no doubt from what has been described so far that 'health policies' are decided by the medical 'experts' at the head of their respective sections, with the help of Ministry administrators. One would not be far wrong in saying that the Principal Medical Officers decide on the medical aspects of their respective fields, while the administrators take care of the 'political' aspects of health policies. Thus there is no participation of such bodies as local councils or Trade Unions. The 'people' are also effectively excluded from participating in the planning of the health services that are supposed to benefit them. P. Draper and P. Smart's remarks(73) about the National Health Service in Britain could be used to describe precisely the Mauritian situation, when they wrote,

"... Indeed planning typically proceeds with a minimum of public consultation, let alone any systematic social investigation other than basic demographic data"

and also

"Medical and administrative forces are free to determine policy."

It can be argued that lay people have no knowledge of health and medical matters and as such cannot make any signficant contribution to health planning. But people understand their problems better than 'experts' think they can. The lack of effective development of Third World countries has called for a shift from decision making by experts only to the peoples' participation in their own development at all levels. Of course, it cannot be expected that the people will instantly provide the answers that 'experts' have been struggling for years to find. But this new movement would require in the words of Reinhild Traitler, "a certain sequence of steps: conscientization, organization, capacitation and concrete action to proved tangible improvements in the community's level of life."(74) It means that people must be 'prepared' to fulfill the important role in deciding about their needs and the ways that these could be met and here health education can play an important part. S.B. Rifkin elaborates further on the community development approach:

"In health care, this new emphasis focusses on creating awareness of the possibilities for the laymen to influence health care delivery and to change radically the existing health care delivery system in order to secure his heretofore denied right to health. The focus of this approach was not on the delivery of services but rather on the shift of power of who made decisions about that delivery."(75)

In some quarters community participation could be interpreted in different ways. Thus it would not be unusual to see the Ministry of Health nominating a few lay people to sit on certain committees, or that even a body of laymen could be formed in order to act as 'watch dogs' over the Ministry's policies, as do consumer associations. I. Zwelling

stresses this point further when he states that "there is also a tendency to presume that community participation is achieved simply by the creation of a local board, especially when it is formed by an elective process and has some powers delegated to it. In fact, the full concept of community participation includes the development of mechanisms and procedures to insure that the community is continually involved. The commitment to community involvement must be apparent in all program components, including training."(76)

As already pointed out, the Alma Ata declarations put great emphasis on community participation. Again the creation of health centres in Mauritius presents an excellent opportunity to put the WHO's recommendations into practice at village level, but as has been shown, no provision has been made to involve the community in the activities of the health centres.

The people remain mere recipients of what services are made available to them, and even when they have complaints to make, it is the doctors of the Ministry of Health who deal with them. It is well known that doctors are very reluctant to find fault with their fellow professionals and this does not help to build the necessary trust that people need to have in those who are supposed to care for them. There is a need for the creation of a reliable machinery to process complaints. However, a lot of misunderstanding and confusion over health and medical matters could be avoided if people were allowed to participate closely in making decisions about themselves.

People's participation also reduces the cost of health services. China provides us with perhaps the best example of how people's involvement in health matters can be an enormous asset. Major infectious diseases have been eradicated or controlled, mainly because the people participated in the health programmes. To Abel-Smith (referring to the

Chinese experience in health), "the key lies in simple village services provided by people drawn from the village and provided with limited health education."(77)

Contrary to what many experts believe, health progress should not wait for economic development to take place. Both community participation and the correct ordering of priorities in the health sector can remove the major obstacles to diseases and ill health. Malcom Segall explains this point in his study of Health Services in rural Ghana.

"In the socialist countries advances in health can be said to have been made more rapidly than general advances in development, the health of the whole population having been treated as a priority and an area in which rapid strides could be made in a short time. From their experience the conclusion might be drawn that a drastic reduction in infectious and communicable diseases is easy once the commitment is there."(78)

(ii) <u>Centralisation and Urban Bias</u> in the organisation and distribution of services:

Though there is a higher proportion of urban dwellers in Mauritius (43% live in the towns) than in many other Third World countries, the concentration of services in these areas is such that they inevitably benefit those who live in the vicinity. There has been no significant redistribution of services since the colonial period that would give equal opportunities of health care to rural and urban inhabitants. On the contrary, the hospitals have remained firmly where they were in the colonial days, and more and more services have been concentrated in them. The only exception is the building of a regional hospital (SSRH) in a rural area (this will be discussed further later on).

Transport presents problems for users both in terms of the time to reach hospitals, money to be spent in fares and the earnings people

stand to lose by making long journeys. As is more often the case, the proximity of hospitals tend to be an important factor in the use of health services.

Urban regional hospitals also have a higher proportion of well qualified personnel, and these give their services very sparsely to Maternal and Child Health clinics (once a week) and to local dispensaries a few hours on certain days. The specialists also provide scant cover in the district hospitals to the great annoyance of junior doctors as the chapter on the Medical Profession will reveal. Furthermore, though there are many dispensaries covering almost the whole island, most of them remain ill-equipped to deal with even minor problems at times.

It has also been observed that the frequency of post natal visits varies inversely with the distance to hospitals where the baby is born. This is such that sometimes the mother and baby receive no visits at all just because they happen to live far from the hospital.

(iii) Class nature of medicine

Though there is no study on the class to which clients who make use of private clinics belong, the high fees claimed by these institutions necessarily exclude the poor unless the latter find themselves in such a desperate position that they forego their savings or incur heavy debts in order to avail themselves of these services. If we remember that hospitals and dispensaries were meant for medical relief for paupers, we can then understand why (as the 'MMM' report notes)

"There is still the notion in the middle class establishment that those who make use of hospitals and dispensaries are either 'paupers' or frauds who could afford to pay, both categories not deserving much sympathy or good medical care."(79)

The addition of such facilities as pathological laboratories, radiography, and other new equipment for operations to the private clinics will take the pressure off the government to provide these services. The result is that there will be a disproportionate growth of the private health sector and a deterioration of the services provided by the public sector. Already the Mauritian spends a high proportion of his wages on fees to doctors and on medicines purchased in privately owned chemists' shops, and this despite the claim that "to a substantial extent Mauritius already has a free health service."(80)

(iv) Curative bias or lack of commitment to prevention in health

Perhaps nothing reflects better the general direction of health developments than an analysis of the expenditure in that sector. The placement of personnel can also be used as a reliable indicator for the same purpose. In fact as personnel tends to absorb a large share of any expenditure, the two factors are not unrelated. We have shown how at the turn of the century expenses for curative and preventive purposes were more or less evenly balanced. The provision of medical and poor relief, and the sanitary duties were the responsibility of the Medical and Health department. With the eradication of the major epidemic diseases, the shifting of sanitary functions to local and Municipal authorities and the provision of poor relief by the social security department, the department came to assume more and more curative characteristics. Despite many expert advice on, and call for, more preventive measures in health, and despite many clear statements both in planning literature and in broadcasts to the media on the government's commitment to prevention, the much expected shift away from curative medicine towards a preventive one has not taken place.

In practice it is difficult to differentiate with any precision between the expenses incurred in the curative or preventive areas,

because certain institutions like hospitals and dispensaries carry out curative and preventive functions at the same time, though not to the same extent. The laboratory services, for example, carry out tests both for curative and preventive purposes. However, it is possible to have an idea whether the government's avowed commitment to preventive health has any material bias or not by examining the expenditure of the Ministry of Health between 1976/1977 and 1980/1981. The following table[81] gives an indication of the expenses incurred in the public health division of the Ministry in terms of the percentage of the total health expenditure.

Year	Percentage of total
71/72	10.81
76/77	9.12
77/78	11.52
78/79	11.43
79/80	10.68
80/81	9.31

The public health expenditure for the years 1980/81 shows a decrease on the one for the years 71/72. The expenditure has also been steadily decreasing since the years 77/78. What is also revealing is the fact that these estimates for expenditure for the years 1978 onwards include expenses for the school medical services, while during previous years, the school medical services expenditure was accounted for separately. This means that in comparative terms public health expenditure has in fact decreased more than the above figures show. The total amount on preventive services could add up to about 20% if as the MMM report claims that "it is generally accepted by the Ministry Officials that curative services take up 80% of the resources of the Ministry."[82] It would be interesting to note in passing that Rankine found that "in the estimates of the Medical and Health department for the year 1943-44 over 70% of the total sum provided is concerned solely with the treat-

ment and cure of diseases."(83) It is surprising that despite everything that has been said in favour of preventive health, the fact remains that we have been moving in the opposite direction. For example, the estimates for the last few years show that expenditure on hospitals has increased. If we look at the case of Victoria Hospital (and PMOC), we find that both in real and comparative terms, the expenditure has increased.(84)

Table 50

Estimates for expenditure of Victoria Hospital (and Princess Magaret Orthopaedic Centre)

Year	Expenditure (in Rupees)	Percentage of Total
76/77	99,498,110	12.59
77/78	110,578,470	13.93
78/79	146,630,010	13.90
79/80	172,000,000	13.58
80/81	182,000,000	15.10
81/82	216,000,000	15.49

These figures demonstrate that far from there being a re-allocation of funds to preventive services, the actual expenditure for hospitals, which function mainly as curative institutions has grown bigger. In the case of Victoria Hospital, the growth is almost 3%. One can also note here that this hospital alone in 1981/82, consumed more resources (15.5% of the total health budget) than did Public Health (9.31%).

In the 5 year plan (1975-80) it was acknowledged that although the level of expenditure in the preventive services increased substantially in absolute terms, the bulk of the expenditure was on the curative services.(85) What it did not say is that expenditure for preventive services has decreased in comparative terms. The same plan spelt out its policies forcefully,

"During this Plan period priority will be given to the preventive services thereby restoring the balance which is now significantly in

favour of the curative services. Preventive medicine constitutes a sounder national investment. The undue growth of the curative services will be controlled and a new bold approach to community medicine with stress on the basic health services including health education and nutrition will be adopted."(86) With hindsight we know that Health Education is as abyssmal as ever. Community medicine shines by its absence, and curative services are still growing out of control.

But though more money in real and comparative terms are spent on hospitals, the latter are not equipped to meet the demands for health care. The Civil Hospital, for example, is a constant reminder of how slow the development in the provision of health services has been. The Minister of Health in an interview to the press complained of the deplorable condition of the Civil Hospital which he pointed out dates from colonial days.(87) Nor are the number of beds sufficient to cope with an ever increasing population. In 1916 there were 275 beds at the Civil Hospital, and this has increased to 378 in 1979 - an increase of 103 in 63 years. Victoria hospital has not known a bigger expansion in beds either. If one takes into account that only one new hospital was built in 1966, and that only a few beds have been added to the district hospitals, then it will be realised that the ratio of 2 beds to a population of 1000 in 1979 is enough to account for long waiting lists, and to push more and more people into the private health care sector. One needs to point out here in passing of the danger of using either bed/population or doctor/population ratios indiscriminately, because neither of them gives an idea of the distortion of the distribution of these resources. The urban areas, for example, have a larger share of these.

Another significant development which has been mentioned earlier is the building of the SSRH hospital. Besides its initial cost, it

consumes a substantial proportion of the health budget. In 1980-81, its share of the total health budget amounted to 13%. Though it is situated in a rural area, the resources spent on such an institution, both in terms of personnel and equipment could have been more efficiently used than is the present case. It remains a curative institution to which people have to travel long distances in order to avail themselves of its services. There have been ample warning against the building of expensive hospitals in developing countries when the priorities point otherwise. K.P. Nimo explains what is often the 'rationale' behind such projects as the building of modern hospitals based on western models.

"In most developing countries, the central government is the largest financier of the health services. This has led to a situation of 'he who pays the piper calls the tune'. Thus in order to get re-elected, large expensive hospitals that cannot be run properly are built so that it can be said that politician 'A' built that hospital when he was in office. This gimmick has worked so far, but people are now getting wiser - it shouldn't be only what the eyes can see, but what goes in what the eyes see".(88)

In many cases advice from experts is quietly ignored and political consideration takes priority. As the Lancet explained in the case of a proposed new hospital in Maseru(Lesotho), even when major donors including the UK and US governments had turned down a request to support the project, the government remained confident of raising the sum from other donors.(89)

Besides the building of 'prestige' hospitals for political reasons, what complicates the issue of health resources allocation is the fact that in the minds of the users of health services in most developing countries "health is synonymous with the provision of a doctor and a hospital or a clinic rather than the enjoyment of a disease

free environment." People would press hard for hospitals or dispensaries to be built in their regions. Even MPs tend to ask for more of the 'same' as an extract from the 4th Legislative Assembly debate(90) shows:

> MP (X) asked the Minister of Health whether he will say what steps he proposes to take to increase the number of beds at Candos hospital (Victoria) and at the PMOC.
>
> Minister: Sir, plans are being finalised for the construction of three wards including a labour ward.

The hospital is situated in the MP's constituency and though Victoria hospital has the highest number of beds and is situated in an urban area where largely the more affluent people live, the MP does not show any sense of priority as far as health planning for the whole country is concerned.

The commitment to preventive health care on the part of the health planners has hardly been genuine. The proscrastination shown in the building of health centres compared to the relative promptness with which the SSRH hospital was completed shows where the government's priority lies.

This is further evidenced by the fact that very few doctors were employed in the public health sector, though the number of doctors increased substantially. On the other hand, the number of health educators (2) has remained static for the last 10 years. There are also two nutritionists employed by the Ministry, and though I was informed that the government cannot fill the vacancies because of lack of trained applicants, it never ocurred to them to send more people to be trained abroad, or better still to use the expertise of the present health personnel in Mauritius in order to train nutritionists.
Even the physical location of the public health offices, including the health education and nutrition sections, is indicative of the low

standing of preventive health care in the eyes of the Ministry. These units are housed in the old prison building which stands in sharp contrast with the modern, carpeted and air-conditioned multi-storey building where the present Ministry of Health is situated.

At the same time if one remembers that the Maternal and Child Health Services and Family Planning are being partly financed by the International Planned Parenthood Federation, one wonders if without such funds, there would have been an effort made on the part of the government to extend what meagre services are available to the rural population, especially as for years these services were left to private initiative. In the field of dentistry, the lack of a preventive service is more evident than in any other field. The service is not meant to meet the needs of the population. The 22 dentists employed for a population of almost a million in 1979 (considered adequate by the Minister of Health)[91] hardly have time to attend to the number of patients who queue up from 5am outside the dentistry section of the hopsitals. There is no need to labour the point that these dentists find little time to offer a preventive service such as checking or filling already affected teeth. So the rule is 'extraction' - which prompts the Minister of Health[92] to say that the Mauritian is prone to tooth extractions, as if they enjoy having their teeth taken out.

On the other hand, the recent opening of a Cardiac Unit, the proposals for the acquisition of a Cobalt bomb and the plans for setting up of a medical institute, points to the shape of things to come in the area of health care in Mauritius.

Health services development in Mauritius has been piecemeal and has been more and more curative in character, while the call for preventive measures in health has remained in the realm of rhetoric and as Mburu (referring to Kenya) aptly observes

"There has been too much rhetoric rarely accompanied by the formulation and management of viable policies for the equable distribution of available resources."(93)

It could not be more true of health planning in Mauritius.

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CHAPTER 7: USES OF HEALTH CARE

Bio-medicine as developed in the West 'is a reflection of the prevailing culture and an expression of a particular world view'. But it must not be assumed that people everywhere use the bio-medical perspective in which specific illnesses have specific causes and therapies. In fact, in many societies people think about illness in humoral and punitive terms, and have little or no clinical conception of signs and symptoms.(1) Unless we are aware how health and illness are conceptualised by the people it is not possible to plan, organise and distribute health care effectively.

The distinction between disease and illness is crucial to an understanding of the uses of health care. Disease denotes "a biological or pathological state of the organism whether or not it is socially or culturally recognised, and whether or not the patient and his/her advisers, lay or professional, are aware of its existence."(2) Thus it is possible that a person has diabetes or cancer without being aware of it and does not show any illness behaviour. Illness, on the other hand, signifies the patient's consciousness that there is something wrong (about which in disease terms he/she may or may not be technically correct.)(3) Sickness is put forward as a third phase. Frankenberg calls it the "making social of disease" and explains it thus:

> "If... we restrict illness to the making individual of disease by bringing it into consciousness we can use sickness to apply to the total social process in which disease is inserted. This will force us to include in the same process of social interaction and historical development the totality of healers, lay or professional, and the totality of the distressed."(4)

Thus, it is illness not necessarily disease which prompts the use of health services, traditional healers etc. Illness itself is culturally

determined as for example one society may recognise 'depression' as pathological behaviour and others may not. Obesity in western culture is an illness while in some societies it is considered a sign of good health. Once the individual or his advisers decides illness is present then culturally and socially appropriate steps are taken to cope with the situation. In every culture healers and others regulate passage in and out of sickness and in doing so exert social control. In modern society, illness, according to Parsons,(5) is a deviant behaviour. The individual assumes a 'sick role', is relieved from other responsibilities, but becomes dependent on people who are not sick. Parsons makes it clear that this dependency must be initially legitimised and then maintained by the physician. "This deviance perspective on illness, which seems to turn sickness into a kind of conspiracy, emphasises the social control functions of the institution of medicine."(6)

All societies of the past have had some forms of health care systems. Some aspects of these traditional forms have survived up to the present day and have become incorporated into newer forms. Traditional medicine, also referred to as 'alternative', 'unorthodox', 'folk', 'indigenous' or 'ethno-medicine', is somewhat vague term "loosely used to designate ancient, culture-bound health care practices which predated the application of allopathy or scientific bio-medicine."(7) But far from the 'out-dated' notion that these adjectives tend to convey, traditional medicine, while remaining the main or only source of care for the majority of people in the developing countries, has in fact had its status upgraded by such measures as the resolution passed by WHO in 1977 promoting development of training and research in traditional systems of medicine. Other organisations such as the World Bank, UN Agencies and USAID have followed suit in granting recognition to traditional medicine. The main reason for this is the realisation that the objective 'health for all' is not likely to be achieved if the help of traditional healers

is not enlisted. Because it is unlikely that more and more resources will be available in the near future to provide the people in developing countries with the kind of bio-medical services that would be desirable, "common sense indicates that much could be accomplished and relatively quickly, by somehow tapping the resources that are already available locally."(8)

If the late 1970's represent a major turning point in the long history of the uncomfortable if not antagonistic relationship between 'modern' and 'traditional' healing systems, the long anticipated liaison between them has not lived up to expectations. According to Pillsbury, after the initial resistance by physicians and health planners to traditional practitioners, governments in several dozen countries now utilise midwives (traditional) in official health and family planning programmes but with only a few exceptions continue to resist incorporating traditional healers into the national health care systems.(9) Having explicitly studied medical science and technology it is difficult for planners to realise that they have acquired a specific ideological view to go with it. Traditional medicine is thus derogated as curiosities, quackery and superstition. A survey of the literature will show that anthropologists who have studied practitioners in local medical systems have reported few charlatans among them.(10)

Bio-medicine itself has been criticised for its impersonal approach to patients' problems. Because the examplars of bio-medicine make disease the central domain of their competence, they shun the symbolic, political and economic functions of clinical transactions.(11) Much of the resistance to the linking of the two systems can be overcome if more is known about traditional medicine. Compared to research done in bio-medicine, little interest is shown in indigenous medicine. "Therefore it is impossible to sort out the large body of ineffective (and sometimes

harmful) techniques which co-exist with valuable therapies, and whose persistence is explained by the peculiar epistemology of the medical - technical domain."(12)

A clear majority of illness episodes are treated at home. Indeed lay people are now and always have been their own primary health resource. But it is an area which remains largely unknown to health workers and "the bulk of even that research which concerns families, health and illness focusses on the question of medical care utilisation."(13) Too often when people do not make use of health care facilities provided, health professionals attribute this to ignorance and lack of education. This ignorance is surely on the part of the professionals who either remain unaware of or unwilling to hear the views of those they are supposed to serve. The need to know how and when people realise that they are ill and what steps they take to recover cannot be over-emphasised. Studying the different aspects of the prevailing culture will provide the necessary understanding for better health planning.

In this chapter we shall look at the popular concepts of illness and its causation in Mauritius and the pathways that people adopt in their quest for relief or cure. We shall ask whether a linkage between traditional medicine and bio-medicine is possible or even desirable.

For clarity the rest of the chapter will be divided into the following sections:

1. The special case of Mauritius
2. Concepts of illness and illness causation
3. Healing resources available on the island
4. Discussion
5. Conclusion

Section 1

The Special Case of Mauritius

From the outset it must be pointed out that the situation is not the

same in every developing country. We find for example in Mauritius 75% of births are attended by government trained midwives, while in most developing countries the same percentage of babies are delivered by traditional birth attendants (TBAs). Therefore 'linking' the TBA's work with that of the government trained midwife does not have the same implications as it would in other developing countries, especially in Africa. Mauritius has a much larger proportion of educated manpower than most developing countries, and the number of doctors per population on the island is such that bio-medical health care should reach everyone in need of it. The size of the island and the general condition of the roads coupled with a fairly good system of transport means that in most cases people can reach government health services in the same time as it would take them to reach traditional healers. This is not the case in many other developing countries.

One particularly interesting aspect of Mauritian society is its ethnic composition and in theory one would expect the relationship between ethnicity and health would be given much consideration. However few studies in this area have been carried out, and thus not much is known on the interaction between ethnicity and health in Mauritius. Titmuss and Abel-Smith observed that "in many ways Mauritius is ideally situated and ethnically constituted to provide an interesting 'laboratory' for the study of the pattern and aetiology of certain diseases and mental disorders."(14) They go on to say that:

"...the study of the epidemiology of different ethnic groups by highly skilled personnel would not only contribute to knowledge about health of the people in Mauritius but set an example of what could be achieved by a high standard of medical care. All these possibilities deserve investigation."(15)

Many questions remain to be asked when considering uses of health care in Mauritius. For example is a linkage between traditional medicine and bio-

medicine possible or even desirable? We must also look at how the different services are used, what perceptions people have of them and how influential socio-economic and cultural factors are in deciding which healing tradition to consult. Equally important are their beliefs and attitudes to diseases and their causes. It is to these that we now turn.

Section 2

Concepts of illness and illness causation

This section draws heavily on the work done by Sussman[16] and is based on my own observations while in Mauritius and also on the informal conversations I had with both laymen and professional healers in different parts of the island.

In 1959 Titmuss and Abel-Smith observed that:

"A Mauritian faced with an illness will often seek advice from a number of different doctors, pharmacists, nurses, herbalists and self-appointed lay experts. He will purchase both modern drugs and traditional herbs, make vows to different deities and visit shrines of more than one denomination. It is an eclectic pattern of behaviour..."[17]

This 'eclectic' behaviour conveys a sense of confusion if not panic and ignorance on the part of the sick person. Part of the reasons for such behaviour lies in the Mauritian's concepts of diseases. According to Sussman[18] there is a system of beliefs about the causes and classes of illness that is shared by a substantial proportion of the lay population of Mauritius. The categories of illness are constructed according to general cause and consist of:

a) illness of God, or "doctor illnesses",

b) illnesses from dead souls, or fright, and

c) illnesses of evil, illnesses of people, or sorcery.

She also found that 75% of Hindus she questioned included an additional illness category: "illness of saints".

a) Illnesses of God/doctor illnesses:

The majority of illnesses under this category are thought to be 'natural' or 'normal' illnesses that may be caused by such factors as diet, weather, germs, stress etc. For a cure one seeks the help of secular healers (bio-medicine, herbs,acupuncture, marking and passes*,and also one prays to God for those who believe in God). One must point out that whereas in the past people tended to leave to providence the outcome of many 'illnesses of God' especially in such cases as small pox and measles, nowadays there is an increasing tendency to seek a cure while acknowledging that the illness is caused by God. Thus prayers and pills go hand in hand.

The Mauritian's belief in natural causes of illnesses does not mean that he adheres completely to the bio-medical concept of disease causation. In fact it is interesting to note that the Mauritian culture borrows its concepts from one medical system and produces its own folk interpretations. One such example is a belief I came across about the causation of Gastro-enteritis in infants, while conducting the questionnaire on infant mortality. According to some parents, the diarrhoea and vomitting were caused by the eruption of a tooth called 'robber tooth' (le dent volère) behind the double teeth at the back of the jaw. The tooth could be found in four places (on either side, on the top and bottom of the jaw). This was not one of the natural teeth as its position indicates. This 'tooth' had to be 'pressed down' otherwise the infant inevitably died. Usually there was an elderly person in the village who could do this by using the thumb to press down the tooth. Though no reason could be given why this 'unnatural' tooth erupts, there

*laying on of hands and incantations

was no indication that 'sorcery' or 'evil spirits' or punishment from God was implicated. According to respondents and an allopathic doctor, this phenomenon is relatively new, dating back about nine or ten years.

With some variation, this belief about the causation of diarrhoea is also known in other parts of the world. Morley points this out:

"Because diarrhoea is so common in the period lasting more than 2 years in which a tooth somewhere in the mouth is erupting, cutting of teeth is commonly considered a cause. In parts of South America if a child is cutting teeth the parent delays taking the child to hospital for 3 days; in the same region they believe that if diarrhoea stops suddenly this is dangerous. There is no evidence that eruption of teeth is related either to diarrhoea or constipation."(19)

Nor is there any medical foundation which confirms the existence of the 'robber tooth'. Apart from the implications for resort to health care, it is interesting to note that folk interpretation of diseases need not only be passed down by culture but can also be 'manufactured' in the present time.

Diarrhoea in adults is sometimes believed to be caused by some form of physical displacement and the treatment sought (for cases of diarr-hoea) is often to have the abdominal organs pushed back into place."(20)

Mauritians also make use of the humoral theory of disease in their explanation of some of the diseases classed as 'natural'. This phenomenon is not confined to Mauritius only as Messer shows:

"Humoral systems though sometimes discussed as if they were all derivatives of classical Greek and Eastern high cultures, can be found in many different forms throughout the world. They may be constructed of simple dimensions (only hot-cold) as in Latin America, Philippines and certain New Guinea cultures, or compound (hot-cold-wet-dry) qualities as

in Classical Greek and Arabic of which hot-cold provides only one dimension of analysis."(21)

In Mauritius the simple dimension (hot-cold) classification is used. Certain conditions are believed to be hot (chauffement) and others cold (fraichère), and therefore diets and medication of opposite quality are then prescribed to redress the illness. Certain foods or other items are classified as having hot or cold properties. Spices, especially chillies and alcohol figure at the 'hot' end of the continuum, while cold air, rain, cold drinks, cucumbers are at the other end. Herbal remedies (la tisane) are frequently used to counteract the excessive heat or coldness that some food or other factors are thought to produce in the body. Skin eruptions are quite often attributed to 'chauffement'. Though this humoral interpretation of diseases is widespread in Mauritius no systematic studies have been carried out and therefore lay people continue to be confused as to what exactly 'chauffement' and 'fraichere' mean, and still less what should be done about them.

These different beliefs about illnesses and their causation show that it must not be taken for granted that people understand the 'real' causes even if they believe that the illness is caused in a natural way. Lay theories on what constitutes an illness, what caused it and how it should be treated, abound. Some have been passed down from generation to generation, some have been modified with time and other new ones have evolved. This is an area where there is extensive use of salt, vinegar, analegsics, laxatives, oil, herbs, potions and ointments.

b) <u>Illnesses of dead souls or fright (Mauvais zair, Gayn Père):</u>

These illnesses are supposed to be the result of encounters with the souls of persons who died before their time, especially those who die

[illegible] different ethnic groups subscribe to this belief

from accidents and violence. Souls of persons who are murdered or who committed suicide or even those who are supposed to have died as a result of sorcery or spirit possession - are believed by members of all religious groups to be wandering on earth, especially at night because these spirits 'cannot rest in peace'. Some of these souls are harmful and may 'possess' an individual while others may go about their own business.

When a person encounters a 'harmful' soul - who is sometimes also believed to fall in love with its victim - behavioural changes and/or an illness is produced. "Individuals become 'frightened' or 'shocked' upon encountering them and lose consciousness, become paralysed or become feverish and delirious."(22)

These dead souls are supposed to be present at certain sites. Some trees are known to harbour them, while night time seems to provide the perfect cover of darkness. Certain actions at certain times may make the individual vulnerable to these 'attacks'. For example, anyone walking by a cemetery at night, especially at midnight, is thought to be exposing themselves to such encounters. Taking a baby out after sunset is believed to put her or him at risk in a similar way. When 'followed' if one panics and looks back, one is likely to become possessed by such souls. Urinating under certain trees especially at night may offend the soul which seeks shelter there and is likely to retaliate by harming the person.

Just as medical science believes that physiologically certain people are more vulnerable to certain diseases, so it is believed that an individual whose 'star' 'is powerful' (Zétoile Fort) is less vulnerable to attacks and can even see these apparitions. However, what the layman calls 'powerful star' is interpreted in religious circles as a strong belief in God, which acts as a protection.

Though the notion of soul possession is known to members of the different religious groups on the island, the actions that lead to exposure to such attacks need not necessarily be the same for each group. For example in the Muslim community it is believed that if a woman goes 'bare-headed' or leaves her hair loose, she is vulnerable to soul possession or that an 'unclean' person puts himself at risk. It is clear that the notion of 'purity' or 'cleanliness' differs from religion to religion. For example, sexual intercourse may cause a person to be unclean according to Islamic customs, while eating beef can lead to the same state of 'impurity' for a Hindu. It does seem that in some ways certain conduct or transgression of a particular religious or social rule may lead to certain illnesses. For example, a booklet published in 1981 by a member of the Muslim community - after explaining that walking out at night may lead to encounters with 'souls' - sets out to warn Muslim women who like to stay out late at night.(23)

In the past if a daughter-in-law did not behave 'normally' in her new home (with her in-laws) she was believed to be possessed (Gayn Diab). If for example she talks back or 'fights' verbally or otherwise with her mother-in-law, she is likely to undergo the same treatment as people who are possessed by souls. Thus it is likely that this theory of illness causation acts as a form of social, cultural or even religious sanction for the different ethnic groups. This is very much in the functionalist tradition in medical sociology and anthropology which has always viewed medicine as a form of social control.

Treatment for this category of illness could be as crude as beating the possessed person with a broomstick or sandals (of course, it is believed that it is the invading soul which is receiving the blows). Prayers and exorcisms are most commonly performed. (More about treatment later on).

c) Illnesses of Evil, or illnesses of people (Malade Mésanseté, Malade Dimun, Gayn Diab)

According to Sussman these illnesses result from sorcery in which individuals, with the help of various powers of Evil (the Devil, Evil Spirits or demons, and in some cases, Saints such as Kali,) make someone ill or insane. Sorcerers (longanists) are supposed to be in touch with souls of dead persons, spirits (such as Jihns) or even with Saints,and they can use these latter to harm or even to help other people. "While spirit Familiars can cause maladies, they also can be persuaded to restrain other spirits of the same sort from causing sickness, as long as it is they who are the more powerful."(24)

It is interesting to note that while illnesses resulting from encounters with dead souls are mostly of the behavioural kind, those resulting from sorcery can be any illness, physical or mental, chronic or acute. Hence a chronic pain in the leg may be attributed to 'sorcery' as it could be attributed to 'fraichère'. In fact "any illness that has not responded to treatment for 'illnesses of God' may be suspected to be an 'illness of Evil', regardless of the symptoms."(25)

By getting hold of items belonging to the intended victim such as clothings for even a few hours, the process of sorcery is facilitated. One can also catch these illnesses by ingesting substances with poisonous and/or magical properties, by disturbing spirits that reside in some large species of tree or by inadvertently walking over herbs that have been used by others to break spells.(26)

Sussman has omitted the concept of the 'Evil Eye' in her classification of illness causation. The Evil Eye belief is known in Mauritius as it is in many other countries. Spooner notes that:

"... the concept of the Evil Eye is reported throughout Europe, the Middle East, and North Africa, and in so many cultures elsewhere that it

may be regarded as a universal phenomenon."(27)
The concept has been considered by some anthropologists(28) as a subclass of witchcraft beliefs as it is among the Amhara people of Ethiopia.

In brief "the concept of Evil Eye appears to be an institutionalised psychological idiom for the (....) personification of misfortune... insofar as misfortune, or the fear of it, may relate to the fear of outsiders and their envy."(29)

Beliefs in the concept vary throughout the world. The Amhara people mentioned above are reported to believe that the Buda people (a different ethnic group) possess the evil eye, and that they gained this power from the Devil. They are supposed to use this power to achieve some sort of equality with the 'superior' Amhara. Such is not the case in Mauritius. But as Reminick points out:

"The dominant theme expressed in the Amhara evil eye belief is one which is shared possibly by all those societies that maintain a belief in the evil eye: the fear of being envied and the interpretation of certain misfortunes as the consequences of another's envy."(30)

The Mauritian concept of the Evil Eye is closer to that held in Morrocco where it is believed that:

"The Eye or Eye of people is a glance of envy or ridicule that is retrospectively diagnosed as a cause of illness or misfortune. Most susceptible are new, young and successful things, and unexpected illness in children is often attributed to it."(31)

In Mauritius it is believed that a 'beautiful' baby is as likely to catch the Evil Eye as is someone who possesses something which may cause the envy of someone else. People eating can also catch the 'eye' from someone who is feeling hungry or who would have liked to be in the place of the eater. And unlike the case in many other countries, the person

who casts the evil eye is not believed to possess any supernatural power. In fact anybody is believed capable of doing so, and the 'caster' is often unaware of his doings and the damage done unintentional. Any phrase such as "what a beautiful baby!" is believed to be enough to cause the infant to fall ill. The illnesses most commonly associated with the 'eye' are rarely behavioural or chronic ones. Most often the person affected will feel 'unwell', will have fever, diarrhoea or vomitting, and in some cases pain in certain parts of the body.

The treatment for the 'eye' comes from the folk healing tradition. Usually the person performing the ritual is an elderly member of the family who collects together such items as a few dried chillies, some salt, a few stems from the locally made broomstick and some other items. These are clenched in the fist and a few imaginary circles are made round the head of the 'patient', while some prayers or incantations are muttered. The items are then thrown over a fire. The stronger the smell emitted by the fire burning the ingredients, the more is the diagnosis of 'evil eye' confirmed. There are also other ways in which the 'eye' is exorcised.

These are the main categories of illnesss and their causation in Mauritius, and as it can be observed, there is a certain degree of overlap in the classifications. We now turn to healing sources for these illnesses.

Section 3

Healing resources available on the island:

In this section we shall identify and analyse the main sources of 'Health Care' as available at present. They are*

*This is Sussman's classification with the addition of TBA's

a) Biomedicine
b) Homeopathy
c) Chinese Medicine
d) Ayurvedic Medicine
e) Herbalists - (i) professional and (ii) folk
f) Specialised secular healers - including traditional birth attendants
g) Religious temples, shrines and specialists
h) Sorcerers

a) **Bio-medicine:** The last two chapters were devoted to the organisation and distribution of biomedicine on the island. We shall offer more comments on the uses of these services at the end of this chapter.

b) **Homeopathy:** Sussman identified only two sources of homeopathic treatment in Mauritius, both of which are located in urban areas. One of the homeopaths is a Franco-Mauritian practitioner who works part-time. According to him, the patients who consult him do so after having been seen by allopathic physicians from whom no satisfaction was obtained. The common chronic ailments that seem to come to his attention are asthma and allergies. The other is a healing centre that is associated with an 'Ashram' and run by homeopaths trained in South Africa.(32)

c) **Chinese Medicine:** The practice of Chinese medicine on the island is as old as the beginning of Chinese immigration in Mauritius. According to an elderly Chinese I talked to, the first generation of Chinese immigrants brought with them some of their own medicines for their own use, and it was only much later that people from other ethnic groups sought the help of Chinese doctors and pharmacists. Indeed, the Annual Report of the Ministry of Health for the year 1967 noted that:

"Importation of medical herbs by the Chinese community was on the increase, and delivery of consignments was only authorised on the recommendations of this Ministry."(33)

I was also told that most of the Chinese homes have an assortment of Chinese medicines. And just as other people use herbs or analgesics in the first place, many Chinese would take Chinese medicine first, for

minor ailments but would resort to allopathic practitioners if the illness were serious.

There are at present three Chinese doctors in Mauritius and they were all trained in China. According to one Chinese doctor interviewed in Port Louis, most people consult him for chronic illnesses, but do so mainly after having been to an allopathic practitioner from whom no relief was obtained from their symptoms. According to the Chinese doctor Sussman met, the most common ailments for which they were consulted were: asthma, sinusitis, epilepsy, rheumatism, haemorrhoids, urinary calculi and kidney stones. To this list could be added diabetes and skin disorders.

The clients of Chinese doctors comprise an increasing number of people from different ethnic groups who have tried other healing resources without much success.

There are to date four Chinese pharmacies all of which are situated in Port Louis. They sell their drugs directly to the patients whether they have a prescription from a Chinese doctor or not.

Acupuncture is also practised by these doctors and in fact they are only legally authorised to practise acupuncture and to deal in Chinese herbal remedies.

d) **Ayurvedic Medicine:** Indian immigration on the other hand, does not seem to have brought with it 'Ayurvedic Medicine', which has been popular in India for a long time. There are at present two Ayurvedic practitioners, one of whom is based in the suburban town of Beau Bassin. He also visits two other towns in the rural areas on different days and at different times. Like the clients of homeopathy and Chinese medicine, the ailments brought to him are mainly the chronic ones with which allopathic medicine has not been successful. The Ayurvedic doctor interviewed claims that his medicine is not chemically based and is

effective for all kinds of illnesses. In addition, as his information leaflet reveals, Ayurvedic medicine can do much more than treating or curing illness. (see Appendix III).

The Ayurvedic practitioner I interviewed presented himself in much the same way allopathic ones do. He was wearing a stethoscope around his neck and had a sphygmomanometer (to measure blood pressure) on his table.

One worrying aspect of the Ayurvedic medicine set up in Mauritius is the fact that the practitioner sees his clients on the premises of his drug stores. If one imports medicine, prescribes and sells it, there is no doubt the temptation to over-prescribe or to sell drugs which have remained too long on the counter. Many experts have called for the association between doctors and drug stores to be discouraged. Yet Ayurvedic practitioners have been allowed the unethical practice of seeing their clients on the premises of their drug stores.

Given the large Indian population on the island, it is indeed surprising that there are only two Ayurvedic practitioners and that Ayurvedic medicine is not popular among them. Sussman offers her explanation of the possible causes for this:

"At present, only bio-medical practitioners are licensed to prescribe drugs, perform surgery, be affiliated with hospitals, and perform official functions such as the writing of birth and death certificates and issuing of certificates for sick leave. It is possible that the limitations that would be placed upon the activities of Ayurvedic physicians in Mauritius may in part explain the scarcity of Ayurvedic resources on the island."(34)

It remains to be explained why Ayurvedic medicine has only been introduced in Mauritius in the last few years given the fact that Indian immigration brought with it and maintained many traditional Indian

customs, and that in any case the first generation of Indians distrusted the kind of biomedical care that was available to them, as shown in Chapter 4 .

e) Herbalists:

i) Professional herbalists

Sussman located three full-time Tamil herbalists in Mauritius who have stalls in urban markets. They represent the third generation of herbalists in their families. Their grandfathers had been herbalists in India before migrating to Mauritius and the tradition has been passed down from father to son.(35)

Most of the ailments for which herbal remedies are sought had previously been attended to by an allopathic practitioner. However, the use of medicinal herbs is widespread on the island, and members of all ethnic groups utilize the services of the herbalists.

The most common ailments for which medicinal herbs are used are mostly the chronic ones such as diabetes, kidney problems, skin disorders etc. However even in cases of acute diarrhoea and vomitting some people would seek relief from herbs. In fact the professional herbalists have "a list of 34 ailments on their business cards as being treatable by herbs."

Approximately 150-200 different plants species are utilized by the professional herbalists, but although the pharmacopeia of the grand-fathers of the herbalists may have been largely of Tamil origin, it is clear that today the pharmacopeia consists of a mixture of Tamil and indigenous Mauritian components.(36) Plant species were continually being introduced in Mauritius by seamen in the 18th and 19th centuries from other countries. One such example is the 'Ayapana' plant so popular in Mauritius. Bouton compiled a list of medicinal plants growing or

cultivated in the island in and before 1857. He had this to say on the 'Ayapana'.

"This plant was introduced from Brazil by Captain Baudin towards the end of last century (1797)... The Ayapana has continued to occupy a high rank in the list of our medicinal plants. It is daily used in the shape of tea in difficult digestion and derangement of the chest and bowels.."(37)

The herbalist business which is dependent on markets is not a flourishing one but there are enough clients to enable the herbalists to make a living. Part of the attraction of herbal remedies is that they cost less than chemical drugs. Some herbalists have clients who use their services on a regular basis in the same way as a patient would resort to repeat prescriptions from a GP.

According to the herbalist I interviewed at the Central Market in Port Louis, the main problmes they face is the disappearance of certain plant species. With the building of more houses and the clearing of land for sugar cane and other plantations, not much is being done to preserve these plant species which are so important if herbal medicine is to play an important part in providing relief or cure for certain ailments in Mauritius. It is unfortunate that not much heed was paid to the advice of Balfour when he wrote in 1921:

"The cultivation of medicinal plants might conceivably prove a profitable undertaking."(38)

Earlier, in 1887, Bouton compiled his list with this aim in mind:

"We shall have attained the principal object we aimed at in writing this book, if our physicians can gather a few hints from it for the benefit of public health and if the poor afflicted patient can derive from it some alleviation to his sufferings."(39)

Another obstacle in the future of herbal medicine is the fact that not many people are interested at the moment to learn the trade. I was told by the herbalist I interviewed that if his son does not learn the trade, his knowledge and expertise will be lost. Presumably he does not want to pass on his knowledge to 'outsiders'.

ii) Folk herbalists

They are people who have some knowledge about some medicinal plants, and quite often grow these themselves, and offer their services to whosoever needs them, free of charge. It is possible that 'folk herbalism' developed in Mauritius amongst the Creoles. Since the Creoles are descendants not of free immigrants but of slaves, it would be erroneous to think that they brought any plants with them when they were brought to the island. Folk herbalism must have developed on the island, probably with some help from its Malagasy neighbours. To this day folk herbalists are mainly Creoles. Their numbers are not known but they are well known in their locality. Unfortunately the 'knowledge' is not being passed down to younger generations. Bouton gave us an idea of the secrecy surrounding the knowledge of folk herbalists:

"The information we have been able to collect has been, if we may be allowed to use the term, gathered piecemeal from the mouth of our Creole practitioners, who, mostly, shroud themselves in darkness and mystery and whose skill seems to consist in preserving their recipes under the most inviolate secrecy."(40)

f) Specialised secular healers: These are people who possess the expertise for dealing with certain ailments. Most of them are specialised in healing one type of ailment, while a few can deal with more than one. The 'illnesses' which are brought to them are both acute and chronic. The acute ones comprise sprains and pulled muscles, stiff neck, sudden back ache and abdominal pain, while rheumatism, arthritis,

persistent back ache, and regular migraine form the bulk of the chronic ones. Sussman also identified two types of illnesses for which the services of secularised healers are very often required, and they are 'coldness' (fraichère) and 'Tambave'. We have dealt with 'fraichère' already. This is how she describes 'Tambave':

"Tambave is characterized by chronic skin eruptions on the bodies of infants and children, especially around the head and face, and may be accompanied by gastro-intestinal disorders. It is believed that this illness results from unclean blood and that the skin eruptions and/or diarrhoea develop in order to release the poisons that are in the blood. The poisons originally enter the body via food that is eaten either by the child or, more commonly, by the mother during pregnancy or nursing."(41)

In the past, these healers would give their services free of charge, but recently some of them have been charging a fee which is well below that asked for by allopathic practitioners. However cost of items incurred in the healing process is charged to the customer who may also present the healer with a gift if satisfaction is obtained. It is difficult to generalise how the healing is performed. In cases of sprains, pulled muscles, stiff necks or back aches, the treatment consists mainly of massage but sometimes prayers or 'passes' (incantations) accompany the massage. 'Laying on of hands' especially in cases of 'Tambave' is quite common, as is the use of herbs, as part of the treatment.

Most secular healers come from the Creole community, though Hindu, Muslim and Tamil healers are also well known. Their clients as could be expected are from all the ethnic groups on the island.

One particular aspect of secular healing is that the healer very rarely, if ever, reveals the prayer or incantation used. It is believed

such an explanation might diminish their healing power. Like herbalism, secular healing knowledge is not being passed down.

Traditional Birth Attendants (Dais) can be included under this heading because they possess some expertise concerned primarily with the technical processes of childbirth. It is not known since when the traditional birth attendant (TBA) has been delivering babies in Mauritius, but a 'proclamation' dated 10th May 1817 (Code Farquhar No. 225) declared that it was illegal for anyone to practise the art of 'delivery' in childbirth, except for doctors or qualified midwives.(42) This law has remained a dead letter to the present day. Indian immigration in the 19th century brought with it its own 'dais', and the Indians were reported to be reluctant to be attended by qualified midwives who were mostly members of the Creole community.

The situation is changing now. In 1980 only 25% of births were delivered by the TBA, while in 1970 the figure was 40%. Though attempts have been made to record their numbers, we do not know how many TBA's there are in Mauritius at present, but their numbers seem to be decreasing fast. The younger generation is not interested in doing the job which,as we shall see,is much more than delivering babies.

The work starts about a month before delivery and continues well after the baby is born. The 'dai' visits the pregnant woman regularly, does some household work for her, such as washing clothes, cooking or even cleaning the house. Once the baby is born, she comes regularly to wash and 'oil' the baby and looks after the mother too. In fact she gives support as a member of the family would. In return she gets a 'fee' for the 'whole' of the services performed. Quite often she is supplied with meals for the duration of her work, and would also be presented with gifts to show appreciation for services rendered. They provide an important service to the woman who wants to be delivered at

home and who needs regular support with her daily chores.

It is interesting to note that because more pregnant women are going to hospitals or resorting to qualified midwives for their deliveries at home, some 'dais' have adapted to the situation. They have retained some of the functions such as cleaning, washing, cooking and looking after the baby, while the actual delivery is done by a qualified midwife. Such change in the role of the TBA is not confined to Mauritius. For example, in Malaysia, in cases where the TBA works together, "the 'bidan kampung' (TBA) attends in the capacity of ritual specialist, general helper, and a supporter of breast-feeding and of other useful traditional practices, whilst the trained midwife is the specialist for the actual delivery of the mother, the cutting of the cord and the care of the new born and mother in terms of physical illness."(43)

I was told by informants that it is hard to seek the services of 'dais' as there are not many of them around. Those who are available also charge much more than they used to for what is generally considered hard work for a whole month. Therefore more and more people resort to free government services.

g) Religious temples, shrines and specialists: All ethnic groups on the island have their own religious specialists, temples and shrines. People make use of these 'healing' sources in cases of illnesses which they believe are caused by dead souls, by sorcery, as a punishment from God or as a result of a broken promise made to a Saint. These sources can be divided into three distinct groups. First, we have the 'official' priests affiliated to a religious institution such as a church, mosque, temple or a pagoda. They will come to the rescue of the sick person by dispensing prayers, and calling on God or a Saint, as the case may be, to effect the cure. They are rarely interested to diagnose the cause of the illness. They normally offer their services free of charge,

but if there is a religious ceremony to be carried out, the expenses are borne by the patient or his relatives. The member of a religious group will consult the priest in his own religion in the first place, but sometimes if he is not cured, he may seek the help of priests in another religion, especially if he believes that the dead soul or the source of withcraft is from a religion other than his. The Tamil priest (Poussari), is an exception. According to Sussman "the religious and ethnic backgrounds of the patients of Tamil 'poussari' tend to be more varied than those of other religious specialists. This is because Tamil poussari hold a somewhat ambiguous status: Tamils see them as religious specialists, whereas non-Tamils place them in the category of 'sorcerer' or 'traitère'.(44)

Secondly, there are lay specialists who use prayers to 'heal' people. Some of them are believed to have special powers, sometimes derived from the fact that they live a 'holy' life or that they are learned in religious matters. There is some overlap in the services they offer, since some of them are believed to effect cure by 'laying hands' on the patient, while at the same time praying for him. These lay specialists often charge the patient for their services, but the fee is normally a low one. Other expenses such as the burning of 'sandal sticks' or candles, or even an offering made to God or Saints, are charged to the patient. They differ from the official priests in that they often diagnose the cause of the illness and offer other services such as warding off misfortune, or make prayers designed to bring prosperity and happiness to the client. Unlike the sorcerers, they deal only in prayers.

They are consulted in the first place by members of their own religious group, but if they have a 'good' reputation, it is not unusual for people from other religions to seek their help.

The third group comprise shrines, temples etc, which people visit in the hope of finding a cure for their illness. They do so normally after exhausting all other healing services mentioned so far. Each religious group is known to have certain sacred places where some of their members go to, expecting a 'miracle' cure. Some Muslims go to a 'Darga', which is the tomb of a very pious man or woman (Peer), and ask him or her to intervene with God in their favour. Others visit tombs or pray to sacred status in the hope of a cure. But perhaps the best known shrine in Mauritius is that of Père Laval which individuals from all ethnic groups are known to visit in their quest for a 'miracle cure'. Pilgrimages are made to his tomb in large numbers everyday. He was "a Catholic missionary priest who worked in Mauritius in the 19th century. He is known for the numerous healing miracles he performed and for his acceptance of and generosity towards the poor members of all ethnic and religious groups."(45) In 1980 he was canonised.

h) Sorcerers: Sorcery is part of the folklore of Mauritius and has played an important part in Mauritian life, perhaps more so in the past than at present. Because of the secretive nature of sorcery and the fact that most religions forbid its practice, the extent to which people resort to it is unknown. There are numerous sorcerers (longanists) on the island and some have reputations that extend far beyond their locality. However, with time the number of genuine sorcerers has decreased as the number of quacks has increased.

Sorcerers in Mauritius are not a homogenous group. Sussman's impression is that most have acquired their knowledge from several different sources and ideological traditions. "These may include: old European sorcery and alchemy, early Freemasonry, Hindu, Tamil and Indian beliefs, Mauritian herbalism and folk beliefs and Christian beliefs and practices."(46) However, the most potent form of sorcery introduced in

Mauritius is supposed to have come from Madagascar, and many sorcerers claim that they acquired their 'knowledge' from Malagasy sorcerers. But Mauritius has its own reputation for sorcery. D'Arbouze, writing about his stay in Mauritius and his passion for the sorcerers there, reminded us that Huysman, another writer, said that Mauritius was the centre of sorcery. D'Arbouze himself believed that it was a hazardous claim to make especially by one who knew Africa and its innumerable magical rituals, or even Haiti and its famous 'Voodoo'.(47)

Though they are consulted mainly in cases of illness, their services are sought for "social problems most of which are related to work, school, family or marriage." Often their diagnosis points to a member of the family or immediate environment as the cause of the illness or misfortune, thus creating more conflict than it solves. Unlike the witch doctor in certain parts of Africa, who brings a social and domestic conflict into the open and seeks to solve it, the Mauritian sorcerer, often by being vague as to who is the 'caster' of witchcraft, leaves suspicion in the mind of the 'client', who then picks out a 'disliked' member of the family and attributes all his misfortune to him. Quite often the charge is not brought into the open, and the enemity between the two thrives on this suspicion.

Most sorcerers in Mauritius are healers in certain sickness episodes, and sorcerers who can make someone ill, in others. This means that a sorcerer may be consulted if someone desires to make somebody else sick, lose his job or win the favour of a suitor.

The types of illnesses they deal with are those which people believe are caused by 'dead souls' or sorcery. In biomedical terms the ailments they attend to are mainly psychiatric , psychosomatic and chronic in nature. Only in extreme cases where people are too steeped in sorcery,

would they resort to 'longanists' in the first instance. Most people will consult him or her after trying out other healing sources.

They invariably diagnose the illnesses brought to them as having a supernatural cause. Since people who consult them already have suspicions that there may be sorcery or a 'dead soul' involved, the 'loganists' oblige by providing a supernatural cause for the complaints brought to them. Various methods of diagnosis and treatments are used. The latter consists of administering odd potions, sacrificing chickens or other animals, calling other powerful spirits to exorcise the 'patient', and even visits to cemeteries at midnight.

People from the different ethnic groups make use of sorcerers and because religions forbid this practice anyway, those who do so go by the reputation of the 'longanist'. However, it must be pointed out that the power of the 'longanist' is supposed to vary with time, depending on how well their 'spirits' serve them. The fact that a 'longanist' fails in a particular case does not mean that he would not be consulted again. It only means that the sorcerer of the 'caster' was more powerful in this case.

Section 4

Discussion

a) The social position of healers

Bio-medical practitoners are highly regarded in Mauritian society. On the other hand, homeopaths, practitioners of Chinese medicine and Ayurvedic doctors do not have the same high status as their bio-medical counterparts even though they are also referred to as 'doctors'. The Ayurvedic doctors in particular try to present themselves as bio-medical practitioners by displaying the symbols of modern medicine such as the stethoscope and the sphygmomanometer. These non-biomedical practitioners are almost exclusively male and are in their middle age or above.

Professional herbalists, folk herbalists, and specialised secular healers are not usually referred to as doctors though they are respected for the knowledge of their particular branch of medicine. They derive their status from the socio-economic group they belong to, which invariably is the working class. Apart from the professional herbalists who are male, both sexes figure prominently in this group of healers. They are respected as any ordinary member of the community and their special knowledge does not confer on them any power or special status.

Sorcerers, like specialised secular healers, comprise both men and women in their middle age and above. They come from the working class and have no special status. They play little part in community life and in general tend to keep to themselves. They are both feared and respected.

b) Articulation of beliefs

Given the 'eclectic' behaviour of Mauritians mentioned earlier, one may ask if there is any ideological conflict in the choice of healers. According to Sussman, the multi-causal belief system promotes the maintenance of ideologically diverse healing traditions and the acceptance of newly developed or newly introduced therapeutic resources. Once a patient has categorised his illness, he seeks the services of a specific practitioner within his chosen therapeutic tradition. If satisfaction is not obtained he may switch to another practitioner of the same healing tradition. New developments in the illness episode or failure to obtain cure may cause the patient to change his original categorisation of the illness and resort to healers of a different tradition but in line with his new classification. The same procedure is repeated if the patient wishes further to consult a practitioner of yet another healing tradition. Sussman believes that no ideological conflict occurs when a patient switches from one tradition to another. She explains further

that the failure of a practitioner to effect cure does not cause the patient to lose faith completely in that healing tradition. Instead the failure can be explained by the fact that the practitioner was not skilled or powerful enough to produce a satisfactory cure or that he failed to diagnose correctly the cause of the illness or that the patient himself wrongly categorised his illness in the first place.(48) While her description of the concepts of illness causation and the healing resources in Mauritius is both accurate and useful, it is not certain that patients switch from one tradition to another in the neat way that she describes it.(49) There are cases where patients consult healers of different traditions at the same time. Patients do follow different treatments simultaneously without regard to ideological beliefs if the end result is a cure. Perhaps Sussman had this in mind when she pointed out "patients tend to place considerably more emphasis upon treatment results and techniques than upon the understanding of the cause of the illness and of the ideological foundations of the therapeutic techniques."(50)

One important conclusion that can be drawn is that the lay population hold such generalised notions about the multiplicity of causes and treatments of illness that several ideologically diverse therapeutic traditions can be utilised at any time, more often consecutively but sometimes concurrently.

c) Sequence of consultation

Sussman's data and the results of the questionnaire relating to infant/child mortality can be used to discern a pattern to the way in which patients exploit the healing resources available. An attempt will be made to shed some light on the 'eclectic' behaviour of Mauritians.

Not much is known about self treatment in the home especially for minor ailments. For fear of being reprimanded or seeming ignorant,

people are reluctant to talk to outside investigators about the use they make of oil, salt, vinegar, spices and a wide range of other items in their attempt to cure or treat their health problems before seeking outside help. More studies need to be done before one can generalise with some confidence about the extent to which people attend to their illness by themselves.

On the other hand, it is now possible to collect information about resort to healers with some degree of reliance. Sussman's data suggests that people classify most of their illnesses as 'illnesses of God' and seek the help of healers in this tradition as a first resort. Studying the illness episodes of members of 32 households in the South West of the island, she found that for 260 out of 279 (93%) of these episodes initial treatment was sought from practitioners who treat illnesss of God (Table 51)[51]

Table 51
Number of illness episodes for which study families consulted each type of healing resource at each level of resort

	ILLNESS EPISODES			
Healing resource	First Resort	Second Resort	Third Resort	Fourth Resort
Government medical services	168 (0.60)	17 (0.28)	11 (0.39)	3 (0.21)
Private biomedical practitioners	21 (0.08)	15 (0.25)	3 (0.11)	2 (0.14)
Medicines bought at pharmacy or general store	47 (0.17)	7 (0.11)	2 (0.07)	0 (0)
Folk herbalists/home herbal remedies	20 (0.07)	7 (0.11)	1 (0.04)	2 (0.14)
Specialized secular healers	4 (0.01)	4 (0.07)	2 (0.07)	2 (0.14)
Religious specialists	1 (0)	2 (0.03)	2 (0.07)	3 (0.21)
Sorcerers	2 (0.01)	3 (0.05)	2 (0.07)	1 (0.07)
No treatment	16 (0.06)	6 (0.10)	5 (0.18)	1 (0.07)
TOTAL	279	61	28	14

When the 16 episodes of 'no treatment' were followed it was found that these patients also classified their ailments as 'illnesses of God'.

22% of the illness episodes in Table 51 did not find a satisfactory cure and in 56 out of these 61 episodes, the patients still classified their ailments as 'illnesses of God' and sought treatment from healers within the same tradition. In most of these cases patients switched from one bio-medical resource (the government system) to another (a private resource). The switching of practitioners within the same ideological tradition seems to be a common occurrence at the second level.(52) Patients at this stage also make more use of Chinese and Ayurvedic medicine, and seek the services of homeopaths, secularised healers and herbalists.

If no satisfaction is obtained, patients may change their original categorisation to that of 'illnesses of Evil', 'Saints' or 'dead souls'. Table 51 shows a higher percentage using religious specialists and sorcerers as second, third and fourth resorts. Sussman found that 'whereas religious specialists or sorcerers were consulted as first and second resorts mainly for cases of paralysis, loss of consciousness and psychological disorders, they were consulted by patients as third and subsequent resorts for a variety of chronic ailments such as chronic heart palpitations and weakness, ear ache, stomach pains, skin disease, gout, stomach ulcers, bronchitis and congenital heart disorders.(53)

In the sample relating to infant/child mortality all those who sought help (90) did so as a first resort from practitioners who treat 'illnesses of God' (Table 52). From these only one consulted a non-biomedical resource. The fact that only one parent sought help from a secularised healer in this sample confirms the views of respondents that infants and children are too much at risk in illness episodes for them to shop around before consulting an allopathic practitioner. This shows to

some extent their faith in the potential of allopathic medicine to treat diseases mainly associated with infections to which infants and children are prone. In other developing countries too, "children's diseases are often labelled acute medical problems and consequently treated by western style practitioner."(54) The higher percentage who sought help from private doctors as a first resort (37% including the private clinic

Table 52

Infant/Child Mortality Questionnaire:

Healing resources consulted (see Appendix I)

Healing resource	First Resort	Second Resort	Third Resort	Fourth Resort
Private doctor	36	18	3	6
Hospital	32	34	3	2
Dispensary	9	-	3	-
Maternal and child health clinic	7	1	-	-
Private clinic	1	4	2	-
Police doctor	1	-	-	-
Retired nurse	2	-	-	-
Pharmacist	1	-	-	-
Secularised healer	1	-	-	-
Folk herbalist	-	1	-	-
Sorcerer	-	-	-	1
No treatment	10	-	-	-
Total	100	58	11	9

consultation) in this sample as against 8% in the Sussman study suggests that in cases where people perceive the risk to be too high they aim to obtain the best that bio-medicine can offer. The time factor somehow overrides economic considerations.

As second and third resorts the parents have concentrated their search for cure almost exclusively on bio-medical resources. 34% attended hospitals as a second resort mainly because apart from private clinics and hospitals there are no other facilities where infants could be kept under observation. Many of those who consulted a private doctor in the first place were in fact referred to hospital. There is also a higher number using private clinics as second and third resorts, while only one folk herbalist was consulted as a second resort. These cases show a switch mainly from one bio-medical resource to another thus indicating no change in the original categorisation of these illnesses.

Further analysis of the data collected reveals that in 15 cases more than one private doctor were consulted. Furthermore, out of the 32 cases which attended hospital in the first place, 13 (40%) did not get satisfaction and sought the services of a private doctor. The lower incidence of resort to sorcerers in this sample as compared to Sussman's data can also be explained by the fact that most of the illness episodes of the infants/children samples were short and lasted over a few days thus giving parents little time to change their categorisation of illnesses.

d) Economic factors in resort to healers

In general economic factors have an important part in deciding where to seek help. Sussman found that patients of low socio-economic status almost invariably will try to find cures through services that are free of charge or inexpensive and within easy reach of their homes.(55) If the illness is self limiting or is perceived as life threatening, financial resources are somehow found to pay the services of a private practitioner. This could mean that patients and their relatives will use a large share of their earnings or incur debts in order to find a cure.

The preference of Mauritians lies with the most modern and most expensive forms of medicine. Those who can afford it in fact choose to see a specialist in the first place. On the other hand, the poor patients after getting no satisfaction from the dispensary or hospital will either go on living with their illness if they can bear it or pay the services of a private practitioner, or seek the services of secularised healers and herbalists which in most cases are less expensive than those of private doctors. The drugs prescribed by the latter are sometimes four to five times the consultation fees. Other expenses incurred by the patient who seeks free government medical care is in the form of travelling fares. Because some of the essential services are centralised, people often have to travel long distances to reach them, and if the journey is to be made at night, fares charged for a taxi are sometimes exorbitant. Waiting in long queues in hospitals and dispensaries results in loss of earnings for the day.

The services of specialised secular healers cost much less than those of a private doctor. Sorcerers, on the other hand, often claim high fees. In some cases people have to travel long distances to reach them, and the expenses incurred in the form of 'rituals' or 'sacrifices' can also be high.

e) Reasons for the trend in the increasing use of allopathic medicine

People realise that the symptoms of an acute illness need to be attended to by an allopathic practitioner, otherwise precious time is wasted. While some may be interested in removing the 'cause' of the illness, priority is given to the need to attend to the 'symptoms'.

There are three main factors responsible for the trend towards increasing use of allopathic health care as first resort over the years. First, to a lesser extent, the main religions on the island (Hinduism, Christianity and Islam), while subscribing to the notion of diseases

caused by God, dead souls or spirit possession, are increasingly against the use of sorcerers in cases of exorcism, especially as the latter are believed to delve in the occult. Instead, they offer the services of their priests, who besides offering prayers will also advise the 'patient' to see a doctor.

Secondly, social change in the forms of such indicators as socio-economic status, occupation, educational achievement etc has been responsible for making people less superstitious and more attracted to allopathic health care. In developing countries the impact of the indicators for social and cultural change on 'health' has rarely been analysed. However, studies have shown that in rural Nigeria[56] and in Mexico[57], higher socio-economic status was related to a higher level of effort to seek modern health care. In rural India, social class knowledge and education were positively correlated with the use of allopathic practitioners.[58] Social and cultural change has not been slow in Mauritius. With the advent of free primary education and the perception that upward mobility could be achieved through education, people have taken advantage of the situation so much so that the literacy rate in Mauritius in 1980 was 80%. Titmuss and Abel-Smith noticed the change in 1959 when they wrote:

"Mauritius is in a state of rapid change from a low-income cash economy with a strong and extensive kinship system to a society which aspires to a higher national income per head and to a more westernised way of life."[59]

One has also to take into account here that formal education is one of the most severe exposures to western culture.

Changes in health behaviour were already apparent in 1953 when the Annual Report of the Ministry of Health, after pointing out that in the recent past the majority of the Mauritian population was completely indifferent to public health, and that they believed in the supernatural

causes of diseases, made the following observations:

"Following the progressive expansion of social services, the inhabitants began to take notice of the fact that maternal and infant deaths are rare in the households where doctors, nurses and midwives have a say, or that a village threatened with an outbreak of typhoid fever can be made safe by mass vaccination, so much so that slowly came a preference for natural explanations of ill-health and disease."(60)

The programme for the eradication of malaria in which both health workers and the population participated brought conclusive proof that malaria could be eliminated. Prior to this people used to believe that "la fièvre (malaria) like the throes of childbirth, is their inevitable lot."(61)

Such changes which could both be seen and felt and some degree of education must have helped many Mauritians to re-evaluate the way they perceive diseases and the health behaviour that they adopt.

In Mauritius anyone with some education thinks that it is 'ignorant' and 'primitive' to believe in 'ghosts' or 'evil spirits'. Why then, may one ask do people still believe that illnesses could be caused by dead souls and witchcraft? The answer lies partly in the continued persistence of the extended family. One would expect that with urbanisation and other developments, the trend would have been for individualism to replace familism. Indeed many young couples expressed the desire, during interview, of starting their home away from the family they come from. However, shortage of houses coupled with a lack of jobs tend to keep everyone within the family.

What influence the family has on the services by its members in developing countries still needs to be studied closely. What little investigations have been done have shown, for example, that in rural Korea,

the size of the family, next to education and religion is most significant in governing the use of services.(62) It has also been observed that extended families can behave more traditionally than nuclear families. The head of the family in most societies warrants special attention as he or she is crucial in the therapy management of the whole family. It would be true to say that in Mauritius the older members of the family find it difficult to divest themselves of their beliefs about illness which they have held for a long time, and that they are also in contact with traditional healers with whom sometimes they have social bonds. Thus a young educated member of the family who after seeking the services of a western doctor, gets no satisfaction, is likely to be influenced by his elders to try alternative therapies. In illness episodes there is often an element of panic and fear, so that sometimes original beliefs are played down while people move forwards and backwards between different healers. Sometimes there is no ideological conflict as Sussman shows in the case of Mauritius where the system of beliefs accommodates medical pluralism, and therefore facilitates the movement from one healing tradition to another. But even if there is ideological conflict at the level of the individual, the family acts as a buffer to reduce it. Quite often the decision about treatment is taken away from the patient by the family. Hospitalisation, in particular is rarely decided upon by the individual.

There are many rasons why the family has such an important 'hold' on the individual. It suffices here to point out its crucial role of providing emotional and economic support. The latter is perhaps the most important factor which binds family members together since the absence of social security and unemployment benefit in most developing countries forces the individual to depend on the family as a provider for its sick, unemployed and elderly members. It makes sense in return for the family,

more particularly, it's head, to have a say in which treatment is needed for its members.

Thirdly, 'a variety of factors' combined together, do have an influence over patients' decisions concerning choice of therapeutic resource, in this case making biomedicine more appealing to people. According to Sussman, these factors are:(63)

i) the widespread distribution of biomedical resources on the island as opposed to the localised concentration of other resources;

ii) the availability of free biomedical care;

iii) the relative convenience of biomedical forms of treatment such as tablets and injections, as opposed to the inconvenience of herbal remedies which must be prepared and, in some cases, contain rare plant species that are becoming increasingly difficult to find; and

iv) the legal status accorded to biomedicine and the inability of other types of practitioners to issue sick leave, birth and death certificates and to utilize diagnostic services available at the hospitals.

f) <u>The shortcomings of bio-medicine especially as practised in Mauritius</u>

The appeal of biomedicine is often offset by its failure to live up to expectations. We must now look at why biomedicine fails to 'deliver the goods' and in doing so 'forces' patients to re-examine their categorisation of illnesses and encourages healer shopping which results in the waste of resources and the loss of time in the search for a cure. We need to look at the following areas in order to find some clues as to why biomedicine sometimes fails to satisfy its customers:

i) the nature of biomedicine
ii) Symptomatic diagnoses
iii) Doctor/nurse - patient relationship
iv) The structure of both private and public health services

i) The nature of bio-medicine:

As pointed out earlier, bio-medicine sometimes effects miracle cures and in some cases fails abysmally, especially as far as mental illness and chronic ailments are concerned. The latter comprise chronic heart palpitations, rheumatism, diabetes, skin disorder, various aches and pains etc. People have doubts about the ability of this kind of medicine in dealing with all health problems for which it claims to have sole jurisdiction. As Sussman puts, people believe that "no single healing tradition possesses the knowledge, skills and powers necessary to diagnose and treat all of the potential illness-producing agents."(64)

The impersonal nature of bio-medicine is experienced by the patient when being attended by a doctor who is detached from him and seeks to look at the signs and symptoms with 'scientific objectivity'. This tends to erect a barrier between the doctor and the patient. Finally, bio-medicine with its 'organic' approach does not satisfy the patient fully since only the symptoms are looked at and for which treatment is prescribed, while the 'real' causes of the illness are too often overlooked.

ii) Symptomatic diagnosis:

Whether a person gets relief or cure from his illness depends on the diagnosis being 'right' and the treatment 'appropriate'. Most of the failure of bio-medicine in Mauritius can be accounted for in the brief initial encounter between the doctor/nurse and the patient. On the admission of doctors themselves, the consultation period lasts less than a minute and a half on average.(65) Besides the time being wholly inadequate for any real understanding of the patient's illness, the diagnostic method in Mauritius is still largely based on an assessment of the signs and symptoms only. Pathological tests and x-rays are carried out only for a small proportion of patients. Unless one is

brilliant or lucky, it is possible that, in that short period, just by looking at signs and symptoms, the nature of the illness cannot be fully grasped. The result is that the patient is often sent away with some analgesic such as panadol or aspirin, which he has most likely taken prior to coming to the dispensary or hospital.

At the Civil Hospital, in Port Louis, I came across a young man whose ankle was badly swollen as a result of an injury caused while playing football. He waited for hours in the casualty department before he was seen by a doctor. When he came out a few minutes later, he was very disappointed because he was given panadol for the pain. No x-ray was prescribed, and he was told to go home. There was no doubt in his mind that the 'effort and time' spent in consulting the doctor were totally wasted. He intended to see a bonesetter in his locality, from whom he expects 'better treatment' than he has obtained. In this case we can see that the way biomedicine is practised causes the patient to shop around for treatment. If he could afford it perhaps he would have consulted a private doctor. Next time he has a similar injury, he may in the first place go to the bonesetter, or he may try the hospital again hoping that he will be more 'lucky' in getting better care which his case deserved.

Symptomatic diagnosis itself as a method is not without its usefulness, but when used as the only method, it fails in many cases to identify promptly the cause of the illness. Unfortunately, in Mauritius, very rarely is the doctor given a second chance if he fails the first time. So the patient seeks the services of another doctor who uses the same diagnostic method as the first one. The absence of continuity of care does not help the patient in finding the cure, nor does it help to build his trust in the doctor. Often the patient does not tell the doctor about other practitioners he contacted prior to his visit. Doctors often reprimand the patient for seeking the help of other healers

and far from deterring him from doing so, what happens as Ngubane points out:

"is simply that the patient does not tell the Western-trained doctor about whatever resort he or she has made to an indigenous healer - nor even about consulting or receiving treatment from another Western-trained doctor. This means that not uncommonly the case history of the patient is quite inaccurate omitting quite crucial items of information, and a patient can even be taking a double and perhaps a harmful dose of a given medicine by virtue of getting treatment from two different doctors without informing either of visits to the other."(66)

Lack of medicines in the hospital pharmacies, the absence of certain facilities, the disproportionately high number of patients seen by the doctor within a short time, prevent biomedicine from realizing its potential.

iii) Doctor/Nurse - Patient relationship

This section deserves a chapter on its own. However, we shall try briefly to highlight some of the main aspects of the doctor/nurse - patient relationship in the public health care institutions which prevent the patient from getting the most from biomedicine. Anybody who has been in dispensaries or hospitals in Mauritius (or in other developing countries) would have sampled the air of discomfort which characterises these institutions. The smell of the place, the long queues, the poor facilities in the waiting areas, the discomfort felt by the sick person and the alienation from the staff, all contribute to make the patient feel apprehensive about the health care he is about to receive. There is little wonder that the patient feels inhibited and finds it difficult to communicate with the staff who, on their side, are pressed for time. The patient is generally treated in a condescending

manner. Both the medical and nursing staff adopt an air of superiority, typical of the way white collar workers in the Third World countries behave towards working class people and peasants. Part of this behaviour can be accounted for by the fact that hospitals and dispensaries were orignally designed to serve paupers, and to this day there is 'the notion that those who use these institutions are the undeserving poor'. Whatever the reasons for this grossly unequal relationship between the health staff and the patient, the fact remains that the lack of mutual understanding between them is reinforced with the result that the patient feels ill at ease and almost 'suppressed'.

Sometimes there are complaints of illtreatment in hospitals, which are often reported in local newspapers. There are reports of pregnant mothers being told off by the nursing staff who showed little sympathy for the patient in pain[67] or of doctors being rude to patients.[68] In return there have been physical attacks on the staff by dissatisfied customers and by individuals with criminal records, who demand to be seen promptly without waiting their turn. It is possible that sometimes people exaggerate their feelings of dissatisfaction, but what is certain that very rarely are cases of illtreatment or negligence investigated, for the simple reason that few cases are reported. Most people do not bother to do so because there is no reliable complaint procedure. At present people have to write to the Ministry of Health who deals with these cases. There is no need to labour the point that they have little confidence in a system whereby doctors investigate cases of illtreatment by other doctors, because the latter are rarely inclined to find faults with their professional colleagues. To the people, it seems that doctors are both the 'accused' and the 'judge'.

If doctors in the government health institutions offer a kind of care which is both low in standard and poor in quality, and designed

generally to discourage patients from attending hospitals and dispensaries, in contrast the private practitioner is aware of the need to attract clients, and thus, at the beginning of a new practice at least, shows signs that he or she cares for patients by greeting them and asking questions other than strictly medical ones, and by generally spending more time with them. What Parsons describes as 'functionally specific' - one of the characteristic of the modern doctor - seems to apply only to doctors in the government health service, and not to private practitioners.

During the interviews carried out it became clear that many people consider the hospital a hostile environment. They are rarely willing to be hospitalized, and would sooner be cared for at home by relatives. In contrast, private clinics show more personal consideration for the patient who is allowed to have a relative by the bedside if the need arises, or for husbands to be present during delivery.

Gould, writing on Modern medicine and folk cognition in Rural India, summarises aptly what the patient undergoes in order to benefit from bio-medicine:

"... the peasant sees hospitals and clinics as places where he will be compelled to wait endless hours in congested ante-rooms, castigated and mocked by officious attendants, and finally examined and treated by a doctor who will show no personal interest in him whatsoever. (The whole process)... drains from them every ounce of self-respect as the price for being benefitted by what the modern world has to offer."(69)

iv) <u>The structure of private and public health service:</u>

Healer shopping can be accounted for by structural deficiencies in the health services. In the public sector, the fact that doctors visit dispensaries only on certain week-days or that after 4pm no services are

available means that the patient who does not find relief or cure has to wait for the next visit of the doctor or go to a hospital. He may choose instead to go to a private doctor or to a secularised healer. The absence of a 'general practice' service modelled on the British one, means that continuity of care is not possible by the same practitioner, and no bond is established between the doctor and the patient. In industrial countries patients are more attached to their physician or family doctor. In Great Britain only 7% of patients change their doctors every year, and only 0.7% because of dissatisfaction.(70)

In Mauritius, continuity of care from the same provider is difficult given the structure of the public health service. People who can afford to pay may seek the services of the same private practitioner, but only in areas where the doctor offers regular services or resides. In rural areas, doctors' private surgeries are opened on certain days of the week and at certain times. I came across many cases, during the interviews on infant mortality, of instances where the doctor who was consulted on one day was not available the next day, and because the health of the infant was fast deteriorating, the parents could not simply wait for the next visit and had to seek help elsewhere. With the shortage of clients in urban areas, private practitioners visit rural areas on certain days and times of the week, and the time gap between two visits is often crucial to the health of the patient, especially if it happens to be an infant. As a rule these doctors do not live in those areas, and are therefore difficult to contact.

Often because of long queues during the day, patients with minor complaints attend the hospital casualty department at night in the quest for a better service. It is very difficult to consult a doctor at night and therefore patients resort to home remedies or seek the services of a secularised healer in the locality.

Thus the nature of biomedicine, the way it is organised and distributed in Mauritius lead to continuing patronage of alternative systems of medicine. Studies have shown that in India[71], Java[72] and Nigeria[73] the poor quality of rural health services deterred people from using them.

Section 5

Conclusion

We are now in a position to consider whether a linkage between traditional medicine and biomedicine is necessary or even desirable. Given that Mauritius presents a different picture from many other developing countries in that:

a) Over 80% of cases are presented to allopathic practitioners in the first place

b) free medical care is generally accessible

c) there is a higher proportion of educated manpower

it means that 'health for all' in Mauritius can be achieved without necessarily incurring the help of traditional medicine. Compared to other developing countries in Asia and Africa, traditional medicine has relatively few practitioners in Mauritius, and in any case their numbers are dwindling. Therefore a linkage does not seem to have the same implications as it would have in other developing countries. However, there are still a large number of people who use the services of traditional healers, even if it is not mostly as a first resort. Therefore their usefulness should not be underestimated, and indeed biomedical professionals will need to learn more about traditional medicine and its socio-cultural holistic approach which will make them better practitioners for this knowledge.

The following tentative recommendations can be made:

a) In the field of herbalism, much can be done to preserve species of plants which are disappearing. The practising herbalists could be given enough incentives to pass on their knowledge. Finally, research should be carried out to find the usefulness and effectiveness of herbal medicine.

Tanzania recently took advantage of the higher development of herbal medicine in China by sending some of its own herbs for research to be carried out. Mauritius could, likewise, link up with other countries with a view to developing herbal medicine.

b) As far as traditional midwives are concerned, the Ministry of Health has already started a scheme in 1980 in order to provide them with some basic training, mainly in hygienic procedures. Such efforts should be maintained. However, there is much to be learnt from the kind of service that they provide. In rural areas more support should be given before birth and in the few weeks which follow.

c) There is a need for systematic studies on lay theories of disease and its causation, and the treatment that people follow especially in cases where home remedies are the rule. Harmful practices need to be identified and the layman's confusion around such terms as 'dérangement', 'chauffement', 'fraichère' and 'le dent volère', should be cleared.

d) There is confusion and ignorance in Mauritius of how diet affects health. People sometimes would abstain from eating certain nutritious food because it is believed to be harmful. Dietary taboos in the different ethnic groups especially during pregnancy needs to be looked at.

e) The technical specialists, such as bonesetters should continue to function independently as they have done for years.

f) In the field of sorcery and spiritual healing, efforts to control quacks and charlatans should be increased.

g) Health education has a vital part to play both in clearing up much of the present confusion, and in providing the necessary information for people to make up their own mind as to what treatment is best for them.

Finally bio-medicine by satisfying its customers can do more to prevent the prolonging of the illness episode thus making the search for a cure less complicated.

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Part III

CHAPTER 8: THE MEDICAL PROFESSION IN MAURITIUS

In developing countries the emphasis is on curative medicine though the main diseases are largely preventable. Because doctors play an important part in the formulation and implementation of health policies, there is the contention that they use their power to promote curative medicine as it is in their interest to do so. But is this responsibility to be laid solely at the door of the medical profession? There is a sense in which people in general prefer cures and that in most societies there has always been a curative tradition. Political elites also tend to favour sophisticated medical care. A prestige hospital in the urban areas is a tangible symbol of achievement to the local population and is visible evidence of 'modernisation' to tourists and visitors. These hospitals show up more than health centres in the bush.

At the theoretical level one can ask whether the power and autonomy which doctors in developing countries are believed to have[1] come from the fact that they constitute themselves in a 'profession' as do their colleagues in the West or is it because of their relationship with the ruling classes? In this chapter we shall seek some answers from the sociology of the professions and will ask the question of how powerful and autonomous the medical profession is in Mauritius.

According to the Functionalist school, certain specific knowledge is crucial to the proper functioning of society because it provides a powerful control over nature and society itself. It is important that practitioners enjoy a certain autonomy because they are the only ones to fully understand the implications of their own practices. The State can exercise some control over the activities of the occupation but its

role is limited in the field of practice. In return, the practitioners are well rewarded by society for their dedication to others. The initial premises (such as the nature of their 'specialised knowledge' and 'service orientation') serve to legitimise the power and privileges granted to them by the State. Thus members of the profession are able to "enjoy a considerable degree of autonomy, of professional monopoly, control over selection, training and qualification of their members, command higher incomes than those prevailing in other occupations, control complimentary occupations and so on."(2)

Gyarmati, analysing closely the premises on which the basis of the profession rests, concludes that it is not the prerogatives that have been deduced from the premises but precisely the opposite. He explains this further:

"First, one takes the corollaries or prerogatives; next a number of assumptions are submitted as if they were empirical facts, and thus the a 'priori assertions are converted into premises. From the latter, it then appears legitimate and logically correct to deduce, as their corollaries, the prerogatives one wishes to obtain or whose profession it is necessary to secure and which in fact, served as the starting point of the whole argument."(3)

It is assumed that what differentiates the professions from crafts is that the former lay more stress on mental prowess and the latter on manual dexterity. According to Hall, professions are based on theoretical knowledge whereas crafts are based upon technique.(4) Klegon points to the difficulty in using Hall's criteria when he suggests that surgery may be described as a craft since surgeons may not be any different from mechanics who have to understand the theory of engine and must go through complex diagnostic procedures in order to solve their problems.(5)

Rueschemeyer provides further criticisms of Hall's arguments by suggesting that the granting of professional status is partially a class issue. Any attempt to differentiate professions from crafts which relies on criteria such as the nature of knowledge, but does not consider the social position of the practitioners, nor the social role of their activity, is essentially ignoring the critical variable of the relationship to the wider social system.(6)

Sociologists, by accepting the professions own definitions of themselves have tended to accept that a peculiar institutionalised form of control is the essential condition of such occupations rather than being a peculiar historical product which can be said to have existed for a very short period and was a product of the specific historical conditions of the 19th century Anglo-American culture.(7) This view of Johnson describes professionalism as a unique process which has affected certain occupations rather than a development which particular occupations may be expected to undergo because of their 'essential characteristics' This approach is in sharp contrast with the 'evolutionary' or 'trait' theory which assumes that the professions regardless of their historical or cultural setting develop in a linear way and that those who do not, are either in a sense pathological or deviant cases or else they are at a certain stage towards their full development as a profession. Caplow and Wilensky argue that all professionalising occupations pass in an identical series of stages, through the 'natural history of professionalism'.(8) Unfortunately, the model they developed is based mainly upon the history of the professions in the US which makes it culture-bound and too specific to be used even in England, let alone the developing countries.(9) Like functionalism, the trait theory fails to treat the development of professionalism in its socio-economic context.

Closely linked with the trait and functionalist theories is the 'cultural transmission theory' in the study of professionals in developing countries. It is assumed by social scientists that the 'modernising elite' which has been educated in the metropolitan countries possesses values which are essential for its role as agent of development. This implies that "professionals everywhere share a common set of values by virtue of their practising certain skills or, a unified professional culture has been transmitted from a single metropolitan source to be adopted without modification within a wide variety of receiving cultures."(10)

Despite the considerable power yielded by doctors in developing countries it must not be assumed that they constitute a profession in the Anglo-Saxon sense of the term. In fact, as Johnson points out, the Third World professionals have undergone a process of historical development which differs significantly from that experienced by their western counterparts.(11) Colonialism in many ways prevented the development of an autonomous medical profession with the freedom of practice and control over colleagues which are the characteristics of the medical profession in developed countries. Johnsons finds that the 'corporate patronage' offered by the colonial administration and later by the post-colonial State is the reverse of professionalism in the sense that it is the client - a powerful corporate client - which regulates the professions rather than members of the occupation itself. The colonial government being the major consumer of services had the power to define its needs and the terms of reference. Fanon explains how in the Algerian struggle for liberation the colonial power could almost force doctors to act in its interest.

"The dominant authority... has organised the overall behaviour of the doctor as it relates to the struggle for liberation. Thus, any

doctor treating an Algerian whose wound appears suspicious must, on penalty of legal action, take down the name of the patient, his address, the names of those accompanying him, their addresses, and communicate the information to the authorities."(12)

This war situation may seem to provide an extreme example of the medical profession's subservience to the colonial government but the fact remains that doctors, even in times of peace were mostly employees of the State or plantation owners, and as such acted in the interest of the employer. As the case of Mauritius illustrates, doctors working for the sugar estates worked according to the wishes of the estate owners rather than set themselves the task of tackling the health problems of the labourers.

In return doctors became dependent on the corporate patron for social and economic rewards. In fact whether the doctors in the colonies were expatriates or not, they shared the values and status of the patron and became members of the dominant society. The introduction of western medical science itself by the colonial powers was seen as part of the oppressive system of colonialism. But subservience to the colonial State did not mean that in many cases doctors were unwilling partners in their unequal relationship with the patron. Whatever they stood to lose by not being autonomous, they gained in terms of rewards and prestige.

Generally, the professionals in these societies only displayed 'outward forms of professionalism'.(13) The main traits which are supposed to characterise the professions in the developed countries are absent. It is the colonial government not the colleague community which is responsible for the evaluation of the performance of a member. Professional attitudes conducive to experimentation and research were

either absent or suppressed. And the success of the professional depended more on the ability to conform and serve the corporate patron than on the 'cosmopolitan standards of an autonomous profession'.

The change of power at independence entailed the transfer of these organisational resources to a new class which became responsible for the distribution of surplus at its command.(14) This new class of managers, professionals and bureaucrats provide much of the expertise necessary to run a modern country and tend to support whatever economic and political system maintains their class privileges.(15)

Johnson's suggestion that the medical body of doctors in developing countries is neither autonomous nor powerful in controlling its members and is subordinate to the State is opposed by those who see doctors as having special powers even in countries with no history of colonialism as in Thailand(16) or where the class structure has undergone changes, as in Cuba. In the latter, as Ugalde shows, primary health care faltered as a result of the physicians' interest in hospital care.(17) In Communist China the physicians' opposition led to the partial failure of political leaders to implement rural health services.(18) It could be that the success of doctors in favouring hospital care and western curative medicine is due to the fact that Party officials themselves tend to reside in urban areas and have more faith in allopathic medicine than in primary health care. Many Third World leaders, for example, travel to the USA or Europe for medical treatment, showing little trust in their own doctors let alone in primary health care. Frankenberg explains how the medical profession in India derives its power:

"Professional allopathic medicine in India, however loosely organised it may appear to be by the standards of the BMA or AMA, has, in Weberian terms, a carrier status group for its style of life and its

concept of status honour; it has, in Marxist terms, a class base internally in the emerging petty bourgeoisie and in the bourgeois ruling class...."(19)

Whereas Jeffery argues that the process of professionalism of allopathic medicine has been halted in India largely by State intervention in favour of medical pluralism,(20) Frankenberg suggests that this is only a surface phenomenon.(21) In fact this view of Frankenberg can be stretched further to show that far from attacking the medical profession, the State is putting its (the profession's) house in order by bringing in measures to consolidate the profession which is in danger of disintegrating completely in a form of individualism which is not necessarily in the interest of the State.

The special power of the physicians is derived not from being a profession but mainly from their class affiliation with the bourgeoisie and as a result of their ideological importance in legitimising the status quo. They are not just part of the ruling classes but an important part of it. As Brown explains,

"First, its members provide modern technical care to the country's upper and middle classes, the military and police, and skilled workers in large industrial enterprises, and they largely run the health ministry, usually inadequately funded, which is charged with providing for the health needs of the majority of the population."(22)

Besides supporting the differential status and material privileges that they and other members of the upper classes receive from the inequitable class structures associated with underdevelopment and economic independence, the physicians' role in the reproduction of labour and in social control serve to support and legitimise capitalism in the developing countries.

When resources are allocated to the health sector, the dominant classes have little concern about how these funds are utilised provided that the implementation of health programmes does not weaken their power base.(23) As Ugalde pointed out in the case of Honduras, the dominant class does not use the public health service and their own health is minimally affected by decisions made by health bureaucrats.(24)

But the ultimate power rests with the State who can regulate the excesses of the physicians whenever the need arises. Physicians may be an important group in the ruling class but by no means the most important one. Both political and economic power rest elsewhere, though individual doctors may themselves be politicians or very rich. If doctors would like more resources to be spent on the health sector, they are likely to encounter the resistance of other groups within the ruling class who may object to more money being allocated for public expenditure.

Doctors want to protect their interests and expand their dominance. In this respect they are not unlike other occupational groups who organise themselves in unions or other types of associations. No doubt they could represent a formidable force against any State but so could nurses or miners, if united. Thus the body of medical men like other occupations has a potential for strikes and industrial actions. Doctors are resorting to these means when their interests are threatened or their demands are not granted. The Protest Day in India(25), the overt actions of junior doctors in Britain, and more recently the strikes by doctors in France in 1983, are but a few examples of increasing unionisation of the medical profession.

One can say that the medical 'profession' in developing countries did not develop in the same way as did its counterpart in the

industrialised countries, nor does it have the power of the latter. On the other hand, though State patronage was and remains the main obstacle to the development of an autonomous profession, doctors have the relative freedom and the near-monopolistic power within the health sector to decide on the formulation and implementation of policies. The State retains the power to regulate the excesses of the 'profession' while at the same time it tries to prevent the 'profession' from disintegrating into a form of individualism which may both threaten their power base and lead doctors out of State control.

In this chapter we shall look at some aspects of the 'profession' in Mauritius with reference to some of the views mentioned in this brief introduction. The role of doctors in the public and private sector will be analysed separately in order to emphasise the differences in the contribution to the health problems of Mauritius. The term 'medical profession' will be used loosely to describe doctors as a whole in Mauritius rather than in its Anglo-Saxon sense of the word.

Doctors in the Public Sector

In the previous chapters it has been shown how doctors occupy a position of great influence in the Ministry of Health and in hospitals. We have seen how the new structure gives the Chief Medical Officer (CMO) more responsibility in 'advising' the Minister and the Permanent Secretary on the "formulation of health policies and programmes in the curative, preventive and promotive fields." He also directs and supervises implementation of health programmes. In reality the four Principal Medical Officers at the head of each department (Curative, Family Planning and Maternal and Child Health services; planning; preventive) are those who decide on the needs of their respective fields and they then communicate their decisions to the CMO.

Doctors are at the head of each field and as such they enjoy relative autonomy in the formulation and implementation of policies.

They have also been placed at the head of departments like Laboratory, Radiography, Occupational Therapy, Physiotherapy and Health Inspectorate. They sit on the Transfer Committee of all grades in the Ministry of Health and yet no other grade sits on the Committee when it comes to the transfer of doctors.(26) In 1980, the Government Servants Association (GSA) published a pamphlet in which was cited a case where there was an offer of a scholarship in Physiotherapy from a foreign government. "The selection board was comprised entirely of doctors..."(27)

The use of consultants in administrative jobs has been criticised as a waste of medical expertise, while at the same time it has been argued that most of them have, in fact, little administrative training.

It is believed reasonable that the Ministry of Health should be under the control of doctors because health is a medical field and should be handled by them as they are specially trained to deal with medicine and diseases. This common error of equating 'health' with 'medicine' has been pointed out by many who see the negative effects of the dominance of 'health' by a team of physicians in health ministries as leading to the adoption of a narrow view which places too much emphasis on clinical and applied medicine, with the obvious result of neglecting other factors which directly affect health such as sanitation, nutrition etc. One must also point out as does Ugalde that,

"By losing control over the health sector, physicians can lose control over other health workers and over public and/or private health resources. From this point of view it is important for the medical profession to head as many offices in the Ministry of Public Health as possible."(28)

Thus control over resources and paramedical staff helps to maintain their prestigious position and at the same time brings financial rewards in the form of better wages and countless allowances. The GSA pamphlet severely criticises the power of doctors in the Ministry of Health in taking decisions in their favour, relating to the creation of posts and the allocation of scholarships. The pamphlet says that despite the fact that the Ministry of Health "always states that there is a lack of funds when it comes to improving the service to patients and improving the lot of all the staff irrespective of grades", 115 posts have been unnecessarily created for doctors in the health service. It is detailed as in Table 53.[29]

Table 53

Over-creation of medical posts

Actual posts needed	Posts overcreated	Saving (in Rs)
2 Prin. Med. Officers	2 Prin. Med. Officers	14,860
12 Consultants	24 Consultants	173,520
24 Senior Specialists	11 Senior Specialists	72,435
36 Registrar Specialist	37 Registrar Specialists	229,770
8 Superintending Med. and Health Officers (admin. promotion)	To replace Medical Superintendents and work in coordination with hospital Administrators in all main and district hospitals	
Nil Senior Medical and Health Officers	35 Senior Medical and Health Officers	213,850
177 Med. & Health Officer		
Nil Med. Superintendents	4 Medical Superintendents (to be replaced by Superintending Medical and Health Officers)	27,680
1 Superintending Dental Surgeon	2 Superintending Dental Surgeons	12,970
20 Dental Surgeons Senior Dental Surgeons		855,085 x 12 = 10,261,020

The overcreation of posts especially in the higher echelons of the medical hierarchy is a result of decision making by doctors and higher administrative officers in the Ministry; and the GSA is not far wrong in asserting that,

"The doctors in the Ministry of Health have decided that there should be one Consultant, Senior Specialists and Registrar Specialists in each field and in each hospital, while for other classes and grades the senior-most post is created on a nation wide basis i.e. one for the whole country instead of one for each hospital as for the doctors."(30)

These criticisms stem from the dissatisfaction created by the differential treatment of doctors and other paramedical staff. However, besides pointing to the need to restore equality of treatment for all, one can say it highlights the power of the medical profession in the Ministry of Health to lay claim successfully to scarce resources and thus deprive other areas of health care of much needed funds. On reading the Annual Report of the Ministry of Health over the past twenty years, one constantly comes across the paragraph which says that specialist services are only available in the regional hospitals. Recently an Association of Medical Officers pointed to the fact that peripheral hospitals are not covered by specialists,(31) and this despite the size of Mauritius and the fact that there were 35 senior specialists and 73 Registrar Specialists employed by the Ministry.

The increase in the number of specialists from four in 1950 to more than one hundred and forty four in 1981 is indicative of the heavy curative bias of the Mauritian Health Service.@ This can be better understood when we consider that the ratio generalist*/specialist was seven to one in 1950, while in 1981 it was less than three to one.(32)

*This term is used in Mauritius to mean doctors who are not specialist.

@It has also been suggested that this curative bias can be explained by the lack of political support from the former Prime Minister, Sir S.Ramgoolam, who was himself impressed by the curative orientation of the medical training he received at the University College Hospital in London.

This trend is not unlike similar developments in other developing countries. Curative medicine, as it has developed so far, offers the opportunities for further and further specialisation as the human body is further divided and subdivided into innumerable parts. According to Mahler, Director of WHO, "such trends towards restricted high technology might be said to be a by-product of medical research distortions."(33) This development tends to make medical knowledge more specialised and thus helps to increase the profession's hold on society. But perhaps what is more important is that this "up-grading" of health care interventions does not cater for the basic health needs of the population in developing countries. The generalists themselves often complain about the lack of basic equipment in dispensaries and shortage of drugs in hospitals. WHO itself, and Bryant(34) in particular, are in favour of medical auxiliaries to help in solving the developing countries' health problems. However, the Ministry of Health in Mauritius clearly has other priorities.

One can point out that specialisation increases the pace of upward social mobility. While most generalists have to wait years to be promoted to higher posts, specialists can by-pass the promotion system by simply 'carving out' new areas, where they will no longer be subordinate and which will reap them benefits in the form of private practice. The opportunity for becoming consultant is never remote, and this would inevitably entail allocation of more personnel and resources to newly created fields and thus continue the trend of diverting resources away from other more deprived but more deserving areas. Finally, it must be said that often those who specialise do so on scholarship and on 'leave with pay'.

The subordination of the paramedical staff and the resulting differential treatment are not without significance. While this

practice denies these workers any control over their own fields it also inhibits them from working outside these bounds. The few who oppose the narrow 'medical' approach to health find they have to face a formidable opposition in the form of the medical establishment, whose members control each and every department. No need to say that those who co-operate have to adopt this medical framework, which so far has proved inadequate in tackling the health problems of a developing country.

This superior treatment of doctors vis a vis other health staff manifests itself in different ways. At the remuneration level, a medical superintendent in charge of a regional hospital earns more than twice the salary of the hospital administrator, as the following shows:(35)

Medical Superintendent	Rs 56,400
Hospital Administrator	Rs 23,100

Even a junior doctor draws a higher salary than a chief physiotherapist though in other countries, like Britain, the situation is reversed.

Doctors have also been criticised for enjoying special privileges such as travelling expenses for which they are refunded in full while other health workers have to contribute a certain percentage and many intermediate grades do not get any travelling expenses at all. Another bone of contention among health workers is the granting of scholarships. The GSA could not put it more strongly when it complained that,

"Doctors are the only class in the Ministry of Health to grab almost all the scholarships. They always convert scholarships for other fields in favour of doctors because they are the ones to decide at the Ministry of Health. The ratio is almost 100:2 in favour of doctors i.e. 100 scholarships to doctors as against two for other grades in the Ministry of Health."(36)

What the GSA fails to point out is that scholarships are not granted indiscriminately to all grades of doctors. In fact the generalists have been complaining that seminars and refresher courses are reserved for specialists and that the allocation of scholarships remain a mystery while "leave without pay" is being granted on a discriminatory basis by the Ministry of Health.(37) Other privileges in the forms of telephone calls, night duty allowance, tax-free car allowance need hardly be detailed here. However, one last example will help show how the dominant ideology which depends so much on the hierarchical division of society is rooted in, maintained and perpetuated by, certain practices which on face value seem harmless and appear as a mere continuation from the past. I refer here to the different free meals, available to doctors and nurses when they work during a 'cyclone'. The Nursing Association condemned the double standard in the treatment of health service staff. The nurses are given bread and sardines while doctors are provided with meals which consist of rice, meat and vegetables.(38) The GSA also joined in the protest against this differential treatment:

"When doctors are on night duty they are provided with meals and quite substantial ones. No other grade in the Ministry of Health is provided with meals though they work at night like doctors... Perhaps, their salary does not allow them to be properly nourished."(39)

Heterogeneity vs Unity in the Medical Profession

So far the impression which has been conveyed of the medical profession in the public sector is one of a monolithic body with absolute power to make decisions in its own favour. However, this is not the case as it will be made clear that doctors in the health service

face opposition from politicians and bureaucracy alike. The interaction between politics, bureaucracy and the medical profession need to be examined closely if we are to understand the degree of power and autonomy that doctors have, and the responsibility they bear for the planning and implementation of health policies.

Bridgstock[40] finds that many studies of the professions - both friendly and critical - treat a profession from a 'consensual' viewpoint. Commenting on the work of such writers as Goode[41], Parry and Parry[42], and Jamous and Peloille,[43], he observes that they have all treated a profession as a monolithic 'whole' that acts in certain ways. He concedes that such writers are aware of the diversity of groupings, specialities and institutions that exist within a profession but that "these are treated as manifestations of the basic nature of the professions rather than independent units of studies". In his paper he presents the profession as though it is a basically united entity - except that "some members are more central than others." This approach will be the one adopted in our analysis of the medical profession in Mauritius.

There are three main medical associations representing doctors in the health service at present, and we shall examine the events in the public health sector between October 1980 and May 1981 (period of fieldwork) in order to get an idea of the different forces within the profession and the latter's struggle with the State in order for its demands to be met. An attempt will also be made to differentiate between the rhetoric and the practice of the medical associations. The three Medical Associations are:

GMCA (Government Medical Consultant Association)

GMDOA (Government Medical and Dental Officers Association)

MHOA (Medical Health Officers Association)

The MHOA was registered on 4th June 1980, and led by a breed of young doctors, has been the main protagonists in the events we shall look into. On Monday 13th October 1980, the MHOA in a press conference(44) set out to criticise the consultants. Amongst other criticisms of the latter, the MHOA accused the Ministry of Health of double standards vis a vis the generalists and the specialists. A ban is called to prevent the latter from private practice. More particularly the MHOA spoke against the proposed plan by the Ministry to establish a Cardiac Unit, which the Association finds is not a priority but which became so because of pressure from certain individuals. They pointed out that at the beginning of the year the Cardiac Unit did not figure on the health, education and planning lists of the Ministry of Health, and neither should it in a country where even an elementary programme of health education has not been set up, and where 50% of children admitted in hospitals have skin diseases. In the same outburst they rejected the WHO's recommendation for organising an examination for doctors after four years of working experience before granting them increments in pay. Finally, in this press conference, the MHOA called for a 'Medical Council' to be set up urgently to look into the state of the medical profession in Mauritius. It went as far as requesting a representative from the General Prosecutor's office to be on the panel of the Council in order that it may have legal powers to prosecute any case of infringement to the 'professional ethic'.

It must be pointed out here that no action was contemplated at this stage to oppose the setting up of the Cardiac Unit or to redress their grievances regarding the consultants. Judging by the statements made above, one would get the impression that the consultants being criticised at all levels would react to these accusations but there was no official response from them.

A few weeks later, the Ministry of Health proposed to stop the night duty allowance to doctors and to replace it by "time off" instead.

At its general assembly the MHOA which groups the majority of health service doctors (130) approved this measure mainly because the Ministry was taking this action in order to facilitate the recruitment of about 45 unemployed doctors. However, the MHOA objected to their recruitment on a part-time basis, and called on the Ministry to grant them the same conditions of work as themselves. The generalists also welcomed the 'time-off' in lieu of a night allowance, because they believed it would allow them more time for social life. At the same meeting the MHOA voted for their members to give more time to each patient as from 27th April 1981.

At this point it seemed that the last resolution voted by the MHOA reveals their genuine care for patients. However, when it became clear that the Ministry of Health was not contemplating the immediate recruitment of these 45 doctors, due to financial difficulties, and that when they come to be employed it would be on a part-time basis, it is clear why the generalists not only voted to give more time to patients, but also put this in practice immediately. It became obvious that this was a form of industrial action to force the Ministry's hand to recruit the new doctors immediately, and on the same terms. It is unfortunate that health service doctors realised that patients were given less than one minute of their time only when night duty allowance, abnormal overtime, and the recruitment of new doctors became issues which threatened to make the generalists' condition of work less attractive than it was before. In 1959, Titmuss and Abel-Smith drew attention to this problem when they observed that "patients have to wait a long time

to see a doctor and that the time given for consultations is thought inadequate for careful examination and treatment."(45)

The Ministry's reaction to this 'go-slow' tactic was mixed.(46) On the one hand, it gave severe warning to the doctors involved in this action, and on the other it actually congratulated the doctors for their campaign for 'better medicine'. However, the Ministry did not approve what seemed like an excess of zeal on the part of doctors to examine a patient as thoroughly as possible.

As the dispute gathered momentum, the MHOA asked for the right for its members to do private practice at night. The idea was to provide a kind of emergency domiciliary practice in view of the fact that members of the public face enormous difficulties seeking the services of a doctor at night.(47) The new claim by the MHOA was inconsistent with two previous statements made before concerning the call for a ban on specialists doing private practice, and the idea that 'time-off' in lieu of a night allowance would give them more time for social life. It became clear now that that in fact the recruitment of more doctors not only will decrease their work load which at most times is quite considerable when one realises that as many as 150 patients are 'seen' within a space of three hours(48), but that the additional staff would increase the likelihood for their claim to do private practice at night to be accepted by the Ministry.

As time went on the MHOA added more demands. Five new propositions came to be added to the original list. These were:

1. Increase in the number of female nurses to cope with female patients.
2. The wearing of name badges by doctors.
3. The start of a campaign for 'better medicine'.

4. A larger stock of medicine in hospital pharmacies.

5. A symposium to review the health service structure and to define priorities.

On 12th May 1981, a new development took place. The three medical associations, the MHOA, GMDOA and GMCA decided to 'join hands' and push forward the demands made originally by the MHOA.(49) These five propositions mentioned above were in fact peripheral demands in that they were not the issues which started the conflict in the first place, but were designed to attract public support in favour of the medical men. A strike was envisaged as part of what had been described as 'Phase II' of the dispute. The grievances were still the same, mainly (a) the replacement of night duty allowance by 'time-off', which was now opposed by all three Associations; and (b) that new recruits be employed full-time and not part-time as proposed by the Ministry of Health.

A new element, which is perhaps one of the reasons why the specialists joined in the dispute, came to add more fuel to the fire. The proposed employment of certain doctors and advisers at 'princely salaries' to certain newly created specialised sections, was the last straw as far as the Associations were concerned.(50) In fact, they were protesting at what they could see as 'political nomination' of advisers to the newly created renal unit. It was not the setting up of the Unit which was contested but rather the fact that doctors outside the service were actually chosen while there were others already in service who could do the job. There was a call for an end to be put to the interference of politics in medicine.(51)

Finally the three medical associations jointly staged a strike which lasted two days while the dispute was referred to an Arbitration Tribunal. The latter had asked for the Ministry of Health to suspend its new measures concerning the suppression of night allowances and the

nomination of advisers. The doctors complied with a call to end the strike.

These events have brought to light several characteristics of the medical profession as far as the public sector is concerned. The profession has revealed itself not as a 'monolithic whole' but as a body with different sections with different and also similar interests. It is clear that the top echelons of the medical establishment because of their unique position of having the power to make decisions, do so mostly in their favour. Being the cream of the elites, their proximity to those who hold political power is such that they can exercise enough influence to preserve their own interests. It has been the Ministry's policy not to involve the Medical Health Officers* in the policy making processes.* Only specialists and consultants are allowed to participate. At the lower echelons, the young doctors, newly recruited, are understandably impatient as they have to wait a long time to enjoy the same privileges as their seniors. The generalists in many ways have to bear the brunt of the vagaries of the job, as they are the ones who come face to face with patients. They are more often than not overworked, under-staffed and working in conditions, where the lack of basic equipment and shortage of drugs simply do not allow them to discharge their tasks as they would like. Sometimes members of the public vent the anger that is caused by waiting long hours or by inadequate care, directly on to doctors and nurses. Therefore one can readily understand that on certain issues certain grades of doctors do not have a commonality of interest. In some ways, then, it explains the formation of different associations to defend what they have in common. The first outburst by the MHOA against the specialists can be seen in this light, and one can recall that the specialists did not make any official response, neither did the MHOA go beyond rhetoric. There was no action envisaged to 'redress' the situation.

*This term is used to describe the non-specialist in the government health service.

The dissidence shown by certain sections of the medical profession cannot be taken only as a domestic squabble without wider significance, nor can it be seen as tearing the profession apart. In the first instance these 'quarrels' with other sections of the profession are meant to have the effect of 're-distributing' scarce resources, because though the profession more often than not acts as a 'united' body, it nevertheless does not always assure that the 'spoils' are equally distributed. There is constant struggle within the profession over the allocation of resources, the creation of new posts and the promotion of its members. In fact in many ways, the disputes serve as a regulatory mechanism against the excesses of some sections of it. Therefore, it is not without significance because in the long run it determines where resources are spent, where and how many staff are posted in the different regions etc. What is significant also is the disenchantment of young doctors with the established leaders of the profession. The recent emergence of the MHOA as a force to be reckoned with must be seen in the light of new developments which shows that the profession is ready to fight for its interest just as any other occupational group. There is a trend towards militant action or as Maddison puts it,

> ".... young doctors, interns and residents are increasingly taking their disputes with their employers into the arena of industrial arbitration, as if they were carpenters: asking for and gaining "hour clauses" in their "awards" - asking for and getting payments for "overtime" - without however, as far as can be seen, wanting to give up too much of the prestige and power which have been the standard rewards of an arduous, professional lifestyle".(52) When doctors take industrial action, the premises on which 'professionalism' rests are no longer tenable. One study, however, concluded that "since advocacy of unionization was not found related to a a lack of altruism with respect

to patient care and since unionization might be seen by some as a means of achieving better patient care and more autonomy, the union movement does not appear to be as 'deprofessionalising' as some have suggested, at least at its inception."(53)

One can argue in the Mauritian case that it was not better patient care which was at issue. If we look at the dispute between the specialists and the generalists, we can see that it arises because the latter are being treated differently from the former. There is no serious challenge to the power of the medical men, nor is there a serious intention to change the health structure in order that the health needs of the people could be better served. It is true that in putting across their dissatisfaction, sometimes the younger members of the profession make use of ideas that could in a sense be termed 'radical'. If such tactics are resorted to, they are only meant to be used as a means towards an end. In no way has the MHOA spelled out what it means by preventive medicine, let alone of having a programme of how it could be realised. Neither were they prepared to take any action against the setting up of a Cardiac Unit, beyond voicing their disapproval of it. One can safely say that in fact because the members of the profession work within the 'medical' framework, they are likely to ask for more resources, more beds, more equipment. There is no way that some sections of it would be ready to challenge the power of doctors to make decisions alone. It is precisely because of their medical and clinical outlook that their demands would bring little changes except to their working conditions. The unions representing the paramedical workers also frame their demands in the same way. They want to be treated equally. If scholarships are given to doctors, the other workers want to share them; whether these scholarships are what the health sector needs is not questioned. The proposed recruitment of 45

doctors, pressed by the MHOA, would in fact increase the imbalance of resource allocation in the health sector towards curative medicine and seriously inhibit the successful implementation of any primary health care strategy.

We have seen so far that doctors in the public sector are accorded a certain power and autonomy especially in policy formulation and implementation. They are also aided and abetted by the State in their unequal relationship with other health workers. But the State remains the employer and as such holds the trump cards.* The doctors 'rhetoric' reveals that far from being all powerful they had to legitimate their demands in the eyes of the politicians and the public.

With hindsight one can see that the MHOA's demands regarding 'night allowance' and the recruitment of the 45 doctors on a full-time basis were not granted. The political nomination at the Renal Unit was prevented but the Cardiac Unit was set up. Sadly though, the doctors have gone back to their former practice of giving very little time to patients.

This dispute and its prognosis shows that doctors are neither mere subservient agents of the state, nor all powerful. The different medical organisations and the conflicts between them reveals a fragmentation that belies the image of the profession as a 'united bloc'. But although the State assumes a dominant position in developing countries, one cannot underestimate the power of the medical men. After all, under certain circumstances even the government of Britain was brought down by a National Union of Mineworkers.

Doctors in the Private Sector

Private medical practice had been in operation long before the

*The automatic employment of all doctors who returned to Mauritius after their training in many ways bought their allegiance to the political party in power and served to diffuse opposition to the government.

public sector started to cater for vagrants and the very poor under the Poor Law Acts of the nineteenth century. Later on, the doctors who worked for estate hospitals were also allowed private practice under certain conditions. At the beginning of this century, a government medical officer was allowed private practice on the condition that "it did not interfere in any way with his official duties". The Public Health (amendment) Ordinance of 1906 stated that

"The arrangements for the performance of the medical work of the Government, are stipulated in the Ordinances passed by the Executive Council, and power always rests with the Governor, in the last analysis. Thus, who shall be allowed 'private practice', consulting 'practice' or 'estate practice', is regulated by the Colonial Government."

This tends to support Johnson's argument that the Colonial government was the 'patron' who regulated the medical profession.

Apart from the fact that the colonial government stipulated what duties the Medical Officers should perform, there were other ways in which the 'autonomy' of the medical profession was limited. For example, there were restrictions on 'where' doctors should reside. The Public Health (Amendment) Ordinance of 1906 made it clear that

"Both the Government and Assistant Medical Officers shall reside in their districts. The Government Medical Officer shall reside within such a distance of the District Hospital, or Principal Dispensary, and the Assistant or Assistants within such a distance of the nearest dispensary under his or their charge, as shall be approved by the Director."

Not everyone could work as a doctor in Mauritius. As early as 1817 the law (Code Farquhar No. 225) decreed that only those medical degrees from Great Britain and Ireland, France or other foreign

countries, were allowed to practice on the island. Later, the Medical Practitioners Ordinance of 1927 restricted the right of practice to "every person who is the holder of:

i) any degree or diploma the possession of which entitles the holder to registration in the United Kingdom

ii) the state degrees of Doctor in Medicine of any of the Faculties of France.

At the present time doctors trained in the Eastern block are also allowed to practice.

The medical profession also did not have the autonomy to claim whatever fees they wanted. The French Colonial Government under the "Code Decaen No. 219" (passed between 1803 and 1810) fixed the fees that doctors could charge. For example, the fee for

A verbal consultation	was	10 Francs
The first visit (by day)	"	10 Francs
Each subsequent visit	"	5 Francs
A night visit	"	10 Francs

In many ways, therefore, the colonial governments, both French and British regulated the profession.

It has not been possible to obtain the exact number of doctors in private practice as all attempts to obtain this information from the Ministry of Health were unsuccessful. I was told that the Supreme Court hold these figures, but my efforts to secure this piece of information were to no avail. The MMM draft report puts the figure at 96 in 1980. Most private doctors work in the urban areas though recently surgeries have been opened in the rural villages. However, many of these are visited by the doctor on certain days and times of the week only.

The State does not fix the fees that doctors can charge. There

seems to be a consensus among doctors on how much their services cost, as it was noticed that there were few variations on what patients paid. At the time of the fieldwork, the non-specialist could charge twenty five rupees for a first consultation and ten rupees for a subsequent visit, while the specialists were charging on average more than double that amount. Patients very often by-pass the generalist and seek the services of a specialist directly.

One must point out that from the public sector only specialists are allowed private practice under conditions explained in Chapter 6. The generalists were until recently automatically employed on their return to Mauritius by the Ministry of Health for a short period after which they could opt for private practice or stay in the public sector. This allowed them the opportunity to acquire experience and to build a 'reputation' for themselves. When the government decided it could not employ all newly qualified doctors, it stopped the policy of automatic employment. Therefore increasingly doctors have to venture into the private sector as soon as they return to the island.

How much a doctor earns in private practice is a matter of speculation since in general the patient is given no receipt for the fees paid. Thus for Income Tax purposes, the word of the doctor as to how many patients he saw, has to be relied upon. There is no doubt that a few practitioners get away with paying as little as possible in tax, if one is to assume that not all doctors are reliable, especially if one has to go by the reputation of some doctors in the public sector (16 of them) to whom, the Public Accounts Committee in 1979 discovered, there was an overpayment of Rs 22,000 in respect of the car maintenance allowance when they they did not possess cars at the time. The Public Accounts Committee commented further that

"... it is sad that information being provided by professionals who should observe high technical standards, cannot be relied upon."(54) One is reminded of the words of Shaw when he wrote:

"As to the honour and conscience of doctors, they have as much as any other class of men, no more and no less. And what other men dare pretend to be impartial where they have a strong pecuniary interest on one side."(55)

Professional ethics are being flouted so often especially by doctors in private practice that the Express (Mauritian Newspaper) published a series of three articles (the first of which was titled "The Medical Profession is Seriously Ill") listing infringements of medical ethics.(56) One of the practices frowned upon in the articles is the use of 'touts' to channel patients to the doctor's surgery. The touts 'operate' at certain bus stops where they approach prospective patients from the rural areas, and direct them to certain doctors. While I did not come across any laws prohibiting 'touting' by medical practitioners, I found that the Legal Practitioners (Protection) Ordinance of 1938 classes as an offence the act of finding clients for any legal practitioners by any person who undertakes to do this for "any fee, reward or renumeration whether in cash or kind." The Ordinance also prohibits legal practitioners from securing the services of 'touts' and sets out the disciplinary proceedings that may be taken against such persons.

Many private doctors indulge in unethical advertising by means of large name plates and pamphlets. Often they claim to be specialists when they are not, and some claim to be experts in curing a number of illnesses. There is also the practice of indiscriminate issue of medical certificates and the prescribing of barbiturates to clients who

demand them. The articles also pointed out that some doctors with surgeries in rural areas were employing nurses to 'stand-in' for them while they were working in other places.

Besides the 'unethical' examples highlighted in the 'Express Articles', one can also point to the frequent practices by specialists in the government services of directing hospital patients to private clinics where they are promised quick and efficient services in return for a fee. For its part, the MMM draft report finds that the "fundamental source of all evils of private practice is the over-commercialisation brought about by the closely knit relationship between doctors and the pharmaceutical trade, either directly, or through the mediation of medical representatives and importers.(57)

This almost anarchic situation in which the medical profession finds itself is not exactly new but seems to have worsened over the years. In 1959, when Titmuss and Abel-Smith conducted their fieldwork they "received evidence from doctors inside and outside the Government Medical Services and from a large number of other persons in responsible positions complaining of lapses in conduct in all grades of personnel from doctors to hospital orderlies."(58) They reported that it was "a matter of urgency that legislation should be introduced to establish a General Medical Council" and that "this would give the profession the opportunity it needs to put its own house in order.(59) Despite this advice and several calls by doctors and others who fear that the situation may lapse into total anarchy, there is no sign of a General Medical Council at the moment, nor any plans for it in the future.

One can argue at this stage that doctors are experiencing 'deprofessionalisation' in that they no longer adhere to medical ethics. On the other hand, using Jeffery's(60) argument one can claim that the

"label of professionalism is inappropriate" in the case of allopathic medicine in Mauritius. Medical ethics and medical values did not develop indigenously but were imported from the metropolis. The present behaviour of doctors must be viewed within the context of Mauritian culture wherein corruption occupies a not too insignificant place. Corruption itself is part of the socio-economic condition. At present the prospect of fierce competition among a larger number of doctors have tended to lead to a form of individualism and free market mentality which belies the altruistic image that a profession is supposed to have. Doctors in the private sector are not under colleague control, but are to some extent under client control in that they have to keep their customers happy by issuing medical certificates or prescribing the type of drugs that some of their clients request. There is no 'body' or 'organisation' at present which can effectively influence the way a private doctor practices.

The State, on the other hand, does not act to limit the 'excesses' of private practitioners. We have seen how over the years doctors have acquired more autonomy regarding where they reside or how much they charge for their services. The State has been reluctant in the past to legislate in order to regulate the profession because it sought to make their conditions of work attractive by allowing them freedom to practice. There was a need, then, to attract newly qualified doctors because there was a shortage of medical manpower.

But there are other reasons why at present the State is lax in bringing measures to regulate the 'excesses' of doctors in the private sector. First, the State does not feel any way threatened by their present practices. Perhaps if there is enough pressure from other sectors or from some doctors themselves then some actions would probably

be taken. Secondly, doctors are part of the professional and bureaucratic bourgeoisie who can influence state policies in their favour so long as their interests do not conflict with those other sections of the ruling class. The public sector doctors, on the other hand were competing for more resources (by asking for 45 additional doctors to be employed) and this was not in the interests of other sections of the bourgeoisie who wanted to curb public expenditure. Thirdly, private doctors fulfill the important function of catering for the health needs of those for whom the public offer no satisfaction.

In conclusion we can say that there is enough evidence to show that many doctors in Mauritius do not live up to the values of what a 'profession' should be according to the trait or functionalist theories. There is no colleague control, and because of the lack of a Medical School, there is also no control over recruitment. Therefore they cannot claim to derive their power from 'professionalism'. Instead whatever power or autonomy they have, such as a free hand to plan and implement policies in the public sector or the freedom from regulative legislation in the private sector, is because they are part of the professional and bureaucratic bourgeoisie.

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(45) Titmuss, R.M.
Abel-Smith, B. Social Policies and Population Growth in Mauritius, Methuen, London, 1961, p.174.

(46) Le Mauricien* 29.4.81.

(47) Ibid.

(48) L'Express* 28.4.81.

(49) Le Mauricien* 12.5.81.

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CHAPTER 9: SOCIO-ECONOMIC AND POLITICAL STRUCTURE

The roots of most diseases in the developing world are to be found in the condition of living of the inhabitants. But although the exact mechanism through which socio-economic factors affect the health of a population is unclear, recent bi-variate and multi-variate studies[(1)] have been contributing towards unravelling the role of the different variables. Demographic as well as socio-anthropological studies should further complement these efforts in order to provide a more complete picture of the effects of socio-economic and political factors on the health or ill health of the people.

International cross-sectional data from 56 countries recently showed income distribution as having a consistent significance on mortality reduction, with greater inequality being associated with higher mortality.[(2)] It was unclear however if it is "income equality per se that is involved or the fact that such inequality is likely to be associated with inequality in access to health and social services, in education and in a number of other aspects of society relevant to mortality."[(3)]

Income inequality's influence on mortality reveals itself more in developing countries where the unequal distribution of resources resultsin the absolute poverty of large sections of the population. Social and political forces have an important part to play in either fostering or reducing this inequality, unless one takes the view that poverty is reduced only through economic growth. Economic growth can only make more resources available but what is more important is how these resources are distributed. After all the economic growth of western countries has not eliminated poverty in their midst.

Developing countries are characterised by the scarcity of resources. While one should be aware of this, it is the nature of underdevelopment itself that should be questioned. Quite often underdevelopment is taken for granted and dependence on cash crops or western markets is taken as a historical fact and thus as a 'fait accompli'. There is a need to look at the socio-economic and political forces, both internal and external, which influence the development or underdevelopment of the country.

Finally it is also important to analyse how the scarce resources available are allocated internally, sector by sector, to determine whether the needs of the population are met efficiently.

In this chapter, an attempt will be made to analyse the relationship between the economy, politics and social classes and to examine their influence on the 'development' or 'underdevelopment' of the island and on the distribution of resources.

1. The economic structure

(a) Economic development

Sugar production, the manufacturing industries and tourism form the main components in the Mauritian economy. Sugar by far assumes the dominating position occupying 93.9% of all cultivated land, while tea plantation occupies 4.5% and the rest, 1.6% is left for food crops and tobacco.[4] At present sugar accounts for 70% of export earnings.

This dependence on a single product is a colonial heritage and despite the fact that several commissions have advised diversification, sugar has continued to occupy more land in the last two decades. The only obstacle to its further expansion has been the smallness of the

island and the unsuitability of the remaining land available. The sugar cane plant is well adapted to the Mauritian soil and can better withstand the occasional cyclones which visit the island. But there are also political and economic reasons for its dominance. The sugar industry has over the years taken deliberate steps to build this dependence on a single crop. From the 1930's onwards massive and efficient support structures ranging from research and extension to credit and marketing facilities havebeen built up by the industry.(5) The profits generated by sugar exports have been used to modernise the mills and to bring marginal lands under cane cultivation. Meade reported that the principal function of the commercial banks was to provide finance for the sugar crop and to finance the import trade, while that of the agricultural bank was to provide government capital for the sugar industry.(6) There was also at the time (1959) a tendency for Mauritius to invest abroad.

The Mauritius Sugar Industry Research Institute's (MSIRI) main object is to increase the yield of sugar in the field and to improve manufacturing processes in order to improve sugar output. The MSIRI, financed by the sugar industry, is also entrusted to carry out research into the production of other food crops, but considering its allegiance to sugar, it is no surprise that little is known about other crops.

The primacy of sugar is also assured by a guaranteed market and a fixed price owing to such agreements as the LOME Convention and before this to the Commonwealth Sugar Agreements, which came into operation after the Second World War.

On the other hand, diversification to other foodcrops has failed because of the reticence of planters to grow other crops, the poor marketing and storage facilities and the lack of research. This was

more true at the time when Meade reported but since then the storage and marketing of foodcrops have improved. Diversification to other crops was also hindered by the fact that the 'merchant plantocracy' also controlled the import market. While the dependence on imported food was maintained, the import trade could continue to flourish.

The absence of objective research on the viability of growing other crops makes it impossible to devise an efficient agricultural policy that can reduce dependence on imported food. During the Second World War compulsory planting of foodcrops by estates and large planters was introduced but results fell far short of the targets set partly because compulsion does not induce human beings to give of their best in skill and drive.(7) It was also observed that the best fertile land was not given over to the growing of foodcrops.(8)

The sugar estates also engage in foodcrop production using a restricted acreage and in cane interlines. But this production fluctuates according to the price of sugar on the world market.

The same thing has been happening in other countries in Africa. European settlers, "in conjunction with the colonial administration deployed policies of land alienation, discriminatory orientation of government research, credit and extension services, manipulations of prices and markets and outright bans on African farming of certain crops, to develop and maintain the profitability of European farms."(9) In Reunion, the sister island of Mauritius, "the reliance on sugar smothered other forms of development."(10)

The dominance of sugar and the resulting neglect of other sectors of the economy is therefore no accident of history. No effective business class emerged and the local finance available was not used for

the purpose of building a manufacturing and industrial base in Mauritius. Therefore only a few small scale industries were started and the manufacturing sector never grew to the extent that it could provide jobs for the increasing labour force. The few local enterprises manufacturing products such as soap, razor blades, toothpaste, shoes etc for the internal market only generated a handful of jobs (see Table 54)[11]

Table 54

Employment in the Manufacturing Sector in 1971, 1977 and 1979 (Large establishments)*

		1971	1977	1979
(a)	MEPZ	644	18,169	20,400
	Male	214	3,808	4,000
	Female	430	14,361	16,320
(b)	Local enterprises	9,227	15,072	13,600

Hopes were raised high when the Mauritius Export Processing Zone (MEPZ) was created with the intention of inviting foreign capital to make use of the abundance of labour in Mauritius, and at the same time provide Mauritius with much needed foreign exchange. A package of concessions and incentives were offered to foreign investors by the Mauritian government and the number of factories which were set up in the zone grew rapidly making up a total of 90 in 1979.

Out of the total of 85 in 1975, 45 were garment factories and the majority of the workers employed were females (Table 54) (we shall discuss further the employment in MEPZ later on).

From 1970 to 1980 the MEPZ has been successful in bringing

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* large establishments are defined as enterprises employing 10 or more persons

a substantial amount of foreign exchange to Mauritius, because of tax concessions and other incentives. The real benefit to the country is the creation of jobs and the procurements of foreign exchange. The government has gone some way towards creating the infrastructure necessary for the operation of the zone. However, the MEPZ has certain disadvantages compared to similar enterprises in other developing countries. Geographically Mauritius is outside the main trade routes. The lack of raw materials means that these have to be imported from other countries. Mauritian labour in the MEPZ is cheap but it is still above the rates of pay in the South East Asian countries, because in Mauritius the general level of money prices is set by the outside world economy as most of the basic goods are imported. The new protectionist policies of the EEC and the USA are causing problems for the export of finished products. The proposed establishment of similar export processing zones in Kenya and Sri Lanka would no doubt increase the competition for foreign capital. The initial success of MEPZ is threatened by these uncertainties. Recently several MEPZ establishments have closed.

Tourism as an 'industry' has grown beyond expectations in the last ten years. Gross earnings have more than trebled during the period 1970-74.[12] Since part of the money invested in the industry comes from within Mauritius not all the profits go abroad. Besides the creation of jobs in hotels and in the service sector, the foreign exchange provided is useful for balance of payment purposes. With the increasing cost of air fares on routes between the island and Europe the number of tourists has been dwindling recently. South Africans are by far the most frequent visitors to the island. There is also the possibility that tourism has reached its optimum development.

(b) Employment/Unemployment

The sugar industry, the public service, the manufacturing industries and tourism are the main sectors of employment.

In September 1979 employment in sugar estates stood at 45,683 or 77% of total employment in agriculture of 59,735.(13) With the introduction of mechanisation in some parts of the industry and the rationalisation of production processes less people have been employed than before. "The agricultural sector is not expected to contribute substantially to employment creation."(14)

The public service which most school leavers hope to join has already built up a massive bureaucracy and is unlikely to be a provider of new jobs in the future. Similarly with the problems hindering its further expansion, tourism is unlikely to produce mass employment.

Only the manufacturing industries, in particular the MEPZ, are expected to come to the rescue of the Mauritian labour force. Much of this expectation has been fulfilled in terms of the number of jobs created . But whereas the government expected the MEPZ to generate jobs for young males, the opposite has happened. Due to the predominance of the textile and garments sector in the MEPZ, 80% of the total employment in the zone went to female workers. The government hopes to encourage male employment but there is little that can be done since the foreign investors are more likely to be attracted to this docile and pliant half of the labour force whose rates of pay are lower than those of male workers.

Apart from perpetuation of sex inequality in wages in the MEPZ the general level of wages in this sector is considerably lower than in the mainstream economy. Perhaps a low paid job is better than none.

Again the working conditions in some of the factories are poor and adversely affect the health of the workers. The closure of an electronic assembly factory 'Litronix' in 1981 illustrates the predicament of the Mauritian people. Over 1000 workers lost their jobs without any compensation after working for eight years with the company. The 'Litronix' case demonstrates in the words of some of its engineers(15) "the vulnerability of Mauritian employees having to face unemployment after several years of hard work with foreign investors." According to them, "Litronix is a special case which should go down into the history of our industrialisation policy as to how Mauritian labour could be so easily exploited without any humanitarian rewards by a bunch of foreign investors."(16) The failure of 'Litronix' was blamed on inability to compete efficiently with other manufacturers of the same products, especially the Japanese.(17) In this case, it was not the labour force but the more advanced technology of other firms which proved the deciding factor in the closure of 'Litronix' which up to then had been one of the most successful firms in the MEPZ.

Unemployment reached a high of 39,000 in 1972 and was brought down to 23,000 in 1979 (from 15 percent to 7 percent of the total labour force). Since 1979 the number of unemployed has been steadily rising and in June 1980 it reached 30,000.(18) In 1981 the number of registered unemployed was 53,048.(19)

(c) Wages

Following the recommendations of Meade in 1960 regarding wage restraint and partly because of the low economic growth between 1964-72, wages were kept low until 1974. Between 1972 and 1974 the average monthly salaries of daily and monthly paid workers in large establishments decreased by about eleven percent after inflation was taken into account.

They were increased by about 27 percent between 1974 and 1976 and increased by a further 15 percent from 1976 to 1978.(20)

This increase in wages and salaries was made possible, it was explained, by the 'boom' years (the unprecedented sugar crop of 1978 (718,000 tons) and the good crop of 1974 (698,000 tons) combined with the prevailing high world price of sugar .(21)

The government explained the wage increases as measures designed to improve income distribution. In fact it was estimated that the wages of the daily paid workers were increased nearly two times faster than those of workers paid on a monthly basis.(22) But taking into account that the low paid workers spend most of their income on basic necessities, inflation would have hit them hard.The rise in the cost of petrol from 1974 onwards also increased the price of imported commodities.

One must also see these wages increases in the light of the political disturbance which characterised the island for most of the seventies. With the emergence of the Mouvement Militant Mauricien (MMM) in 1969 and the general strike which followed in 1971, workers became more militant while the popularity of the Mauritius Labour Party (MLP) (the party in government) declined rapidly. Emergency laws were passed and elections were postponed until 1976. Pressure put on the government and its desire to stay in power also account for the rises in wages. These economic gains for the workers were quickly offset by rising inflation and the devaluation of the rupee by 30% in 1979. In the same year the price of rice and flour almost doubled.(23) Since then the purchasing power of wage and salary earners has fallen.(24)

Table 55 represents the percentages of households receiving different rangesof incomes in 1979. The World Bank estimated that 12% of the population of Mauritius were living in absolute poverty in 1979. According to the World Bank, 'to live in absolute poverty means earning below a level of income which allows members of the household to satisfy their nutritional needs and to pay for other basic needs such as housing, education and transport.[25] In 1979, Rs750 per month would not have met these requirements. During my fieldwork, using 1979 prices, I estimated that for a family with three children, food alone would have cost a minimum of Rs600 per month while the cheapest lodgings would have claimed not less than Rs200 per month. It became clear that those earning below Rs750 (39.2%) were living in absolute poverty. Another 20.2% earning up to Rs1000 per month would have been living in relative poverty, with households with three children struggling more than those with fewer. A closer look at Table 55 shows that:

	The top 17.8%	of households earned	52.2%	of total income
	The bottom 53.1%	of " "	21.5%	" " "
and	The Top 8.7%	" " "	37.7%	" " "
	The bottom 11.7%	" " "	1.9%	" " "

The 1980 World Bank Report[26] also estimated that the top 5% of households earned 31% of total income in 1979 against 28% twenty years ago, thereby increasing further the inequality in income distribution in Mauritius.

The unemployed, on the other hand, remain without income and family support. A selective scheme of unemployment benefit is still being worked out and at the same time it is proposed to stop granting Family Allowance, which for many years has been an additional source of income for families with three children or more. While old age pensions have been available for over two decades, a National Pension Scheme has recently been introduced (in 1976).

Table 55

Income Distribution in 1979

Income Range (Rs per month)	Household		Income	
	Percentage	Cumulative Percentage	Percentage	Cumulative Percentage
0-150	2.8	2.8	0.1	0.1
150-300	4.2	7.0	0.6	0.7
300-500	4.7	11.7	1.2	1.9
500-750	21.2	32.9	8.4	10.3
750-1000	20.2	53.1	11.2	21.5
1000-1500	18.8	71.9	14.9	36.4
1500-2000	10.3	82.2	11.4	47.8
2000-3000	9.1	91.3	14.5	62.3
3000 or over	8.7	100.0	37.7	100.0

2. Relations with the West

Mauritius was already dependent on the world market and especially upon the price offered by the EEC for sugar exports. However the setting up of the MEPZ has increased the reliance of the country on foreign investment and western markets for the finished products. This almost absolute dependence of the country on economic ties with the West leaves Mauritius highly vulnerable to both overt and covert forces of economic coercion. The new protectionist measures of the EEC and the US replace the tariff and quota barriers to trade implemented unilaterally in the past with Voluntary Export Restraints (VER's) and Orderly Marketing Agreements (OMA's) which operate on a bilateral and therefore selective basis. These allow bargaining but at the same time put the exporting country at the mercy of the importing one. The result is that trade has become an urgent problem of politics and power, pitting the weak directly against the strong.(27) According to the United Nations Conference on Trade and Development (UNCTAD) "the proliferation of the "restrictionist regimes" is a 'grave' threat to the trade and development of developing countries and would undermine their reliance on international trade as an engine for growth."(28)

In 1981 the US imposed a quota on imports of one of the MEPZ's most dynamic exports: knitwear, and thereby made a negative impact on the economy. At the same time the World Bank believes that "the success of the growth of manufactured export depends on Mauritius's ability to renegotiate its knitwear quota with the United States."(29) Bearing in mind the US interest in Diego Garcia* , it is unlikely that pressure to leave

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* An American military base in the Indian Ocean, which was part of Mauritius but was released to Britain as part of the deal regarding granting of independence. The Americans thereafter established a military base there with the consent of Britain.

Diego Garcia to the Americans would not form part of any negotiation on export quotas. The Americans' interest in Mauritian politics can be gauged by meetings which the representative of the US in East Africa had with all the political parties in Mauritius prior to the 1981 elections.(30) The British Under-Secretary of State had similar talks.

At the time when Britain was facing severe cuts in public expenditure, the Conservative Government gave Mauritius £1 million in financial aid. This followed a meeting between the then Prime Minister, Sir Seewoosagar Ramgoolam and Lord Carrington at which these three issues were discussed: The American military base in Diego Garcia, the situation in the Indian Ocean and sugar.(31)

France's interest in the island is historical. It occupied Mauritius before Britain took over in 1810. With Reunion island, a 'département' of France, only a few hundred miles away, France has an interest in seeing that a 'friendly' government is in place in Mauritius. France's influence in helping Mauritius to get a good deal with its sugar exports to the EEC has made the island more receptive to French influence. Despite 158 years of British rule, French culture is very much alive in Mauritius. This is because France, unlike the other western powers, believes in the power of cultural imperialism. Houbert(32) describes in detail how this has been carried out since Mauritius became independent:

"A full embassy, with a large cultural section, began to send advisers of all descriptions to the remotest villages. Radio and television programmes from Paris are now relayed to Mauritius by satellite. A specially powerful station on Reunion beams programmes to the 'sister islands'. The number of scholarships to France and Reunion has increased considerably. France provides help to schools and the University. French

artists, plays, films, subsidised by the government in Reunion, take in Mauritius on their tours."

Mauritius also depends on South Africa for its tea exports, on South African investment for its tourist trade and on South African tourists themselves.

Though Mauritius's links with the USSR are weak at the moment, the Soviets maintain a keen interest especially because of the island's geographical position in relation to South Africa, Diego Garcia and the main oil trade routes.

A further dimension of the country's dependence on foreign sources is revealed by the extent to which the International Monetary Fund (IMF) and the World Bank make loans to the government. Up to now these two institutions have provided Mauritius with some Rs4550 million in loans of which a very high proportion is still due.(33) The amount due represents about 50% of both internal and external public debt.(34) In return they make 'prescriptions' to the government regarding the running of the economy. The IMF asked for and obtained the devaluation of the rupee in 1979 and an increase in the retail price of rice and flour in 1980. The World Bank has strongly advised a significant reduction in public expenditure, the re-introduction of private schooling and the introduction of medical fees. They advised the government to resist the pressure for wage increases and to discourage the construction of dwellings, amongst other measures.(35)

This brief sketch of the economy shows that Mauritius is well developed in the field of sugar production and under-developed industrially. Despite the MEPZ's success in bringing jobs and foreign exchange to Mauritius, it remains outside the mainstream economy in that there is little, if any, transfer of technology. Apart from the formation of a few

cadres mainly for supervisory functions, the bulk of the labour force is engaged in monotonous assembly or machining jobs. The factories which are set up in the zone can close operations at any time and move to other zones around the world. The economy has so far failed to provide enough jobs to face rising unemployment.

In view of the penalties attached to dependence on western developed countries, one may ask why Mauritius does not try to break from the western hold. According to Smith the dependence of the South on the North cannot be explained by the North's interest alone but by the fact that the "local political elites in these areas have almost invariably structured their domestic rule on a coalition of internal interests favourable to the international connection."(36) Let us now turn to the different classes in Mauritian society and see how their interests have helped to fashion the economy to its present shape.

3. Social Classes

(a) The Sugar Oligarchy

The descendants of the French settlers, numbering about 17,000 in 1977 (2% of the population) constitute the 'haute or historic bourgeoisie' or what has been termed the 'merchant plutocracy'. In the colonial days they derived their economic power through the ownership of land and the sugar estates and by controlling the commercial banks and the import and export trade. Politically too, they were strong as they were the only people who were eligible to vote. As late as 1947, there were only 8,000 electors in a total population of 450,000.(37) By controlling the legislature they were able to influence the British administration of the colony.

The pattern of land holding is highly skewed in Mauritius. "On the basis of sugar cane acreage harvested in 1978, there are, on the one hand,

some 32,000 planters owning less than 4 hectares each who harvested 21,949 hectares. The 21 sugar estates, on the other hand, harvested 44,827 hectares.(38)

Apart from owning the land in the sugar estates and the mills to process the cane, the sugar oligarchy also owns other property including some of the best land by the sea. In the last few years with sugar reaching its optimum development and the availability of cheap labour in the MEPZ, this class began to invest in these industries and in tourism. Thus their control over the economy has been perpetuated. Even independence could not bring about a restructuring of the colonial economy.

(b) The 'Petite bourgeoisie'

Seegobin and Collen(39) separate this group into three sections: the bureaucratic and professional, the commercial and the agricultural bourgeoisie.

The bureaucratic and professional bourgeoisie: These include civil servants, teachers, doctors, lawyers etc. From the abolition of slavery up to about the middle of the twentieth century this group consisted mainly of the whiter section of the Creole community. Since independence with the emigration of some of this group to Australia and Europe, this section of the petite bourgeoisie has been joined by people from the other ethnic groups especially the Indo-Mauritians.

The Commercial petite bourgeoisie: A few Indo-Mauritian traders and merchants came to Mauritius at the same time as indentured labourers in the nineteenth century. They constituted the trader class and with time they have been joined by a large group of chinese who mostly started as small traders and retailers. Some of the members of this group have evolved from being the importers of petty commodities to running small

business and industrial enterprises. They are of the entrepreneur type and in theory they are a potential business class who lack the capital of the haute bourgeoisie.

(c) The agricultural bourgeoisie

This consists mostly of Indo-Mauritians who engage in cash cropping (mainly sugar) on their own land. At the turn of the century when sugar was not fetching a good price in Britain, the big landowners sold some of their less economical land in small plots to those Indians who could afford it. By origin most of the buyers were 'Sirdars' or gang foremen on the estates who earned higher wages and were able to save and invest in land and haulage carts.(40)

These categories overlap to some extent and no doubt Seegobin and Collen were aware of this as they wrote about the petit bourgeoisie having three 'more or less' separate sections.(41)

The bureaucratic class also referred to as the State bourgeoisie was at the service of the ruling class when the latter had both economic and political power. As Tinker pointed out "for one hundred years the Franco magistrates and police had assumed that their sole duty was to support the plantocracy by means of ruthless repression and punishment."(42)

The present State and professional bourgeoisie has links with the agricultural petit bourgeoisie and the former uses machinery of the state to help the latter in achieving some of its aims. The agricultural section has a history of conflict with the haute bourgeoisie mainly because of their dependence on the sugar estates to process their sugar canes. The main issues of contention have been the weighing of the planters' cane and its sucrose content. Seegobin and Collen list below some of the measures taken by the state bourgeoisie which have benefitted the petite bourgeoisie as a whole:

"It has introduced the 'sugar levy' with a differential which works against the historic bourgeoisie. Tax concessions have been introduced for the small planter. Fertilizer has been subsidized. Inter-line planting on the big estates has been arranged by the State for its political agents. The co-operative movement has been encouraged, so as to finance small planters. Development Certificates with all the incumbent economic and financial advantages, have been granted to members of this class."(43)

This does not mean that the newly aquired political power by the petite bourgeoisie is enough to wrest power from the haute bourgeoisie. As Seegobin and Collen point out further:

"... in Mauritius the bourgeoisie is so highly developed that the State, in its totality, cannot do otherwise that reflect the interests of this dominant class. This means that any political party which comes to power through Parliament, lands itself with a set of institutions which are far from useful in attacking the bourgeoisie."(44)

(d) The proletariat

The proletarian class can also be divided into an agricultural and a non-agricultural section.(45)

Agricultural proletariat: These are mainly wage labourers who work on the sugar estates. They are based in rural areas and are with few exceptions, Indo-Mauritians. In the past they used to supplement their income by looking after a cow or a goat and by growing vegetables, though increasingly in recent years these activities have become less common. "The individualist ideology has become very strong in the rural proletariat and has tended to make the agricultural labourers identify with the agricultural petit bourgeois."(46)

With the stagnation of employment on the sugar estates, this class can rely no more on their traditional source of jobs. They put their hope on the education of their children with a view to securing jobs in the public service. But as very few additional jobs are created in this sector the competition is intense and sometimes political patronage is the deciding factor.

Despite their individualist ideology they have in the past acted collectively as in 1937, 1938 and 1943 in their demand for more pay and better working conditions. Led by Trade Unionists and members of the MLP, they have succeeded in making small gains at certain periods in their struggle such as wage increases and in some cases improved housing through such schemes as the Sugar Industry Labour Welfare Fund (SILWF). However, their level of wages remains low and with the prospect of high unemployment, the future of this class remains bleak. The frustration with their living conditions was expressed by the removal of their support to the MLP at the elections of 1981.

The non-agricultural proletariat: At the time of emancipation the ex-slaves who refused to work on the plantations left the estates to live on their own. By and large they became fishermen and craftsmen and later factory workers and dockers. Though originally this section of the proletariat were mainly Creoles, they have been joined over the years by an increasing number of Indo-Mauritians, mainly Muslims, who have come to the urban areas in quest of jobs. Members of this class sell their labour in return for a wage and when "their pay is not enough to live on they combine with their fellow-workers to struggle for a wage increase."(47)

Since the Creole community forms the majority of this class, we shall look briefly at their plight. Besides not being compensated at the time of emancipation though their masters were, they have been completely

neglected throughout Mauritian history. As Tinker rightly puts it "the Afro-Creole is indeed the forgotten man of Mauritius, remembered only when his vote is wanted at election time."(48) Finding little in common with the African and aspiring to become like the white Creoles, they have not "been integrated into the higher levels of the national social structure (land ownership, management, the higher middle class, tertiary employment, etc.).(49) Though people point to the cultural differences between the Creole and the other ethnic groups,one cannot fail to note that the economic situation for Creoles got progressively worse as it got marginally better for the Indo-Mauritians.

At the time of overt discrimination against Indo-Mauritians, some Creoles through the paternalism of the bourgeoisie, could get skilled and unskilled work on the sugar estates and sometimes their educated members could find jobs in the lower echelons of the public service and private enterprises, mainly as porters and messengers. At present their crafts are in decline. They find less clients for their traditional jobs as shoemakers, tailors, carpenters, builders etc. Very few people repair old shoes; clothes are made in bulk in factories; big firms undertake the building of houses and premises and also make furniture with modern tools. Though sometimes they can find jobs in these same factories and firms, by and large the structure of their occupation has changed drastically leaving them with only their labour to sell and putting them at the mercy of employers.

One of the biggest blows to the non-agricultural proletariat was the virtual end of dockers' jobs. Traditionally the Afro-Creole group was engaged as dockers or stevedores. With the setting up of the bulk sugar terminal in 1980, and the 'containerisation' of goods, the docker effectively became redundant. Two thousand dockers lost their jobs in that year.

Fishing, another traditional source of work for the Creole, is in decline. The number of persons engaged in professional fishing has decreased in some areas by as much as 40% according to the General Secretary of the Association of Professional Fishermen in Mauritius in 1981.(50)

They are a deprived proletariat, living mostly in the ghettoes of the Central Housing Authority, and the future holds little prospect for them. Given that they are in a majority, one may ask why the two sections of the proletariat do not act in concert and change the course of events in their favour. The answer lies in the politics of social classes to which we shall turn next.

4. The Political Situation

We shall first briefly describe the main political parties and the interests of the class or classes that they represent.

(a) The Parti Mauricien Social Democrate (PMSD)

Before it assumed its present name, the party which was previously called the 'Ralliement Mauricien', represented the interests of the sugar oligarchy and opposed universal suffrage, and later, the independence of the island. When universal suffrage was finally achieved in 1967, some minor changes were made to the party's power base. The adoption of a new name (PMSD) accompanied changes in the structure of the Party which allowed more middle class whiter Creoles (and later members of other ethnic groups) to hold prominent posts. The effect was that the poor Creoles could identify more readily with whiter Creoles than with the Whites themselves.

The PMSD led an effective, if unsuccessful, campaign against independence for 'integration' with Britain. The Party appealed to the Creole community to unite against what was seen as the threat of Hindu 'domination' after independence. The PMSD effectively deviated attention from the oppressive power of the haute bourgeoisie from whom working class Creoles were becoming progressively alienated, as indicated by their support for the MLP and its Creole leaders between the late forties and early sixties.

After independence, the PMSD formed an alliance with the MLP until it broke away shortly afterwards. Since then the Party has been in decline. A dissident group left and formed the Union Democratique Mauricienne (UDM), but they have even less suport than the PMSD.

(b) <u>The Mauritius Labour Party (MLP)</u>

Founded in the thirties, it was led by members of the petite bourgeoisie from the Creole and Indo-Mauritian community. For a while it seemed to unite both sections of the working class. Thus one section of the petitebourgeoisie frustrated in its development by the haute bourgeoisie found common cause with workers who also felt the oppression of the latter. The alliance of the two classes was so effective that the MLP won the elections of 1948, 1953, 1959 and 1963.

The Party which had given much hope to the working classes by its promises of socialism and land reforms was itself gradually assuming a more petit bourgeois stance. As its early prominent Creole leaders either died or left through sickness, the Party become Hindu-dominated with the result that Creole support was withdrawn completely at the election of 1967. Many Creoles were attracted to the communalist-campaigns of the PMSD in the same election campaign.

The petit bourgeois domination of the MLP became obvious after independence when having assumed political power and felt the awesome economic power of the haute bourgeoisie, the Party realised that in order to stay in power it had to respond to the most powerful interests, even at the expense of the majority of its supporters, rivetted to it by the cement of a communalist sentiment.

Thus a section of the petitebourgeoisie who was blocked in its expansion by the haute bourgeoisie was rewarded with whatever State power can confer in return for leaving economic power in the hands of the latter.

Not all petit bourgeois benefit from State power. There are just not enough rewards and privileges to go round. Some wait outside the Party or join other parties, while others struggle within the Party itself. Increasingly some sections of the petitebourgeoisie feel 'relatively deprived'.(51)

The MLP suffered a humiliating defeat in the 1981 elections. The loss of popularity of the MLP can partly be explained by the fact that it remained a static party and that it failed to take into account the wishes and aspirations of its newer members. And when the old guard faced the new entrants, the result was the expulsion of three young MPs who then founded 'the Parti Socialist Mauricien' (PSM).

(c) The Movement Militant Mauricien (MMM)

Started by a group of students in 1969, the MMM emerged from an organisation which set out to make its views known on imperialism and the Mauritian economy into a dominant political party which in alliance with the PSM won all the seats in the general elections of 1981.

The 'progressive' members of the petite bourgeoisie who founded the party began by organising the working classes through trade unions. There was always the possibility that once working class support was won the party would act more in the interest of the petite bourgeoisie. In fact the party was gradually taken over by the more reactionary section of the petit bourgeoisie in about the same way as happened to the MLP.

With hindsight one can show the four stages in which the MMM moved away from a progressive petit bourgeois party.

First stage: After the imprisonment of the MMM leaders in 1972, petit bourgeois intellectuals who were frustrated with the other parties came to the rescue of the MMM. They had been waiting in the wings and following the events since the party emerged and saw the tide moving in its favour. But the 'embourgeoisement' was not too apparent then except to some members who left the MMM.

Second stage: Facing the general elections of 1976 the MMM needed enough 'credible' candidates who would reflect both 'intellectual stature' and 'communal affinity with the electors', and therefore opened the door once more to more petit bourgeois, some of whom had been members of the other parties.

Third stage: After winning more seats than any other party at the election of 1976, the MMM found itself in opposition because of an alliance of the PMSD and the MLP. However its popularity increased and prominent civil servants (some of whom resigned their posts) and members of other professions joined the MMM.

Fourth stage: Now controlled from within by the petit bourgeoisie, the party found in allying itself with the PSM, that it was restrained from

without by the very section of the petitebourgeoisie which had formerly been ousted by the MLP.

Finally after the MMM and the PSM won the general elections of 1981, over half of the MMM's MPs joined the PSM to form a new party, the Mouvement Socialiste Mauricien (MSM). After the new elections of 1983 in which the MSM was victorious, the MMM became the opposition party, weakened by the split.

The great loser in this form of class politics has been the proletariat. On several occasions, when asked for their support by the petitebourgeoisie in return for promises of economic reforms (first by the MLP in the elections prior to 1967 and then by the MMM in 1976) the Indo-Mauritian and Creole workers have responded positively as a class. In all these cases, the petitebourgeoisie having acquired political power decided to adopt a policy of co-operation with the haute bourgeoisie leaving the latter with all the economic power. To be fair to the MMM it has not stayed in power long enough to be judged by its policies, but the changes in its successive manifestos reflect its change of direction.

The relationship between the haute and the petitebourgeoisie is not a static one. When conflict arises between them the petitebourgeoisie in power relies on the support of the Indo-Mauritian proletariat in order to check the excesses of the haute bourgeoisie. They can only get this support through appeals to communalist sentiments in return for political patronage.

On the other hand, when threatened by the petitebourgeoisie, the sugar oligarchy seeks the support of the other sections of the proletariat, through the PMSD.

This other dimension to Mauritian politics, 'Communalism', has a long history. It is worth pointing out again that it is the sugar oligarchy which started practising it in Mauritius by discriminating overtly against Indo-Mauritians in favour of the white Creoles. Since independence the MLP has been trying a subtle form of positive discrimination in favour of the Hindus without officially admitting it. This policy operated in conjunction with the placing of Hindus in prominent posts in the Civil Service, partly to receive their allegiance to the party and partly to facilitate the recruitment of Hindus in the public service. Their tasks were made easy by the emigration of the whiter Creole civil servants before and after independence.

As we have seen there are instances where the proletariat has voted along class lines and others where it has voted along ethnic lines. The choice of class, ethnic or religious identity varies according to the political situation. Political situations that evoke participation along class lines may appear and disappear just as they do for participation along ethnic lines.(52)

Though politicians make appeals to communal sentiments not all those who respond do so only on the basis of shared identity. Quite often the decision is taken by calculating costs and benefits. In Mauritius the proportion of Hindu voters and their location in constituencies is such that theoretically political power can rest in their hands if they all vote along ethnic lines. In practice the Hindu community is further sub-divided along caste lines. Patronage is never unlimited and access to it is a source of conflict. There are, of course, many Hindus who see themselves mainly as members of a working class.

Ethnicity and class may be organising principles of equal importance within the same political situation.(53) Muslims and Creoles in the urban

areas and elsewhere experience discrimination in jobs and other things and also happen to form the majority of the urban working class; they vote both as members of the same ethnic group and as members of the working class.

Communal politics, closely linked with the politics of patronage, can explain some of the gains of the rural proletariat. In rural areas where most of the Hindus live, some 'development' has taken place. Social centres have been built, health and educational services extended, together with the provision of water and electricity in certain areas. A rural development programme was started with a view to providing employment, partly to relieve the pressure of unemployment and partly to use the labour force for the construction and maintenance of roads, the building of schools, the clearing of areas for plantation etc. The number of jobs crated under the 'Rural Development and Employment Intensive Programme' are listed below in Table 56.

Table 56

Employment in the Rural Development Programme between March 1975 and September 1977

	March 1975	Sept 1975	Sept 1976	March/June 77	Sept 1977
Employment	7,642	6,880	6,653	14,438	7,135

The provision of these jobs certainly helps to relieve some poverty in the rural areas but does not solve the rural unemployment problem nor does it remove inequality. The real problem is that these jobs are ad hoc creations of the government and rarely lead to lasting development of the rural economy.

These developments however are much more than the urban working class can hope for. While some Creoles and Muslims benefitted from the patronage of the PMSD when the latter controlled the Municipalities in the towns, the majority faced even greater poverty.

It would be inaccurate to state that nothing has been done for the working class. The early Labour governments must be credited with the introduction of policies such as family allowances and the subsidisation of rice and flour. Perhaps this was because the support of the population was still needed for the crucial elections of 1967 leading to independence or perhaps they reflected truly the intentions of the MLP to work for the proletariat.

The shift in direction came soon after independence. Its alliance with the PMSD signified the intention of the MLP to abandon its promises of economic reforms. Ramgoolam in Mauritius like Burnham in Guyana, "had shifted his ideological position from welfare socialism at the beginning of the nationalist period to one much closer to welfare capitalism",(54) except that in the case of Mauritius there was a lot of capitalism and very little of welfare. The only welfare measures that the post-independence Labour governments can claim are the provision of free secondary education in 1977 and the introduction of a National Pension Scheme in 1976. If the latter was planned, though much waited for, the same could not be said for free education which far from removing inequality in fact reinforces class divisions and is an illustration of the inefficient use of valuable scarce resources.

In common with many other post-independent countries like Kenya and Tanzania,(55) where the provision of education is supposed to cure the ills of under-development, Mauritius invested heavily in education.

Little attention is, however, paid to the content of education. In Mauritius the level of academic achievements is low as indicated by the poor results obtained at the Primary School Cerltificate examinations and at higher levels. Technical education is also lacking and as shown earlier health education is totally absent. Despite Meade's report which pointed out the difficulties of learning too many languages, more oriental ones have been added to the curriculum. Besides the burden put on students to learn so many languages, huge sums of money are spent on oriental language teachers who are on the whole under-utilised. An investigation carried out by the Office of the Director of Audit in 1982 found that "Urdu teachers worked an average of only 1 to 2 hours daily in six schools while Hindi teachers put in only an average of two hours work per day in 34 primary schools."(56) No doubt the teaching of oriental languages serves to reinforce the spirit of communalism so important to politicians who want to keep the working class divided.

Far from reducing inequality the provision of free secondary school education benefits the rich more than the poor. Up to December 1976 most of the institutions providing secondary education were private colleges. These ranged from expensive ones which cater for students from the middle and upper classes to cheap ones mainly for the working class. In January 1977 the government decided to pay the fees for all secondary education schools. Thus the rich family saved more than the poor one because of the differential fee that they were paying previously. The poor family is also likely to spend the money saved on fees on basic necessities while the rich family will use the money for private coaching of their offspring. Free education did not change the recruitment patterns of the expensive colleges where the best teaching resources are concentrated. As for university education only the rich people can send their children abroad.

There are a few scholarships available but by and large, those who spend money on private coaching have an advantage over the others. 'In the jungle of cut-throat academic competition', the use of education as a means of achieving social mobility remains a Mauritian dream for the poor who can hardly afford to feed themselves properly.

What makes the provision of free secondary education more suspect is that it was not a planned measure but was designed to win votes at the elections of 1976. When the MMM included it in its manifesto, the MLP responded by promising to do the same if elected. The promise was fulfilled the very day after the election. The Ramphul Report described the situation created in this way:

"... this momentous step, for which quite clearly there had been no sufficient planning, appeared to catch everybody off balance and a rather chaotic situation developed when schools resumed in January 1977."(57)

Other developments in the field of education included the setting up of the 'Institute of Education', the 'Mauritius College of the Air', the 'Mahatma Gandhi Institute' and the 'Institut de Billinguisme'. This in turn prompted the charge of 'duplication of institutions'. One member of parliament pointed out that the under-utilised University of Mauritius could have accommodated these different projects under its wing with less resources spent on buildings and administration. But these institutions provided the reasons for creating the jobs which the economy cannot otherwise generate.

Expenditure on education is nearly double that of health and Social Security as Table 57 shows:

Table 57
Expenditures on Health, Social Security and Education as percentage of total expenditure

	1978-79	1979-80	1980-81 (estimate)
Health	9.5	8.7	7.9
Social Security	9.4	8.6	7.8
Education	17.1	16.5	15.8

These figures show that the government value educational needs more than other basic needs. One can see the futility of the objections raised against the provision of a midday meal for primary school children on grounds of costs, when the provision of free secondary education can increase the share of education from 11 percent of total government spending in 1973-74 to 18 percent in 1977-78.

On the other hand, though in absolute terms expenditure on health services have increased, the additional sums are just enough to cover inflation and to pay for additional staff. In comparative terms the share of health spending in total government expenditure has decreased since 1970-71 as shown below (Table 58).

Table 58

Share of Health Expenditure out of Total Government Expenditure

(percentage)

	1970-71	1978-79	1979-80	1980-81
Health expenditure	10.6	9.5	8.7	7.9

In conclusion, we can see that very little has been done to reduce the historical inequality between the social classes. The two sections of the working class already living in poverty face a bleak future as a result of the uneveness of economic development, itself a consequence of the deliberate policies of the sugar oligarchy who guided by their private concerns were unable to make decisions in the best interest of the island. The sugar industry is well developed while the manufacturing and industrial sectors have been neglected. At the same time dependence on the West is stronger than ever.

There is also an indication that, sector by sector, the scarce resources available are not being distributed according to needs. The

over-emphasis put on education diverts precious resources away from much needed areas such as health and social security.

The early gains of the working class made possible by the MLP in the pre-independence period were not improved upon by the later MLP who consolidated the political power of the petitebourgeoisie. The failure of the economy to generate jobs meant that the government had to create work mostly as a form of patronage for its supporters who were bound to the Party by 'communalism'.

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CHAPTER 10: HOUSING, NUTRITION AND POPULATION GROWTH

Although the health of a population is directly influenced by the way in which health care is organised, distributed and used, other factors such as housing, water supply, sanitation, and nutrition have an important bearing on peoples' health. The historical improvement in health in Europe is attributed to better conditions of living. McKeown and Record examined data from the 19th century in England and Wales and concluded as follows:

> "In order of relative importance the influences responsible for the decline of mortality in the second half of the nineteenth century were:
>
> a) rising standard of living, of which the most significant feature was improved diet;
>
> b) the hygienic changes introduced by the sanitary reformers; and
>
> c) a favourable trend in the relationship between infectious agent and the human host."(1)

If lowered nutrition makes people more prone to diseases, increased exposure can add to the problems of ill health. Poor housing, contaminated food, unwholesome water supplies, low standard of sanitation can all militate against any progress made in the curative field. At the same time one has to bear in mind that "questions of health and welfare cannot be viewed in isolation of changes in the size and composition of the population."(2)

A multi-sectoral approach is called for which not only means that other agencies should consider the health factor in their respective

planning, but also attribute to health administrators the responsibility of participating actively in those areas which affect health in one way or another.

In this chapter we shall look at the following areas:

a) Housing (including a cursory look at water supply, sanitation and sewage in some areas)

b) Nutrition

c) Population Growth

a) Housing

The effects which living conditions can have on peoples' health cannot be measured with any degree of accuracy. Djurfeldt and Lindberg pointed out that while the highly developed science of nutrition permits even an amateur a fairly precise analysis of a food culture, the precision cannot be repeated in the analysis of other aspects of living standards.(3) They described their attempts to deal with medically relevant aspects of housing, clothing, working conditions, sanitation and hygiene in a South Indian village as 'rather superficial'.

One of the main reasons why the effects of housing on health as a variable on its own cannot be quantified is because bad housing is usually associated with poverty, unemployment, unhygienic conditions, lack of amenities, inadequate water supply and bad sanitation. On the other hand, one can speculate with some confidence on the association between bad housing and ill health in cases where houses or premises are badly ventilated, where overcrowding accelerates the communication of infectious diseases, where leaking roofs and poor heating cause hypothermia or increases the risk of bronchitis and pneumonia. Thus slum 'districts' of the big cities have been found to have a higher incidence of diseases than in other areas.(4)

In Mauritius, the bad housing condition attracted the attention of visiting experts as early as the beginning of this century. In 1903 the Piggott report observed that

"Large number of houses in the Towns are inhabited not by one family but by several: houses which are in fact, though not in name, common lodging houses, and in which in many cases, there is only one privy. The condition of latrines points to what the Director called a 'stupendous scandal'.(5)

Balfour,(6) in 1921, compared Port Louis to a 'rabbit-warren'. He too, was concerned with the problem of overcrowding and in fact went as far as measuring some of the rooms. He found that the average cubic space per head worked out at about 200 cubic feet, which he remarked was bad enough, but was far worse in the stagnation of air at night. Examining the statistics he concluded that the highest mortality occurred in the sections of the town which were most overcrowded.

In 1944, Rankine reported to the Governor of Mauritius that housing conditions in general were far from satisfactory and could frequently be described only as bad. He added

"Once again lack of machinery for the exercise of the necessary supervision and control of building has prevented in large measure the application of the law. No provision, however, exists in respect of planning and Mauritius is already faced with ribbon development on a large scale with all the disadvantages, administrative and aesthetic which it entails."(7)

Two years later, the Governor of Mauritius, Donald Kennedy, in a preface to Lavoipierre's essay on 'Housing',(8) wrote

"Most of the people of Mauritius live and move and have their being in ugly and unhealthy surroundings which tend to stunt their physical

and mental growth. This means that the plans that are at present being studied to improve the health and education of the people will be largely wasted unless they are accompanied by a strong drive for better housing conditions."

The Commission of Enquiry into the disturbances which occurred in the north of the island in 1943 found evidence that there was much dissatisfaction among some of the labourers on account of living conditions in the labour camps on the estates.(9)

Part of the response to the unrest on the sugar estates in the Thirties and Forties was in the form of a Colonial Development and Welfare Fund which was set up to improve the living conditions of the population. The estimated expenditure on housing from the Fund for the period 1946-1954 was over Rs10 million. However, just over Rs 3 million was utilised by the Municipalities to improve housing.(10)

The Sugar Industry Labour Welfare Fund* (SILWF) made loans available to workers in the sugar industry and built houses on a tenant-owner scheme. Regular dock workers were also brought into the scheme in 1962. Between 1946 and 1956, Rs 3.5 million were used towards better housing and other welfare measures for the sugar industry labourers. However, according to the Annual Report of the Medical and Health Department published in 1956, the housing situation remained difficult particularly in relation to the lower income groups. This was attributed to the increase in population and to the arrears which accumulated as a result of the slackening of building activities during the war and post-war years, when normal expansion came to a standstill.

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* The income of the Fund is derived mainly from a levy on sugar sold to the UK government under the Commonwealth Sugar Agreement and from interest on the accumulated investments.

At the end of the Fifties, Titmuss and Abel-Smith(11) observed these new developments on the housing scene and also noticed the difference between urban and rural housing conditions. While the villagers lived in straw huts built round a timber frame, the urban dwellers were building houses with more robust materials. However Titmuss and Abel Smith pointed out that while in the urban areas, the standard of house construction was on the whole higher, the housing conditions in parts of Port Louis were worse than anything they saw in the villages. According to them

"hundreds of people are crowded into tin shacks hardly fit for animals. Not surprisingly, tuberculosis and other diseases are very common in these slums."

At the beginning of the Sixties, the Mauritius Housing Corporation (MHC) was set up for the construction of houses which were offered on a tenant-owner basis, and it also makes loans to those who want to build houses on their own land.

Though it seems that at last the need for planning in housing was being recognised, the fact remained, as Titmuss and Abel Smith pointed out, that housing development even when financed from public funds "was largely unplanned and un-coordinated."(12) This is more obvious in the case of the 'cités' as we shall see later on.

To this semblance of planning came to be added more problems. In the first two months of 1960, cyclones Alix and Carol caused extensive damage to well over half of the houses on the island. The wood and straw huts were the major casualties. As a result the government set up the Cyclone Housing Scheme out of which a new body, the Central Housing Authority (CHA) came into being. The CHA was to be assigned the role of providing housing for cyclone victims and to some extent for people of low income.

The SILWF, the MHC and the CHA were to be responsible for providing the bulk of public sector housing. In the 1975-80 Development Plan, the national housing requirements were estimated at 28,000 units, but by 1977 the government acknowledged that only 50 per cent of this target would be reached by 1980.(13)

If the quantity of houses is insufficient, the quality leaves still more to be desired. We shall look at the conditions of the houses provided by the CHA as it supplies a higher proportion of houses and caters almost exclusively for people of low income. Because the MHC's loan scheme requires an obligatory deposit, it attracts only those who can afford the terms, while the SILWF caters mainly for workers in the sugar industry.

From the beginning the CHA was doomed to fail. The scheme was hurriedly set up at a time when the local trained manpower was lacking and the time for planning was insufficient. The reasons for its failure are well documented in Hasgarally's dissertation on the "Problems of the CHA".(14) The CHA is also responsible for the creation of a new housing phenomenon in Mauritius - the 'cités' - which are small villages (80 in 1967) made up of housing units built by the CHA. They are mostly inhabited by the victims of cyclones and people of very low income. The urban cités group a majority of poor Creoles, but depending on the geographical location, there are cités like 'Paul et Virginie' where the majority of the inhabitants are Muslims. In the rural areas, the cités are occupied by Creoles, Hindus and Muslims of the lower classes, with the occasional Chinese family. A problem with the cités is that they became ghettoes.

As far as the health aspects of these cités are concerned, the absence of an infrastructure for the provision of safe water, sewage and

sanitation has led to a serious situation wherein the health and safety of the residents are daily at risk.

In most of the cités there is an acute water shortage and when it is available the main provision points are at a considerable distance from the residence. People have to queue up for hours and many of them have built trolleys for transporting the water collected. Quite often water is available only at night and the cites become alive with the activities of these water starved residents much to the annoyance of people who spend their day time at work and who expect to sleep peacefully at night. And when finally the much awaited fluid appears at the end of the pipe, it is often muddy and full of worms.(15)

Shortage of water poses real health problems and hinders such activities as cooking, cleaning, bathing etc. When there is no water the toilets are not flushed, and even where some water is available, people do not consider it a priority to pour it down the toilets with the result that the likelihood of the propagation of diseases via flies is increased.

The problem of sewage and waste disposal should be another basic concern of health agencies in promoting development of safe, sanitary healthful housing facilities. Yet in many cités the sewage system is defective. At cité Richelieu, for example, there is one pit for 16 houses and because the pit cannot absorb more human waste, it becomes flooded when it rains with the result that the waste is forced back into the toilets in the homes.(16) Besides the obvious inconvenience experienced by the residents, the health risks are incalculable.

There is no rubbish collection service in the cités, especially in the rural ones,(17) and there are no suitable disposal sites. Rubbish is disposed of in the streets, in nearby fields and in canals thus

causing a rodent problem, fly-breeding, odours and nuisances. There was even a case where temporary accommodation was provided for cyclone refugees next to a rubbish tip.(18)

If the cités are deprived of potable water, they have too much water when it rains. Many are literally flooded and as the road conditions are very bad, pools of stagnant water provide the perfect breeding ground for mosquitoes.

There are numerous other difficulties which the residents of the cités have to face, but if the cités are an example of bad planning or rather the absence of planning, the problems highlighted so far are not confined to them. In some parts of the rural areas there is a chronic shortage of water. Besides making use of stored rain water for certain domestic purposes, people wash their clothes in nearby rivers and canals and frequently take their baths there as well. On occasions this had led to an increase in the incidence of Bilharzia, as in 1981 when the vulnerable places identified were Cité La Cure and Plaine Magnien.(19)

Certain parts of Port Louis, too, has kept its reputation of a 'filthy' capital. If Balfour's remark in 1923 that "Port Louis is the filthiest capital in the world" were exaggerated, the filthy state of some parts of this district remains a cause for concern. It had the lion's share of typhoid fever in 1980: 100 cases out of a total of 126 in the whole island.(20) Port Louis invariably has had the highest incidence of Tuberculosis. In 1979, Port Louis with 15.7 percent of the total population on the island had 40 percent of Tuberculosis cases.(21) The capital also has the highest density of population : 8837 per square mile (the island's density is 1365 per square mile). There is a high incidence of gastro-enteritis mainly in the outskirts of Port Louis : Roche Bois and Cité La Cure. According to Dr. Beebeejaun,(22)

Paediatrician at the Civil Hospital, commenting on an outbreak of the disease in 1981, most of the victims came from the impoverished areas of Port Louis, and he attributed three reasons for this:

1. The state of hygiene of the poor
2. Inadequate water supply
3. State of malnutrition

He also called for the Municipality of Port Louis to clean the streets more regularly.

The Ministry of Health blames the Municipality authorities for not fulfilling its tasks of providing adequate sanitary services for Port Louis. Besides the problems of coping with household waste, very often factories make things worse by dumping their industrial waste in the canals, which in turn carry them to the Grand River North West and on to the sea. Members of the public anxious to be relieved of their rubbish often get careless and have to be reminded by such voluntary organisations as 'Action Civique' of the inconvenience and health risks of dumping waste anywhere they can.

The Municipal authorities of Port Louis, in turn, blame the Central Water Authority (CWA) for the increase in the incidence of gastro-enteritis and the Central Electricity Board (CEB) for blocking the drains.(23) To be fair, the CWA must be held partly responsible for the state of health of the population. A test carried out by the Environmental Health Unit of the Ministry of Health found that water made available to some parts of Port Louis contained a high proportion of microbes.(24) In 1980, two US experts, Kleberg and Haley, called upon to report on the causes which led to the typhoid epidemics in certain parts of Port Louis, put the blame on polluted water and the defective sewage system which leads to flooding at times of heavy rain.(25)

The optimism of the Medical and Health Department in its 1954 Report that "by the end of 1957 the water supplies of Mauritius will be unique in the world and that every inhabitant of the territory will have at his disposal piped, clean,pure water" proved unfounded. We now find that many of the pipes are old, leaking and rusty. Lack of pressure in the pipes gives way to superior pressure from outside with the result that microbes and bacteria are sucked in, contaminating the water which tests have proved to be safe at source.

Following the trend of putting the blame on someone else, the CWA says it is up to the Ministry of Works not to install sewage pipes alongside water pipes in order to avoid pollution.(26)

Pointing out the deficiencies of these services does not mean that progress has not been made at all. In fact the network of water supplies has been extended to serve more areas in the countryside. More villages now have piped water in the home whereas in the past people had to talk long distances to reach communal water points.

The housing situation has improved but mainly for the middle classes and the workers on the sugar estates. Titmuss and Abel Smith made observations on how middle class people cashed in on the housing scheme of the local authorities in the fifties.(27) In the beginning of the seventies owing to a higher output and better prices of sugar in quota and non-quota markets revenue accruing to the economy from sugar sales increased substantially. This raised incomes which was reflected in a substantial rise in the demand for housing as a result of which investment in residential buildings shot up from Rs34 million annually in 1967-70 to Rs 54 million in 1972 and to Rs 103 million in 1973.(28) Even if one takes into account that by 1973 the prices of building materials and the value of land nearly doubled, the increased investment

in residential housing is quite considerable.

The SILWF has gone a long way towards providing decent homes for sugar estates workers. However, it is mostly the urban poor who have experienced little amelioration in their housing situation. The government itself admits that its 1975-80 housing programme catered for the needs of the middle-income group and cyclone victims. It felt that "there was a need for a comprehensive housing policy to tackle the backlog of unsatisfied demand in all income groups, especially in the low and lower income groups."(29)

Many of those who do not live in the cités still live in the kind of housing described earlier by Titmuss and Abel Smith. The actual situation of the urban poor as I saw it while carrying out the survey on Infant Mortality confirms that there are many cases where there are more than eight people to a room, even though concrete houses have by and large replaced tin shacks. One latrine is being shared by as many as 20 to 25 people. In some overcrowded areas, because of lack of space, people have started to build vertically rather than horizontally, and in many cases the original houses were not designed to accommodate more floors. Packs of dogs roam the streets and at night they 'take over' certain parts of the city, where people can only venture at the risk of being attacked. Besides the insufferable noises that they make causing a lot of sleepless nights, the health hazards that they represent seem not to concern the health and other authorities. We must point out here that some sections of the rural poor also experience living in deprived housing conditions even though straw huts have almost disappeared. My fieldwork reveals that behind the 'nice' houses which border the main streets in the rural areas are to be found pockets of deprivation where the housing conditions are appalling.

As we have seen parts of Mauritius and, in particular, parts of

Port Louis are still afflicted by the kind of problems which experts observed in past. To these have been added the pollution from vehicles especially in the Capital, and from factories in the Export Processing Zone.

We have shown how sometimes planning has been unco-ordinated. There is also a deplorable absence of a multi-sectoral approach, especially as far as providing the essential services to the cités are concerned. By and large, the urban poor are sitll hoping for better conditions of living.

(b) Nutrition

Developing countries are characterised by widespread malnutrition. The latter term which means 'bad nutrition' has been used to cover a wide range of nutritional problems that people encounter. The most obvious and visible forms of malnutrition are Marasmus and Kwashiorkor. Marasmus is caused simply by starvation which leads to the person becoming extremely emaciated. Kwashiorkor which is less common than Marasmus in developing countries occurs when people do not eat enough protein in the diets. These two easily identifiable direct causes of malnutrition are often seen on the television screen in developed countries but, by and large, they are "acute exacerbations of a hideous, much larger and not sufficiently recognised problem of hidden hunger which affects the majority of the children in the Third World."(30)

Before the seventies it was believed that the nutritional problems of Third World children were caused mainly by the lack of protein in the diet. Since then, the question of protein deficiency has been re-examined and health workers have come to appreciate that in many areas of the world, energy deficiency appears to be of comparatively greater magnitude than protein deficiency in the diets of young children.(31)

Large segments of the population consisting mainly of children and young women eat food which does not contain enough protein and energy and in consequence are malnourished. This form of malnutrition known as Protein Energy Malnutrition (PEM) is the most common form of malnutrition in developing countries.

Adults, too, are affected by PEM, but generally attention has been focussed on children because they are at the most important stage of physical and mental development. Morley and Harman describe some of the problems that under-nourished children face.

"Stunted growth is common among children in developing countries and these children are likely to be much more seriously affected by common illnesses such as measles and have four times as many attacks of diarrhoea as well nourished children."(32)

There is also the possibility of intellectual stunting. According to Morley and Harman, there is ample evidence to show that children who have been poorly nourished and also exposed to an under-privileged and impoverished environment with little stimulation will not have the intellectual potential of more fortunate children.(33)

The extent of PEM in most developing countries can only be guessed owing to the lack of records. This problem is compounded with the practice of assigning a single cause of death. Often the terminal disease may differ from the disease or condition which instituted it. In terms of prevention or intervention it is obvious that the initiating condition is more relevant than the terminal one.(34)

Puffer and Serano investigated mortality in eight Latin American countries. Using a multiple cause approach they found that "PEM caused or contributed towards 50 percent of post-neonatal deaths and

that there was a highly significant relationship (r = 0.91) between deaths from diarrhoeal disease as an underlying cause and malnutrition as a contributory cause."[35] Ashworth, combining all the Latin American projects (of Puffer and Serano), observed that nutritional deficiency was an underlying or associated cause in 55 percent of child deaths, and the synergistic action of nutritional deficiency was more marked in relation to infective and parasitic diseases. For example malnutriton was an associated cause in 60 percent of deaths from diarrhoeal disease and from measles, but only in 32 percent of deaths from respiratory diseases.[36]

In general babies born in developing countries are smaller than those in industrialised ones. In some parts of the Third World, up to half the babies are of low birth weight (under 2500 grammes). The main reason for this is because they come from small, chronically under-nourished mothers.

The practice of breast-feeding which provides an important source of energy and protein for the infant not only in the first year of life but also in the second[37], is at present seriously undermined in developing countries. Most of the blame for this change in the pattern of infant feeding practices is laid firmly at the door of the multi-national food companies who use, according to Jeliffe and Jeliffe[38] "unethical promotion of formulas". The advertisements include the "use of techniques of persuasion and motivation based on prestige, upward mobility etc in communities (a) where there is no possibility of such formulas being purchaseable in adequate quantities, and/or (b) where breast-feeding is still the norm.

Out of the 100 Mauritian families in the survey on infant/child mortality, it was found that 19 mothers breastfed the infant until at

least six months, 24 did not breastfeed at all, 57 breastfed for a few weeks only and stopped or breastfed and bottle-fed simultaneously. It is clear that less than one fifth resorted to breastfeeding alone.

In Mauritius PEM is not so severe as to bring marasmus and kwashiorkor but there are indications that it is present in mild forms among large sections of the population. The government admits that "although morbidity and mortality data suggest that malnutrition and anaemia are problems in some sections of the population, especially among children and women of child bearing age, there is no direct data on the nutritional status of the different segments of the population."(39)

Table 59 gives an indication of the number of cases with nutritional deficiencies treated at dispensaries in 1970 and during the period 1975 and 1979.(40)

Table 59

Attendances at dispensaries due to nutritional deficiencies

Year	No. of attendances	Attendances per 1000 population
1970	64,379	79
1975	87,767	101
1976	83,816	95
1977	77,685	87
1978	81,882	90
1979	93,254	101

It seems that these attendances have actually increased in the last ten years. These figures exclude those who attended hospitals and health centres, and those who consulted private practitioners. No one knows also the number of cases which do not come to the attention of health workers, each year.

Anaemia is a reliable indicator of nutritional problems being mainly due to iron deficiency and infestation with intestinal parasites. Table 60 shows the number of cases which attended dispensaries in 1970 and between 1975 and 1979.(41)

Table 60

Cases of Anaemia - Attendances at dispensaries

Year	No. of attendances	Attendances per 1000population
1970	143,840	177
1975	168,551	194
1976	159,031	181
1977	156,730	175
1978	158,596	174
1979	144,805	157

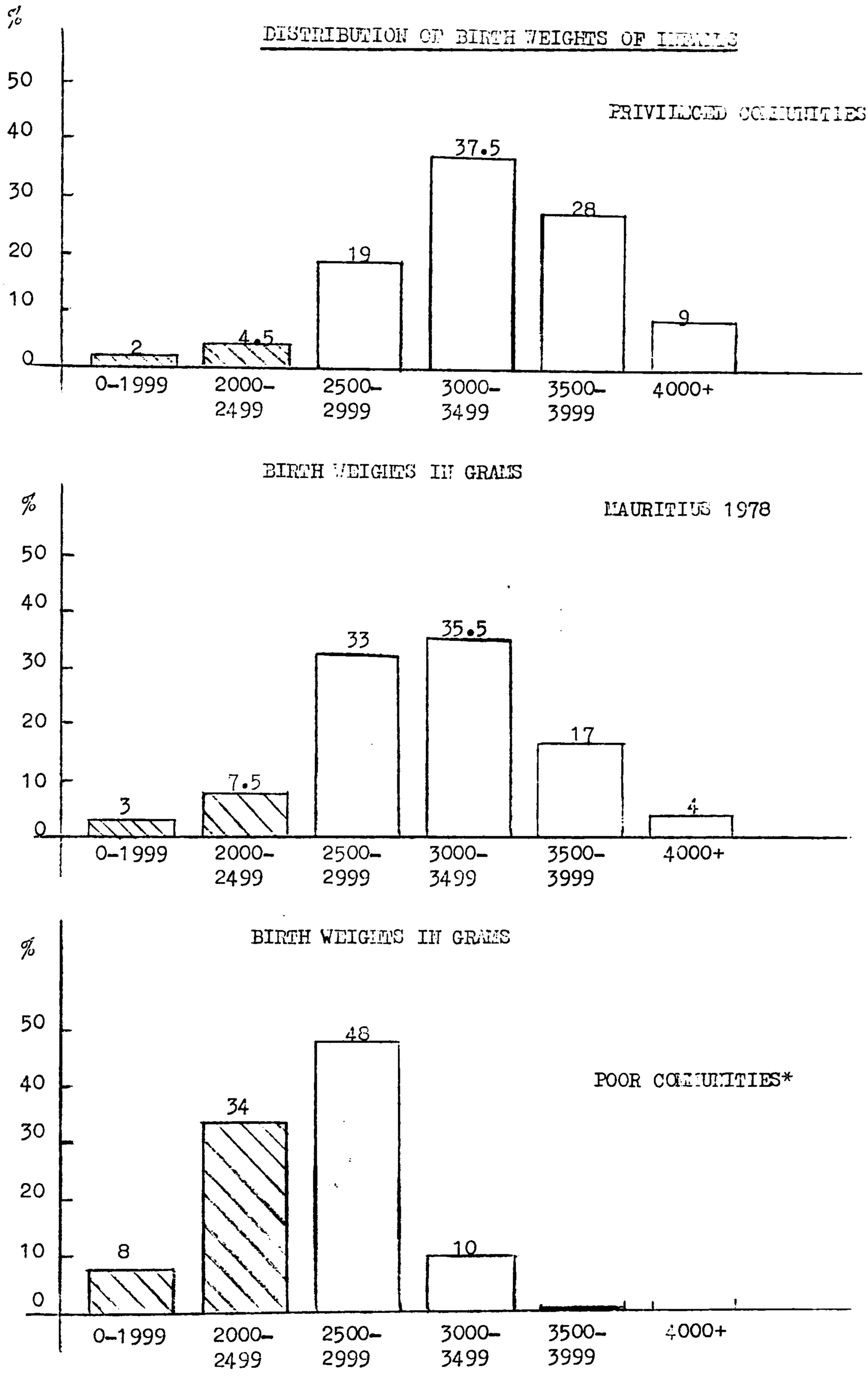
Except for 1979, there has been no decline in the attendance figures.

Recent surveys carried out by the government among expectant and nursing mothers, school children and women working in the Export Processing Zone industries indicate a slight deterioration in the nutrition status of a significant proportion of these groups.(42)

In 1980, the Ministry of Health published a survey of birth weights of infants born in hospitals during 1971 and 1978. The percentage of low birth weight babies has decreased from 20.08 in 1971 to 10.59 in 1978. The survey was limited to babies born in hospitals because of the unavailability of data from domiciliary deliveries and non-governmental institutions. In 1971 live births in hospitals amounted to 35 percent of total live births on the island, while the figure for 1978 was 60 percent. Figure 7 shows how Mauritius compares to other communities.(43)

Among the measures taken by the government to combat malnutrition are: the provision of nutrition services; the distribution of milk,

FIGURE 7



* Source: WHO 78055

bread, cheese and dried fruits to primary school children; the distribution of milk to some nursing mothers at MCHC's, the subsidisation of rice and flour and the rationing of these two items in order to make these available more equally to the population.

As mentioned earlier, the nutrition services, which employ three nutritionists, are based in Port Louis. Only those people who attend hospitals and whose nutritional problems come to the attention of the health workers are catered for. There is a need to expand these services to cover the whole of the population. Sometimes the nutritionists give talks on television or give lectures when invited to do so. By and large the nutrition services remain underdeveloped.

The School Supplementary Feeding Programmes fulfil an important function if we take into account that 37 percent of the primary school children screened by the school medical service in 1979 were either in poor condition or suffered from anaemia (mostly mild).[44] However, to a large extent the very section of the population who could benefit most miss out on these distributions. As mentioned above, the MCHC's distribute free milk but only to nursing mothers who attend these clinics. In practice, very few of them do so. And if we remember that health workers 'lose sight' of the infant/child between the ages four weeks to five years (for reasons explained in Chapter 6) and that most of the physical and mental stunting takes place during this period, then we can realise the importance of nutritional surveillance and supplementary feeding for this particular age group.

These supplementary feeding programmes in schools and MCHC's relying on donated food from foreign sources (World Food Programme) can also have the unfavourable results of making families dependent on foreign foods.

Although malnutrition is partly caused by harmful dietary habits, often reflecting cultural influences on the choice of food, how it is prepared and consumed, or as a result of the lack of basic nutritional knowledge, the fact remains that most nutritionists regard insufficient intake of calories, or food energy as the most serious nutritional problem in the world today. In Mauritius there is malnutrition despite subsidisation and rationing of rice and flour. While these policies go a long way towards preventing further malnutrition and perhaps even starvation, it is feared that the absence of a comprehensive food policy designed to reduce dependence on imported food could lead to a bleaker future as far as providing food for the population of Mauritius is concerned. This is why we shall examine the policy of subsidisation, the effects of its possible removal as was contemplated by the MMM government in 1982, and see some of the limitations of the government's proposals regarding agricultural diversification.

This subsidy arises because the retail prices of rice and flour to the consumer are fixed by the government at a level well below cost (including import prices, freights and other charges). Table 61 gives an idea of the amount and cost of rice and flour imported by the government, and Table 62 shows how much subsidy the government paid in the last few years.(45)

Prior to 1977-78 the amount provided in the budget to keep these items at the level fixed by the government was more or less equivalent to the deficit incurred. However, from 1977 onwards, the government has had to borrow from the Central Bank or from Commercial Banks in order to 'top-up' the subsidies voted in the budget but which were not sufficient to keep the price of rice and flour at the 'fixed' level. "To repay the accumulated debt, it would be necessary to

Table 61

Rice and Flour Imports by Government 1974-81

Year	Rice Quantity (thousands m-tons)	Value (Rs M) CIF	Flour Quantity (thousand m-tons)	Value (Rs M) CIF	Total (Rs M)
1974	86.4	234.4	33.6	54.5	288.9
1975	63.3	122.1	31,7	52.8	174.9
1976	76.3	122.8	41.7	71.3	194.1
1977	69.9	108.8	44.2	68.4	177.2
1978	79.5	161.4	40.2	64.2	225.6
1979	78.7	168.1	46.0	85.0	253.1
1980	67.9	189.2	48.1	135.9	325.1
1981	71.8	240.3	52.3	163.6	403.9

Table 62

Rice and Flour - Subsidy Account 1975-81

Year	Actual Deficit (Rs M)	Subsidy Paid by Government	Balance RM
1975-76	124.7	121.0	3.7
1076-77	102.5	100.0	2.5
1977-78	124.9	56.0	68.9
1978-79	185.5	111.4	74.1
1979-80	234.4	130.0	104.4*
1980-81	208.6	203.0	5.6*

provide in the budget every year, in addition to the amount to be paid as rice and flour subsidy in that year, an amount for the settlement of this past liability."(46)

Faced with balance of payment deficits and under pressure from the International Monetary Fund, the MMM government decided to review its policy of subsidising the importation or rice and flour. No clear plans were drafted as the government expected to pursue a nationwide debate on the issue. However, even before the debate started the price of one pound of rice and flour was increased from Rs 1.00 and Rs. 0.90 to Rs. 1.25 and Rs 1.20 respectively.(47)

* The swing in these figures is mainly due to the fact that subsidy paid by the government has itself been variable.

To its credit it must be said that the MMM government showed much courage in trying to tackle the food problem in this way. There have been many instances in history when the 'bread' issue has caused tremendous social unrest not to mention the fall of governments. In fact the decision to put up the price of rice and flour at the end of 1982 caused a crisis in the ranks of the government, and for a while there were ministerial resignations and a temporary break in the coalition government.

The MMM government relying on the clear mandate from the population of Mauritius made an appeal to the population to eat less of rice and flour and to eat more of locally produced food, and the price increases were partly intended to nudge people in that direction especially as the price of potatoes was reduced. However one has to be aware of the impact of price increases on the calorie consumption of the poor and the landless. Knudsen and Scandizzo, who carried out studies on 'Nutrition and Food Needs' in six developing countries found that,

"In Bangladesh and India, for example, a 25% rise in the price of food will reduce the already deficient calorie intake by an additional 200 to 300 calories for many of the poorer income groups that would not benefit directly from any price induced income gain."(48)

But even in countries such as Pakistan and Sri Lanka, where the same studies show some evidence that price rises can occur without such a major effect on nutritional status, the conclusion drawn by Knudsen and Scandizzo is:

"Price policies must hence be weighted such that the negative aspects on nutritional status of price increases can be compensated either by income gains or direct food supplements."(49)

No doubt the government contemplated measures to offset the

price increases, but these were not forthcoming at the time. The removal of subsidies, whether gradual or sudden, will mean that people will not be able to afford to buy these foods in the quantities that they need.

The main weapon, both for the labour and MMM governments, in the war against dependency on imported food is agricultural diversification. In 1981, under the labour government a 'High Powered Committee' on agricultural diversification was set up to put into practice the proposals made at a seminar in August/September 1980 at the University of Mauritius. While recognising that the public must be mobilised and that there are "social constraints which inhibit agricultural diversification", the seminar made only 'technical' recommendations in the following areas:(50)

a) land availability
b) irrigation and water availability
c) labour
d) credit facilities
e) fiscal incentives
f) price policies
g) crop insurance
h) storage and marketing
i) research and related activities

Agricultural diversification, according to the seminar paper, meant that some locally grown food crops such as maize, manioc, potatoes, onions, etc were to be grown more extensively. The feasibility of rice production was to be studied closely, and the scarcity of land was to be compensated to some measure by the growing of certain food-crops in interlines with sugar cane with the latter remaining as 'base-crop'. Beef and deer production was to be stepped up. These agricultural efforts were to be supported by such other measures as

import controls, price regulation, and to some extent by fiscal incentives in certain areas.

Many of the above measures are commendable and worthwhile pursuing, but there is little doubt that agricultural diversification as proposed above means that no land at present under sugar cane cultivation will be used to grow other foodcrops. Indeed the agricultural structure of the island will remain the same.

Sugar cane occupies 93.9% of all cultivated land,(51) and this area has increased in recent years. This is because market prices have a priority on the nutritional requirements of the population. Table 63 shows that in 1976 the area under foodcrop production on the sugar estates was less than it was in 1975 and according to a government publication(52) one factor that accounted for this was the better price of sugar.

Table 63

Area under foodcrop production 1975-76
(Hectares)

	Pure stand	Cane interline	Total
1975	885	708	1593
1976	748	767	1515

The sugar oligarchy makes enormous profit every year on sugar and its by-products, and there is little doubt that agricultural diversification in its 'real' sense would meet its strong opposition. Because 'sugar' is the pillar of the Mauritian economy, the government cannot challenge the sugar 'barons'. Neither the 'real' profit nor the names of shareholders in sugar estates are made public. However, according to Durand and Durand, six financial groups control seventeen out of twenty one sugar estates on the island.(53)

It is true that sugar cane brings more foreign exchange than could any other crops grown at present in Mauritius, but the profits made are shared among a small group of people. Meanwhile the cost of imported food keeps increasing each year. As time goes on the countries such as Thailand and Burma from which Mauritius buys its rice will need this commodity to feed its own population. The forecast is one of sharp increases in prices in the future.

People who do not benefit from the enormous profit made by sugar have to spend more and more to buy the same imported commodities. In 1979, food worth over Rs 800 million was imported which constituted a little less than a quarter of the total imports. Furthermore this represented about 50% of Mauritius's sugar and molasses export earnings for that year.(54) The increase in cost on imported goods would mean that a larger and larger share of export earnings on sugar and its by-products will have to pay for these. This is the reason why Mauritius must review its agricultural policies and start to grow food for the population first and only then concentrate on exports.

Manrakhan, Vice-Chancellor of the University of Mauritius explains the dominance of sugar over other foodcrops on the island

"The sugar industry from the 1930's has built up massive and efficient support structures ranging from research and extension to credit and marketing facilities. Indeed one of the very reasons for the relative lack of success of non-sugar agriculture here has been the contention that unless similar facilitiess are provided to the latter, there is no point in paying more than lip-service to agricultural diversification."(55)

As pointed out in Chapter 9 most research done in agriculture is carried out by the Mauritius Sugar Industries Research Institute

(MSIRI), which is financed by the sugar estates. It is, therefore, understandable that the interests of sugar as a cash crop will be safeguarded. There have been suggestions that rice could be used as the base crop with other crops in interlines.(56) But as a report on rice production pointed out:

"Research work on rice has been conducted on the off and on basis coinciding with either periods of crisis in supply or periods of low sugar prices or those of high prices for rice. As soon as better conditions set in, the efforts deployed petered away, gradually at times and abruptly at other times."(57)

This tends to support Berg's view that in developing countries research has generally been undertaken in response to market forces that reflect purchasing power more than nutritional need and has been built on research work in developed countries.(58) Until independent research is carried out it will not be easy to decide on what direction agricultural diversification should take. A look at Table 64 reveals interestingly the potential of potatoes as staple food.(59)

Table 64

Composition per 1,000 calories (Raw Food)

Food Commodity	Weight (g)	Protein (g)	Iron (mg)	Vit B1 (mg)	Vit C (mg)	Utilisable Protein Content
Rice	284	19.9	2.8	0.2	0	5.0
Wheat flour	286	28.6	4.3	0.2	0	5.5
Irish potatoes	1333	26.7	9.3	1.3	200	5.7
Manioc	292	4.4	5.8	0.1	0	0.7
Maize	282	22.6	5.6	0.1	0	4.7
Manioc Fresh	392	4.6	6.5	0.5	196	0.7

Analysed in this way potatoes are superior to rice in many respects, including protein quantity and quality. A utilisable protein content of

5.4 is adequate to meet the protein needs of adults and children above one year old, if enough food is consumed to meet their caloric needs.(60)

The extent to which other branches of agriculture have been neglected is reflected in observations made in the Colonial Report of 1910, in which it was pointed out that although the country is adapted to oil bearing trees and plants and good oil is produced in small quantities from ground nuts, the value of importations of culinary oils, lard and like products amounted to Rs 894,000 in that year.(61) In 1979 the value of imported animal and vegetable oils and fats was estimated at 96.1 million rupees.(62)

Poultry is one of the few areas where Mauritius has become almost self sufficient. Much remains to be done. For example while there is an acute shortage of land, the possibility of using the sea around it has not been fully exhausted. The debate on the viability of exploiting the marine resources around the island goes on while the Japanese and the South Koreans make the most of the facilities provided by the government of Mauritius.

The food problem of Mauritius must also be seen in a global context. We have seen how historically the country became dependent on sugar as a cash crop, and now it finds itself firmly locked into a world market which is dominated by big agricultural corporations. Any departure from sugar production would necessarily mean economic, political and social instability at least in the short term and no political party would be ready to experience this.

The dependence of the Third World on the developed countries has been fairly well documented by such writers as Amin(63), Frank(64) and Emmanuel(65). In Chapter 9, the dependence of Mauritius on the western developed countries has been documented. The other side of the coin reveals another kind of domination by the West. Because the Third

World has necessarily to import, at present, from the developed countries, the latter are in an unfair position to dictate prices. George shows that though the developed countries have the technical capacity to expand production in order to meet the increasing requirements of the developing countries, they often pursue a policy of limiting production so as to keep prices high for the benefit of their own producers or they expand production only if the world prices are at attractive levels.(66)

A recent report, North-South - A Programme for Survival, also known as 'The Brandt Report' reveals some of the strong tactics used in trade by the developed countries:

"World food markets are made unstable by the array of controls on trade which are put up by the surplus producers - most of them the richer countries of North America and the Euroepan Community. They restrict the import of most food products and periodically restrict exports through controls and taxes. The purposes are to maintain high internal production for maximum self-sufficiency, to provide high income for farmers, and to protect domestic markets from international fluctuation."(67)

As already mentioned, apart from these external mechanisms, there are many factors which contribute to malnutrition.

However, even if better agricultural methods and more efficient use of land were to make Mauritius 'self-sufficient' in food, it does not meant that the nutritional needs of the population will be met.

Malnutrition is unlikely to disappear in the normal course of development; that is, in the course of normal per capita income growth, even with greater emphasis on expansion of food production barring of course, unusual technological break-throughs.(68) According to Knudsen

and Scandizzo

"Several factors are expected to influence the distributional aspects of malnutrition between households, including (i) income levels, (ii) household size, (iii) the consumption level already achieved, (iv) the price and availability of food, and (v) the specific dietary preferences of the different population groups."(69)

Thus the availability of food is a necessary but not a sufficient condition for eliminating malnutrition.(70)

All these factors affect the viability of a food policy. But some factors are more important than others. To put it in a theoretical framework one can use the concept of 'limiting factors' which means that the failure to alter a critical variable will prevent nutritional improvement. Concurring with Omawale(71) from whom the concept, as used by him, is borrowed, one can argue that 'power' and 'politics' fundamentally affect nutritional outcome. Our conclusion is that the limiting factor in the case of Mauritius, as it is in the case of Guyana(72) is the 'political process'. It is only through the political will to alter the agricultural structure significantly and to make income more equitable that progress will be made.

The food problem of Mauritius has its roots in the colonial period and cannot be expected to be solved overnight. A long term programme designed to increase food production for local consumption is the initial step towards such a solution. Nutrition education as part of a comprehensive health education programme, whose aim will not only be directed against 'malpractices' or 'bad cultural dietary habits', but also towards bringing a change in diet, is important if dependency on imported food is to be reduced.

Arguments have sometimes been put forward against introducing different staples because of the aversion to switching from traditional

food. But Berg has shown cases where such changes have taken place like for example in Sri Lanka, Bangladesh and West Bengal. [73)]

However, since earlier influences are more powerful and long lasting than later ones, the efforts aimed at changing adults' dietary habits might not prove too productive. This is why a Nutritional Education Programme for children should be designed to tackle the food and nutritional problems of Mauritius and its benefits will only be felt in the long term.

Central to this programme should be provision of a school lunch to primary school children. The idea is to give children at school the opportunity to participate in choosing, preparing, cooking, serving and of course, consuming the food. In some places, where land is available, they could grow their own vegetables and fruits, and probably rear some animals such as chickens, goats etc. Local foodcrops will be gradually introduced in the diet while rice and flour will be weaned out. Such experiments have already taken place in India[(74)], and though the aim was not to reduce dependency on specific foodstuff, success has been recorded in the area of nutritional improvement, and more important, in nutritional knowledge.

There is also a need to involve mothers in these programmes, not only because their support serves to legitimise such projects in the eyes of the children, but also because both the school and the home will be aware what the aims and objectives are.

The reason for choosing primary school children as focus is to intervene in the process of socialisation at the secondary stage. Primary socialisation is very important in fostering dietary habits in children, but because it is mainly carried out by the parents who themselves may have little knowledge about nutrition, it is less

productive to start at this stage. Nutrition education aimed at adults can help in the primary socialisation stage, too.

'Attacking' socialisation at the secondary stage prepares the child of today to be the adult of tomorrow. He or she can also, to a small measure, influence changes in dietary habits at home by what is learnt at school. Providing school lunch is not without problems. Titmuss and Abel-Smith[75] considered seriously the introduction of school meals in Mauritius and found that cost, as expected, presented the main problem. They recommended that "a scheme should be started to provide some form of school meals as a free issue to those children whose parents cannot afford to pay, and subject to payment in the case of those who can."

The implications of providing a school lunch needs to be studied in depth before it is introduced. The cost should not deter the government because apart from providing a large number of children with part of their daily requirement of nutrients, it is a sound investment for the future, as the reduction of dependency on imported food will, in the long run, save the government far more in subsidies and foreign exchange.

The nutrition education programme in schools should be supported by mass nutrition education aimed at informing people about the value of local food, and reducing the confusion which misinformation has caused in their minds. 'Stigma' attached to such food as maize and manioc etc because they were 'ration' food during World War II, needs to be removed. Above all, local species of foodcrops, many of which are fast disappearing, need to be preserved.

The food and nutritional problems of Mauritius should not be seen merely as 'economic', nor should solutions be purely 'technical'. There

is much to be done and this requires, more than anything else, the will of politicians to effect real changes.

(c) Population Growth

We need to look at the 'population problem' globally and examine some of the arguments put forward for population control in developing countries before looking specifically at Mauritius. While there is no doubt that population growth is an important variable in social and economic planning, one cannot ignore the fact that both the calls for population control and the measures which followed reflect the passion with which the problem is viewed. There is, therefore, a lack of the objectivity which alone can lead to a better understanding of the issues involved.

The United Nations' medium projection on population growth shows that between 1970 and 1990, world population will grow from 3621 million to 5346 million people, an increase of more than 1700 million in just 20 years.(76) This increase will take place mainly in the developing countries. Those who are concerned with the additional numbers point to the strain this will put on world resources. More people means that the already tiny budget spent on welfare will have to be stretched. More schools and teachers will have to be found for more pupils, hospital queues are likely to lengthen, the already crowded ghettoes will somehow have to accommodate more people. This bleak future has led many people to view the rate of population growth in developing countries as a problem which needs to be tackled urgently.

Besides the strain put on resources it is also argued that population growth though not an absolute barrier is an important hindrance to development(77) in that money spent on welfare is diverted from much needed investment in industrial development. According to

Epstein[78] different authorities on the subject of population growth and economic development seem to argue from different premises, but most of them come to the same conclusion, namely, that a reduction in the rate of population growth is likely to have favourable effects on economic devleopment. It is useful, however, to point out that in North America, South Africa and Australasia development has actually benefitted from population growth and immigration. Perhaps it is the proportion of the population of the employable age for whom a particular stage of development can provide jobs which is important rather than the actual size of the population. One study postulates that "the demographic variable, as a complicating determinant of development takes different shapes in different societies, depending upon the socio-economic and technological stage of development at which these nations find themselves.[79]

Growth in population means the need to find food for the 'extra' people. The general picture conveyed is one in which a population 'explosion' is fast eroding the world's resources. But this conception of the world food problem as a race between population growth and food supply is simplistic.[80] Population growth is blamed for widespread malnutrition in the world. Again the picture conveyed is one in which food production cannot keep pace with population increase. However, there is no clear evidence to support such statements. In a study of the World Food problem, prepared by the FAO for the World Population Conference (1974), it has been shown that at the world level the rate of growth of food substantially exceeded population growth in the 1950s and 1960s.[81] In the decades 1952-1972 food production failed to keep pace with population growth in over a third of the developing countries, but these countries account for only 14 percent of the total population of the developing countries, and many of them were either producers of

petroleum (e.g. Iraq and Indonesia) or cash crops such as sugar (e.g. Mauritius).[82]

On the other hand, the developed countries import much more food and are more dependent on food imports than developing countries, Japan, UK, Italy and West Germany are the largest importers of food grains; between 1970-1974 their net imports of cereal amounted to 37 million tons per annum, with their combined population of only 300 million people.[83] According to Sinha the reason why certain developed countries' dependence on imports has escaped public notice is mainly because countries are generally classified into two groups, developed and developing; and not food surplus and food deficit countries.[84] It is obvious therefore the purchasing power decides who gets hold of the food produced in the world. The debate on population growth is so one-sided that only images of how many babies are born every minute are conveyed in different forms and shapes to all corners of the world, but one never hears about how much food is produced every minute.

The developed countries of the West also consume more food than is nutritionally recommended. The average energy intake in these countries during 1969-1971 was 23 percent more than the requirement, while that in developing countries was 5 percent less than the requirement. Added to this is the fact that with higher standards of living in the West, there is a tendency to consume more meat and hence indirectly more grain. It takes an average cow 17Kg of vegetable protein to put on one Kg of edible animal protein. Thus, whereas in India the average per capita consumption of grain is 158Kg per annum, in the USA it is 675Kg.[85] The rich in developing countries by their conspicuous consumption of high protein food are depriving other people of their daily requirements of nutrients.

Even the malthusian view that population explosion causes famine has been shown to lack firm evidence. China with a population of 500 million people has known famines frequently whereas its present population of over 900 million is reported as experiencing no such unfortunate occurrences. Gopalan has showed that "some of the worst famines in Indian history occurred when the total population of the country was less than a third of its current level."(86) There is no correlation between population density and actual food supply. There is malnutrition in India with 172 inhabitants per square kilometre and in Bolivia with 5 but not in Holland where there is 326.(87)

Focussing on population growth diverts attention from other more relevant issues. While every effort is made to give the impression that population explosion is responsible for starvation, malnutrition and lack of development, little change to the economic and social system is advocated; and in most developing countries the structure of land tenure remains unchanged. One can question the real motive behind this. According to Sinha "the problem of world poverty and hunger has to be seen as a growing crisis of confidence between the richer and poorer countries which, if not tackled in due time, will threaten the very life-style of the people in richer countries by increasing the risk of confrontation between them."(88) The risks of confrontation is always there with or without world hunger and the power of the developed countries is such that confrontation is not feared by them. On the other hand, instability in the Third World itself means that the status quo at present so favourable to western interests could be disrupted. It means also that investments are at risk. This is why population control is seen by the West as a 'safer' means of defusing social conflict. Taking advantage of generous financial aid from the West many Third World governments have embarked on population control programmes.

None has done so with more obsessional zeal than the Indian government. But despite its strict population control measures such as suppressing maternity leaves for working mothers with 'too many' children, and paying bounties to doctors and health workers for every sterilised case, and "despite the enormous investment, despite the goodwill of planners and political leaders, and despite the recourse to means that [are] questionable on social, moral, ethical and political grounds, the programme has abjectly failed even in terms of reduction of the birth rate."(89) In developing countries as a whole family planning programmes have failed to make a dent in the increasing rate of the population.

The main reason for failure is because both the financial backers and the policy makers do not have a real understanding of what causes population growth. In most cases the reasons why people have less or more children have little in common with the reasons why governments want to reduce population. From the point of view of individual families, an additional child means additional income in the future. Further in most developing countries there is no old age pension or where the amount of pension is low, the child is considered as an investment in the sense that he will look after the older members of the family later on.

Attitudes such as 'son preference' generally mean that the couple may go on having children until a son is born partly because the family name is passed on but mainly because the son is considered an asset. One more child to a Third World family means an additional mouth to feed, and often the extra expenses are minimal. The child will make use of his elder brother's clothes, and if the family cannot afford to pay for his education, he goes without. Often the elder children look after the young ones thereby reducing the burden of the mother. While these are

general observations made by anthropologists, many more studies remain to be done. Changes in family structures, the break up of extended and joint families often as a result of urbanisation affect fertility behaviour, yet little is known for example of the impact of living arrangements on fertility behaviour. More resources, however, are spent trying to find the most efficient contraceptive, or to carry out campaigns 'telling' people in developing countries what to do.

Reduction in infant mortality and a better standard of living is believed to be associated with a reduction in family size. After all low population growth in developed countries was achieved not by family planning but mostly as a result of better standard of living, more education and changes in the family amongst other factors. The Maltese experience shows that in a country where Roman Catholicism, the State religion, is opposed to all artificial means of contraception, lower population growth can be achieved. The birth rate has decreased from 36.0 per 1000 in 1948 to 16.7 per 1000 in 1967.[90] This was achieved at the same time as the standard of living was improving. The Maltese Central Office of Statistics also found a relationship between family size and levels of education. According to Epstein "these statistics throw into relief the need for providing the necessary social climate which will encourage people to limit to a few the number of children they produce rather than concentrate solely on publicising modern means of contraception, which is the present trend in most less developed countries.[91]

There is a strong case why family planning is important. Those who believe that only changes in social and economic structures will bring a reduction in family size also know that such changes are unlikely to happen overnight. In the short term an increase in population is detrimental to the children born for whom no provision is made and who

will have to lead the miserable lives of their parents. Enough information and help should be given to families to enable them to make up their own mind. Safe contraceptive methods should be available for those who want to have fewer or no children, but above all the rights of women should be upheld as too often they have no part to play in deciding whether to have children or not. Free and safe abortion should be made available to those who need these services. However, for any measures to have any impact in controlling population growth, there should be parallel measures to improve the standard of living, to provide more education and jobs and to provide a welfare system to cater for vulnerable groups in society. Farmer suggests the vicious circle that can ensue unless improved living standards and population control go hand in hand.

"... the fewer the people who need livelihoods, services and foods, the less desperate their conditions are likely to be. But it is notorious that the adoption of voluntary family limitation has in the past followed rather than preceded rises in living standard... the trap is cruel. The growths of population impedes a rise in living standards; and static or declining living standards impede the control of population growth."(92)

The disproportionate attention given to population control as against other factors, the patronising attitude of both local and foreign family planning agents and the persuasive methods used to put across their messages have too often alienated large sections of Third World population, who in their quest for daily living have to worry more about such issues as food, housing, education and health than to give 'population control' the priority that national and international bodies believe they should.

Most developing countries are either unwilling or do not have the

means to monitor the side effects of the contraceptives that are so copiously distributed. While contraceptive methods are constantly under scrutiny in the West where some of the products - like Depo-provera - are either banned or used in special cases only, Third World mothers continue to be used as guinea-pigs. It is this kind of disregard for the rights of people which has made the term 'family planning' synonymous with social control.

It is also indicative of the power of multinationals that in their quest for profit a natural means of birth control is being undermined. According to the Lancet(93) "in the world as a whole more pregnancies are still being prevented by breast feeding than by all artificial methods of contraception put together" since lactational amenorrhoea may last 2 to 3 years. Whether it is lactational amenorrhoea or cultural constraints on males seeking intercourse with lactating mothers (as is the case in some parts of West Africa) which accounts for the longer interval between births, the result is the same: fewer children. Perhaps the international family planning bodies should put more pressure on firms who supply dried milk baby food to developing countries.

International agencies and national governments need to review their population programmes. Too much money is being spent in the wrong areas, as the example of India shows. In its Fourth Five Year Plan Rs 315 crores are set aside for family planning while Rs41 crores is scheduled for social welfare.(94)

Population programmes in most developing countries have failed so far, but family planning has still an important part to play as Cassen points out:

"Altogether the weight of the evidence seems to be that family

planning can accelerate fertility decline where conditions favour smaller families, but cannot initiate it among poor, ill-nourished, illiterate rural populations subject to high mortality."(95)

Neither psychological nor physical coercion are likely to reduce population growth until the root causes of the 'explosion' are understood and eliminated.

Between the years 1962-1972 Mauritius experienced a dramatic reduction in population growth, which gave cause for optimism. Let us now examine population growth on the island and efforts to reduce it.

Population growth in Mauritius

It would not be far wrong to say that Mauritius is better known for its population growth than for the Dodo. Though serious consideration to the population increase was given in the late 1950's, concerns for overpopulation started to be manifested as early as 1870 when a colonial report made the following observations:

"The immigration of Indian Coolies, without the existence of any legislative measure to assist the return of any portion of those who might be unable to pay their own passage at the expiration of their identured services, still continues, and the Island is very rapidly becoming immoderately overstocked with a superabundant population, which if increased according to the scale of 1861, and but for the pestilence which fastened itself on the Island in the latter part of the past ten years, would have been now similarly increased, must eventually produce bitter fruits which may well be considered nearly unsurmountable for the sanitary action of any government."(96)

The report quoted a recent census which revealed that there was a

population of 448 per sq mile, while that of GB and Ireland was 'computed' at 253 per sq mile and that of Belgium, the 'most populous' country in Europe at 430 per sq mile. In 1982 the density of the population of Mauritius was estimated at about 1365 per sq mile.

A decade later, a report of the Sanitary Commission of 1882[97] gave an account of a debate between Davidson and Meldrum on whether Mauritius was overpopulated or not. In Davidson's view it was "simply absurd" to speak of Mauritius as being overpopulated while the whole population of the island was only equal to that of a third or fourth rate English town. He conceded, however, that in some places the population was too closely packed with reference to sanitary arrangements. Meldrum, on the other hand, believed that if any country in the world was overpopulated, Mauritus "must be one of them". According to him, whether a country was too densely populated or not "depended a good deal upon the climate and the extent and efficiency of sanitary measures."

At the beginning of this century, another Colonial Report[98] drew the attention to the increase in the Indian population and to the fact that the Creole population were outnumbered by more than two to one, and suggested emigration of the Creole to South Africa in order to avoid possible future conflicts between the Indian and Creole communities.

The population in 1881 was 359,874, roughly a third of its present total. The population 'problem' at the time was viewed from the health perspective and from the point of view of the social conflict that it was likely to cause. It illustrates the fact that the notion of "overpopulation" is a relative one, and depends on the particular perpective that one chooses.

There are three distinct phases in population growth in Mauritius. The first period of marked demographic growth between 1851 and 1881, when the population doubled, can be almost entirely ascribed to immigration. Data on arrivals and departures of Indian migrants during this period show a net immigration of close on 200,000.(99) Besides the fact that the immigration of Indian labourers ceased to be an important factor in population growth, a high mortality rate (which sometimes exceed the birth rate) ensured that population growth was slow and steady with occasional fluctuations. (See Table 65).(100)

Table 65

Population at each census, 1846-1972

Year	Population	Increase	Average annual rate of increase (%)
1846	158462	-	-
1851	180823	22361	2.55
1861	310050	129227	5.87
1871	316042	5992	0.19
1881	359874	43832	1.31
1891	370588	10714	0.29
1901	371023	435	0.01
1911	368791	-2232	-0.06
1921	376485	7694	0.21
1931	393238	16753	0.44
1944	419185	25947	0.49
1952	501145	82230	2.26
1962	681619	180474	3.12
1972	826199	144580	1.94

The second period saw a rapid increase in population in the post war years. Between 1948 and 1958 the rate of natural increase averaged 3% per annum.(101) The greatest single factor contributing to this dramatic rise, as Titmuss and Abel-Smith pointed out was the eradication of malaria. The death rate fell by as much as 32% in one year.

Such an increase in numbers not surprisingly gave cause for concern and the population problem began to be viewed in relation to land and resources available on the island.

In the late 1950's there were signs of interest in the subject and debates in the legislative Council and in private reflected the concern for population growth. However no action was taken. In 1957 the Mauritius Family Planning Association (MFPA) was formed by a group of volunteers. The aims and purpose of the MFPA were according to its Education Officer,(102)

"... to impress upon the people the need for family planning and to give guidance on reliable methods of contraceptives which were available in those days, to help people space their children according to their wishes and using methods of their own choice."

In 1963, the Action Familiale (AF) was formed. It is a largely Catholic organisation encouraging the use of the rhythm method of contraception.

Financial help came from local and international donors among whom the International Planned Parenthood Federation (IPPF) showed great interest. It was only in 1965 that the government decided to start funding both organisations.

Titmuss and Abel Smith who were called to report on social policies, stressed the urgency of the situation in these words:

"No alternative presents itself but action, immediate and sustained, to develop policies on as broad a scale as possible designed to slow down the rate of population growth."(103)

The measures proposed by Titmuss and Abel Smith consisted of the provision of a family planning service as an integral part of the health service in Mauritius, raising the legal marriage age of women from 15 to 18, and providing the necessary support for those who wish to emigrate though there was the warning that "to hope for emigration as a solution was to invite catastrophe." But these measures alone were thought not to be adequate, and the report pointed out that "the whole basis of the

challenge to overpopulation must rest on this triple alliance of economic, social and family practices for the enlargement of welfare and the growth of freedom irrespective of colour, race or creed."
Incentives designed to encourage smaller families included amongst others higher old age pensions to couples who restricted their families to fewer than three children and a family allowance to couples with three under certain conditions. The latter proposal was intended amongst other things to improve the health and welfare of the child population already born.

Both social investigators stressed that though there must be family control, it cannot be imposed and that "all married couples on the island must be provided with the knowledge and means consistent with their consciences and their faith to limit their families."

With hindsight one can see that many of these proposals were ignored thus confirming the authors' remark that Mauritius has 'a history of forgotten reports'. The family planning service was integrated with the Ministry of Health in 1972, more than ten years later. The legal marriage age of women remained the same as it was, and many of the proposed incentives were never granted. Titmuss and Abel Smith made three projections to illustrate the magnitude of the problem, as shown below[104] in Table 66.

Table 66

Projections of the population of Mauritius under different assumptions: 1957-1982

	Projection A Constant fertility, declining mortality	Projection B declining fertility, constant mortality	Projection C rapidly declining fertility, declining mortality
		(figures in thousands)	
1957	594.3	594.3	594.3
1962	690.2	683.8	678.9
1967	805.3	773.6	757.2
1972	950.9	876.3	829.6
1977	1,135.9	999.9	902.3
1982	1,365.5	1,142.4	983.3
		Average annual % increase	
1957-82	3.38	2.65	2.03

In the event, fortunately for Mauritius, Projection 'C' reflected closely the changes in population growth. In 1983 the population was estimated at 983,900.

The third phase of population growth showed therefore a dramatic fall in fertility. The annual average population increase during the years 1962-1972 was 1.94% (see Table 65). This remarkable decline in fertility, the magnitude of which is among the largest recorded anywhere is shown below:(105)

Table 67

Gross fertility rate for selected years between 1962 and 1978

	1962	1972	1974	1975	1978
Gross fertility rate	181.4	104.4	108.9	101.9	105.0

According to Xenos, who carried out an evaluation programme of the family planning activities on the island (between 1967 and 1972), half of all births averted through fertility reduction may be attributed to very widespread postponement of marriage among younger women, while the other half of births averted resulted from a massive decline in marital fertility.

Since family planning services developed in parallel with the drop in fertility, and by the end of 1972 almost half of all ever-married women in the reproductive ages were or had been clients of the family planning services on the island, much of the success recorded is owed to the practice of family planning.

Despite the fact that the main proposals of Titmuss and Abel Smith were ignored, a massive decline in population growth was achieved. With hindsight it seems that the delay in integrating the family planning

services within the Ministry of Health was a blessing in disguise in more ways than one. The formation of the MFPA and the AF showed the concern of the population itself and its willingness to react to the situation. The action was initiated from within the ranks of the people. The approach of MFPA and the AF was commendable in that the workers engaged in family planning activities were in touch with the community they worked in. It is doubtful whether the government postponed the proposed integration because it believed the MFPA and the AF could do a better job. For one thing, family planning was a hot issue which politicians were anxious to avoid. In a country where the size of the ethnic groups has significant bearings on the share of the national cake, any official family planning policy was likely to be regarded with suspicion by certain sections of the population. In the event the MFPA and the AF's activities were not seen as overbearing and patronising. According to Xenos "the Mauritian experience demonstrates the value of employing low level community workers, preferably taking the couple as focus, and of using a labour intensive approach for diffusing and for motivating the continuing use of contraception."(106) He also compared this approach with the 'direct intervention' approach often employed in more 'technique-oriented' programmes.

However, a certain degree of cautious optimism need to be exercised when estimating the success of family planning services in Mauritius. Since about half of the total births averted during the period 1962-72 were due to the postponement of marriages, the result could not be credited to a large part to the activities of the family planning services, though it is possible that after 1966 when the programmes gathered momentum their messages were getting across. Xenos himself observed that there were already signs that the ideal of a small family was gaining popularity among certain sections of the population(107) at

the time the MFPA was formed in 1957. Perhaps the reduction in infant mortality could account for this change in attitude. Though the dramatic post war decrease in infant mortality ended in 1952, there needs to be a time lapse for people to actually experience the fact that their children are surviving and that there is no need to have more children.

Though marital fertility accounted for the other half of births averted, the "marital fertility for the youngest women (those aged 15-19) was virtually the same in 1972 as in 1962, while for all other women it dropped by a proportion rising with age: from 21 percent for those aged 20-24 to 58 percent for those aged 45-49.[108] This could mean that the younger generation will have a higher reproduction rate. Or it is possible that it is the reduction in fertility after say, the second or third child in all women over the last 20 to 30 years that accounts for the reduced birth rate. There is some evidence to suggest that older couples are more reluctant to have more children. This is reflected in the age groups of those who were hospitalised as a result of induced abortion. Jahangeer,[109] who carried out a study on 100 such hospitalised cases in 1976, showed the different ages of the women in his sample:

Age group	Under 14	15-19	20-24	25-29	30-34	over 35
Number of abortions	0	8	28	20	27	17

Even when the contribution of family planning to changes in marital fertility can be estimated with some precision, this is usually done in terms of births rather than pregnancies which does not reflect the greater tendency among acceptors than among non-acceptors to abort an

unwanted pregnancy.(110) According to a family planning agent interviewed, abortions play a significant part in reducing population growth. Since abortion is illegal in Mauritius, it is difficult to have accurate figures. Table 68 shows the number of cases which were hospitalised as a result of induced abortion in Mauritius between 1963-1974.(111) According to Jahangeer, the actual figures on abortion could be between 5 to 10 times higher.

Table 68

	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974
No. of cases hospitalised as a result of induced abortion	1565	2071	2214	2132	2138	2478	2451	3201	3547	4071	4570	4893

In absolute numbers abortion cases in 1974 have actually trebled since 1963, and it indicates to some extent the failure of family planning services to reach these people. Jahangeer attributed this failure to the absence of sex education and to the fact that these people are poor, illiterate and are not reached through the mass media, which is the main channel of communication of the family planning services. These services have improved since Jahangeer's study and more people are contacted door to door or at the service points than before. Perhaps the fact that abortion is not legalised and that sex education is only tentatively making its way into public and private debates, discourages people to come forward and make use of these services more freely.

Too little is known about why fertility declined during the years 1962-1972. The reasons why the family size was reduced from 5.4 in 1966 to 3.0 in 1973, and why there was a widespread postponement of marriages

need to be explained, as do the effects of education, standard of living, reduction of infant mortality on fertility behaviour. As mentioned in Chapter 7, changes in family structure were observed during the fieldwork in connection with this thesis. In particular the present trend of newly married couples to break away from the influences of in-laws has much to do with the desire to lead independent lives, and to plan and be responsible for their own family. This break has meant that the mother-in-law's authority, which as Drs Guy[112] noted has implications for family planning programmes, has been reduced. The change in living arrangments which indicates a break with tradition could have left the couple with more freedom to decide on the size of 'their' family. The postponement of marriages could itself be associated with the desire of would-be husbands (and would-be wives in some cases) to wait until enough money is saved both for the wedding ceremony and to set up homes on their own. In general the shortage of housing, especially for the low income groups, meant that quite often the new couple shares the same house with the in-laws but have separate cooking and other arrangements which give them more independence than if they were to have one family arrangement. Whatever the reasons, the change in fertility behaviour remains to be explained.

The rate of growth for the projection period 1977-1983 is 1.8% per annum compared to 1.37% p.a. for 1973-78. This comparatively high rate assumed for the projection period is due to the large number of women entering the peak of their reproduction life. The Two Year Plan 1980-1982 warned that the possibility of a significant decline in fertility as a result of changes in the age of marriage is limited because the median age of women at marriage, which was 22.4 years in 1972, is already high.[113]

It seems that though an important battle was won in the years 1962-1972, the war against population growth goes on. Cautious optimism must now give away to more hard work to help stem the growth of population on the island. Unlike countries such as India or China, Mauritius has no natural resources and since it is a small island, no more land is available for exploitation. Therefore an expanding population on an island with a stagnant economy can indeed spell the kind of catastrophe which Titmuss and Abel Smith warned about. Some of the latters' proposals can still prove useful. Raising the legal marriage age of women from 15 to 18 years now would be less painful and controversial than if Mauritius were to limit each couple to one child in the future, as is the case in China at present. The financial incentives offered to people with less children would help further reduce the size of the family.

At the end of 1972, on the recommendation of missions from United Nations agencies, the government integrated most of the activities of the Family Planning Association within the Ministry of Health structure. The running costs of the integrated services are met through a grant from the United Nations Fund for Population Activities.(114) Family planning services are available at the Maternal and Child Health clinics, dispensaries and hospitals, and already there are signs that people are being saturated by these services. For example, as mentioned before, the thrice weekly-slots on TV for health education are occupied mainly by programmes on family planning. There is a risk that the government's approach is overbearing and that too much time is spent on family planning instead of other health issues. The low key approach of the MFPA and the AF has somehow been lost in the formal bureaucratic and often patronising approach of the Ministry of Health. The MFPA and the AF continues to exist but their role is restricted. The MFPA combines

family planning programmes with such activities as nutrition education, sewing classes and Kindergartens. It is this kind of approach which explains the relative success of family planning services in Mauritius.

Perhaps the comment of Drs Guy, who spent a considerable time understanding the population, its customs and traditions while working with Action Familiale, are valuable in the circumstances. According to them since such factors as: political groups, financial interests, doctrinal positions, have intervened in the debate on population, one needs to look at the problem objectively and not passionately. "Since it is such a burning issue, one needs to have a cool head."

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CHAPTER 11: CONCLUSIONS

Mauritius presents us with an ambiguous picture of its health care system for the last hundred years. On the one hand, considerable progress has been made in terms of the eradication of malaria, small-pox and the plague and in the control of tuberculosis and typhoid. There has been an increase in life expectancy and a dramatic decline in infant mortality. Free health services are also available to the population. On the other hand, a closer analysis of the organisation and distribution and uses of health care show an uneven distribution of health care resources according to regions, a growing emphasis on curative medicine, class differences in infant mortality, the absence of a comprehensive system of health education and a dual system of health care based on class divisions.

The three tier system of early British Colonialism (Estate hospitals for the identured labourers, public hospitals and dispensaries for the paupers, and private health care for the middle and upper classes) has now developed into a dual system: public health services for the poor and private health care for those who can afford it. There is some overlapping with afew members of the lower middle classes making use of hospitals in certain cases and considerably more numerous members of the working classes resorting to private health care for reasons already discussed in Chapter 7. Estate hospitals have fallen into relative disuse as more and more labourers moved away from the sugar estates and elected to use public hospitals where there are more facilities. The Estate hospitals never developed beyond the provision of rudimentary services. They have effectively become obsolete and should be scrapped. With the decline in the use and importance of these hospitals little provision was made to

redistribute health resources evenly to the rural areas where most of the labourers reside. In fact even after the break with Colonialism, the resources and personnel remained concentrated in three regional hospitals: Civil,Victoria and Sir Seewoosagar Ramgoolam. The latter built in the late sixties as a centre of excellence has been the major addition to the health sector since the beginning of this century. Situated in one rural district and covering two other rural ones, it concentrates a lot of resources in one place. Some people have to travel over twenty miles to reach it. Though this is nowhere near the considerable distance, sometimes over 100 hundred miles, which people in other developing countries of Africa and Asia have to travel to make use of health services, in comparative terms, given the small size of Mauritius, it presents some inconvenience in terms of time lost in the journey to and from the hospital, the travelling fares, and the loss of income as a result of being absent from work.

The historical development of Kenya and Sub-Saharan Africa in general has largely determined the existing health system.(1) Mauritius is no exception. Though some attempts have recently been made to extend maternal and child care to the rural areas, no policy measures have been taken towards the structural change of the health care system in order to serve the health needs of the rural areas more evenly. The delay in building of health centres as proposed in the Four Year Plan, 1971-1975 and Five Year Plan 1975-80 (while the SSRH hospital was completed in the allotted time) is indicative of the policy of concentrating resources in hospitals. In Tanzania, the building of health centres in the rural areas has also been impeded due to lack of funds, while at the same time two large 'supra-

regional reference' hospitals were built in the towns.(2) Cuba, to a large extent, was more successful in meeting the health needs of its rural population. Before the revolution, 70% of doctors were based in Havana where the most sophisticated kind of medical care was available. There was not a single rural hospital. Now the rural areas are served by polyclinics staffed by doctors, nurses and mid-wives who provide primary care in such areas as dentistry, paediatrics, obstetrics, gynaecology and internal medicine.(3)

Unlike most developing countries in Africa and Asia where over three quarters of the population live in rural areas, 57 percent of Mauritians are rural dwellers and the rest (43 percent) live in the urban areas. Despite the small size of the island and its fairly good transport network there is no justification for the concentration of resources in regional hospitals mostly in urban areas. As we have already indicated, there is an imbalance of the type of care distributed to certain parts of the rural areas especially in the form of access to doctors and specialists. We have shown that there is an inverse relationship between the proximity to hospitals and the frequency of post natal visits by midwives. Dispensaries in the rural areas tend to receive the doctors' visits less frequently than those in the urban areas.

The absence of structural changes in the organisation and distribution of health care does not mean that the provision of services remained static. The number of dispensaries increased from 39 at the end of the Second World War to 46 in 1970 and 51 in 1980. Specialist services in the field of orthopaedics, Ear Nose and Throat, Tuberculosis were gradually added to the network of services. Recently a Cardiac Unit has also been set up. Three new Health Centres were

built by 1980. By far the most significant development in the provision of services is in the area of Maternal and Child Care. From 53 in 1973, the number of these clinics increased to 71 in 1980, an addition of 18 in the space of seven years.

We have already speculated on the probable impact of such developments on infant mortality. Most of these clinics are in the rural areas and fulfil an important need even though they receive the visit of a doctor once weekly only. It was not until 1972 that the Maternal and Child Health services were integrated into the Ministry of Health. The premises are provided by funds from the Sugar Industry Labour Welfare Fund, and the services are financed by the United Nations Development Programme. Besides providing ante-natal and post-natal care, the midwives attached to some of these clinics also provide a domiciliary delivery service. By 1980, almost three quarters of all births on the island were attended by either a doctor or a trained midwife. A decade ago the figure was 60%. Compared to many countries in Asia and Africa where the traditional midwives attend to over seventy five percent of all births, Mauritius has made an important step forward. There is still room for improvement and no doubt more pregnant mothers would make use of these free services if they were made to feel more confident about the care that they provide. The crowding of several women in labour in the same room, the bar on husbands to be present at deliveries (though this is the practice in private clinics), and the occasional sharing of one bed by two patients after deliveries are serious impediments to the creation of a welcoming and relaxed environment.

In the last decade, the number of doctors has doubled. There has also been a less pronounced increase in the number of nurses and mid-wives. With about eighty percent of resources concentrated in

hospitals and dispensaries, the care provided remains predominantly curative in nature. However, even with this concentration of resources the curative institutions remain ill-equipped. Hospital beds are still grossly inadequate in numbers to cope with the demands of a growing population. We have already pointed out instances where beds are shared by two patients. Between 1971 and 1980, there was an increase of sixty nine percent in admissions to hospital and during the same period the number of beds increased by less than one percent.(4) The waiting list for general surgery doubled between 1977 and 1980.(5) Hospitals often lack the basic drugs and doctors themselves during their recent dispute with the Health Ministry over the employment of more medical staff, complained that hospital pharmacies do not have basic drugs and that there was a lack of basic equipment.(6) We have also pointed out that simple medical procedures cannot be carried out at dispensaries because of the lack of facilities. At the same time we have shown in Chapter 7, that while the preference of Mauritians lies with modern medicine and that by and large a growing number of people make use of the government health services, the quality of services on occasions often encourages healer shopping, thus causing waste of resources and time.

Within the health sector doctors have a relative autonomy in the planning and implementing of health policies and often they act in their own interests. Besides the financial advantages that they enjoy, they control the prestige or non-material reward system, for health personnel are subordinated to physicians in health tasks and physicians have the power to impose medical views, medical orientations and medical solutions to health problems. Medical education has an important part to play in favouring a curative orientation in

health policies in Mauritus as in Latin America. Navarro's comments on the latter can also be applied to Mauritius:

"... the production of human resources, through medical education imported from developed societies, serves to perpetuate this hospital-oriented, curative medicine approach which only strengthens the maldistribution of resources according to type of care by replicating the consumption of health resources prevalent in developed societies."(7)

Doctors in Mauritius as in other countries are not solely to be blamed for the emphasis on curative medicine. People in general equate good care with the services of doctors and specialists, and politicians themselves favour conspicuous spending on curative institutions. Doctors are likely to turn such a situation to their professional and financial advantage. The increase in the ratio of generalist to specialist from 7:1 in 1950 to 3:1 in 1978 is indicative of their readiness to do so, since specialists are allowed private practice.

Most developing countries concentrate over seventy five percent of their health resources on curative institutions though most of the diseases which afflict the population are largely preventable. Even post-revolution Cuba has found it difficult to shift resources away from curative medicine. To Cubans the right to health care was the very symbol of the revolution and as such it had to be perceived as first-class care, which could only be obtained from a 'real doctor'.(8)

The prevention of diseases has low priority and the preventive services are still under developed in Mauritius. The additional 145 doctors between 1973 and 1977 were all absorbed in the curative sector. Each year the school health services screen less than fifty percent of the school population although more than half of those examined are

found to have health problems such as scabies, skin diseases, anaemia, abdominal pains etc. Dental services, by the government's own admission are inadequate and carry out few if any of the preventive tasks so important to dental health. The need for health education does not figure high on the health planners' list of priorities despite the layman's confusion about the processes of the common diseases with which they are constantly afflicted and the simple basic preventive and curative measures which they can take. The high attendance at dispensaries and out-patient departments in recent years due to scabies, diabetes, accidents, injuries and poisonings suggest the potential contribution that health education can make. The nutrition services cope mostly with hospital cases and cannot seriously claim to address themselves to the nutrition problems of the population. According to Conover et al, the victory over the infectious diseases in Cuba was probably more the result of massive campaigns of patient education and immunisation, pursued through the mass organisations, than the result of improvements in medical care.(9)

The eradication of Malaria which brought a dramatic decline in mortality was made possible mainly by preventive measures. The control of tuberculosis at present depends largely on the efforts of surveillance e.g. case findings, the administration of BCG vaccinations and preventive chemo-prophylaxis.(10) The changes in the disease profile and health status of Mauritians do not mean that infectious diseases are no longer the scourge of the population. Infectious diseases, however, remain the main cause of death for infants (48.9% of post-neonatal deaths in 1980). Though infectious diseases are the main causes of ill-health of the populations of

developing countries, there is an increase in the incidence of cancer, according to a recent WHO report. Conover et al observe that Cuba at present faces the same health problems that the advanced industrial countries face - namely the predominance of chronic diseases such as cancer, heart disease, pulmonary disease and asthma. In Mauritius deaths from diseases of the circulatory system and from cancer are steadily increasing (44.3% for all ages in 1980). Though there are indications that Mauritius is moving in that direction, one has to point out that, unlike the situation in Cuba, infectious and parasitic diseases still present enormous problems to the population. The recent recrudescence of malaria has given cause for concern. Tuberculosis and Typhoid, though under control, are still responsible for mortality and morbidity in certain areas, especially in pockets of poverty. In 1979, 14.4 percent of attendances at dispensaries and 6.3 percent of all deaths were due to infective and parasitic diseases. The figures could be higher since, according to Preston[11] infectious and parasitic diseases are probably somewhat under recorded in statistically poor populations because of a tendency to assign deaths to terminal conditions (e.g. pneumonia) or to symptoms (e.g. fever) rather than to specific underlying causes. Mauritius has a further problem in recording accurately the causes of disease and deaths and this is reflected in the high proportion of causes being referred to under "other and unknown causes" or "symptoms and ill-defined conditions." In 1980, the latter represented 15.5 percent of all causes of deaths in Mauritius.

The decline in infant and child mortality in the seventies was probably due to the prompt use of services, the increase in the number of Maternal and Child Health Clinics, which facilitated access to

them, and the fact that the number of doctors doubled in that period. There is no concrete evidence that the nutritional status of infants and children has improved sufficiently to explain lower case fatality rates. A survey carried out between 1970 and 1978, revealed a decrease in the number of babies born of low birth weight during that period. But only hospital cases were recorded. In 1980, however, further investigations by the government showed a slight deterioration in the nutritional status of pregnant mothers and school children. The advice given at Maternal Clinics on nutrition and infant feeding, the free distribution of milk to some mothers and the vaccinations carried out, no doubt have had a part to play in the reduction of infant mortality, though the contribution of each of these factors is difficult to assess. The government for its part attributes the decline to better medical technology and acknowledges that the environmental conditions which are ultimately associated with infant and child mortality, have not improved. We have shown that the decline in infant mortality was not accompanied by a similar reduction in the incidence of gastro-enteritis and other diarrhoeal diseases which are the main killers in infancy and childhood.

One can question the policy of concentrating more resources on cure when the diseases of infancy and childhood are clearly preventable. The high concentration of doctors in hospitals and the increase in medical knowledge relating to diarrhoeal diseases have achieved the commendable results of preventing a large number of infants and children from dying, but they go back to the same environment and living conditions where diseases thrive and remain susceptible to more attacks.

This emphasis on curative care suggests that within the health

sector the resources are not used as efficiently as possible, while the concentration of these resources in the urban areas shows that these are not evenly distributed to all districts nor according to the different types of care available. Thus Bryant's emphasis on prevention and the break from expensive medical technology is paid scant attention. At the same time we have shown how in the case of the 'cités' there is a deplorable absence of a multi-sectoral approach. There is a lack of co-ordination between the different sectors in the areas of water supply, sanitation, sewage and the provision of electricity. At the same time, the main components in the WHO's primary health care strategy have been shown to be absent. There is no redirection of resources which could signify a change in direction in health policies towards PHC.

Doyal's observations that employers and the State in the Colonialist period in East Africa concerned themselves with the health of people only in so far as their value as productive workers was concerned holds true for Colonialism in Mauritius. Her further claim that capitalism by its exploitative nature is often responsible for putting the health of workers at risk seems to have some support, too. Interviews with workers in factories during my field work revealed their anxiety at the lack of concern of some of the employers for health hazards at work. In the MEPZ there have been complaints of overcrowded, inadequately ventilated premises, and of the effects of electronic assembly work on eyesight. A large part of the accidents and injuries which necessitated attendances at dispensaries and out-patient departments, were caused at work, according to the staff of these institutions, though the exact figures were not made available. As late as 1979, the government was still struggling to establish

a department to deal with occupational health.

The infrastructures, on the other hand, far from creating the conditions conducive to good health and free from diseases, give some cause for concern. We have seen how Colonialism fortified the trend of cash crop production, which in turn led to a distorted form of economic development. Sugar production is developed to its optimum to the detriment of industrial development. Dependence on western finance and markets seems to be the pre-requisite for success within the present framework of economic development with the obvious effect that the West do their best to safeguard their interests. A large section of the population is living in absolute poverty. There is also evidence that the poor grow poorer while the rich become richer. Unemployment, except for a few years between 1974 and 1978 has been rising steadily. The political parties have mostly represented the interests of the middle classes who in their bid to improve their social status have come to terms with the sugar oligarchy. There is a lack of welfare in the forms of social security and unemployment benefit, which would have cushioned the effects of poverty and redistribute resources to the poorer sections of the population. The pressure of the IMF for the reduction of subsidies on rice and flour has caused the prices of these commodities to rise, despite the fact that the incidence of anaemia does not show any signs of decline and despite evidence of malnutrition, as reflected in the attendances at dispensaries. The growing poverty of certain classes of the population must be viewed in the light of certain indications that a higher level of infant mortality has been found to be associated with low income in Mauritius.

There has been some improvement in the housing condition of

the middle income group but the government has been slow in responding to the housing needs of the poor. And, when it has done so, it has created ghettoes in the form of 'cités' with the very conditions that diseases thrive on.

One can question whether the health services in Mauritius address themselves adequately to the health needs of the population. Health needs are notoriously difficult to determine just as it is difficult to compare the effectiveness of the different means to meet these needs. The mortality and morbidity profiles should give an indication of the health needs of the Mauritian population (see Table 69. (12)

For both adults and children there is a high incidence of accidents and poisonings. Infectious and parasitic diseases greatly affect infants and children and they still present a serious threat to the health of adults too. The latter are additionally plagued to a considerable extent by diseases of the circulatory system.

If there would be little disagreement as to what the health problems of Mauritians are, the main issue of contention is likely to be how to meet these needs. If supply is related to demand, then clearly there would be a greater demand for curative services because, as explained above, people tend to equate good health care with curative services offered by doctors and specialists. However, many of these diseases are preventable by paying more attention to hygiene and sanitation, by better nutrition, by health education and by eliminating the conditions in which diseases thrive.

Table 69

Mortality and Morbidity Profile, 1980

Main Causes of First Attendances at Dispensaries in 1980 (all ages)

	Percentage of attendances
Infectious and Parasitic Diseases	14.7
Diseases of the Respiratory System	15.8
Injury and Poisonings	16.7
	47.2

Main Causes of Hospital Discharges (all ages)

	Percentage of all discharges
Diseases of the Circulatory System	28.9
Infectious and Parasitic Diseases	8.7
Complications of Pregnancy, Child Birth and the Puerperium	26.5
Injury and Poisonings	11.5
	75.6

Main Causes of Deaths(all ages)	Percentage of all deaths
Diseases of the Circulatory System	38.1
Diseases of the Respiratory System	9.6
Infectious and Parasitic Diseases	7.0
Accidents and Poisonings	7.1
	61.8

Main Causes of Deaths	Percentage of all deaths
Neo-Natal	
Immaturity	35.4
Post Neo-Natal	
Enteritis and other diarrhoeal diseases	48.9
Child Deaths	
Enteritis and other diarrhoeal diseases	33.8
Accidents and Poisonings	12.1
	45.9

In the developed countries the approach to diseases of the circulatory system and carcinomas has been mainly curative, though more attention is being drawn to the preventative measures that could be taken. Smoking is discouraged and low fat diet is encouraged. Developing countries can heed this advice and take a critical look at smoking, the consumption of fat, sugar and salt and the adoption of new life-styles. The increase in these diseases of 'affluence' is a new phenomenon and partly explains why the reactions of health planners in developing countries have been slow. Even in Cuba, the mass organisations which proved so effective in combating the infectious diseases have not been mobilised against these ailments.(13)

There is little justification for spending about 80% of health care resources on the curative services in order to tackle the health problems in Mauritius. Priority should be given to preventive services and steps should be taken to redirect resources away from curative services. However, one must bear in mind that though prevention makes economic sense, such measures as screening, health education and vaccination can be costly in themselves. The increase of awareness on health matters is likely to increase the use of services and therefore put more pressure on curative institutions. But even if preventive measures cost as much as curative ones, the fact that a lot of human suffering can be avoided makes prevention worthwhile.

A structural reorganisation is also needed in order to redistribute resources according to the needs of each district. The latter provides a perfect base from where health resources could be organised and distributed. By and large, health centres embodying the primary health care concept of WHO, situated in key villages and staffed by

nurses, midwives and doctors should be the basic unit of a new health care system in Mauritius. The health centre should be integrated into the community activities, and public participation would be actively encouraged. Mauritius has a good tradition of the public showing concern on social matters. Maternal and Child care got off the ground as a result of private initiative. Family planning had similar origins, while the 'Young Farmers' Association' provides evidence that the youths of Mauritius are prepared to make their contribution to Mauritian life. The several youth clubs on the island provide ideal platforms with which community health care centres can forge links. But as Harris observed "real participation can only exist where people have common interests - where everybody can expect an equitable share of the benefits of development."(14)

Domiciliary visits by the health centre staff would encourage people to treat their sick at home thus releasing pressure on hospital beds. Much of the health care delivered to the community would be in the form of health education. The latter would concern itself mainly with such issues as the use of health services, hygiene and sanitation, the production and distribution of food in the villages, the nature of common diseases and the simple curative and preventive measures that can be taken to cope with them.

There is a need for a National Health Scheme (NHS). The latter has been proposed before and rejected on grounds of cost and shortage of doctors. There are at present more doctors in Mauritius than the government is willing to employ. As far as costs are concerned, both workers and employers can contribute part of it. Though no survey has been carried out to know how much the population spends on average on private care and expensive drugs, it is thought to be high. There

is little likelihood that the people will object to a contribution so long as they are offered decent services in return. The Bambous Health Project provides a good example of people who grouped themselves together in a 'co-operative' and paid a monthly contribution in return for the services of a doctor who not only provides medical care but also health education.(15) The recent introduction of a Pension Scheme also shows that the collection of contributions from employers would present few problems.

The need for a General Medical Council and a General Nursing Council is perhaps greater now than when Titmuss and Abel-Smith called for them. On the other hand, the establishment of an Institute of Medical Sciences is not a priority. Instead, the underutilised University of Mauritius can be used to train more 'auxiliary' health workers, for example, in community health care and health education.

The benefits of such a reorganisation would, however, be small indeed if people continue to live on low wages or remain unemployed, if they have little to eat or nothing at all, if they have inadequate or no safe water supply, if they live in overcrowded, badly ventilated, unhygienic houses sharing one latrine between fifteen to twenty people, and if they are still treated as paupers when they seek help at a hospital or dispensary.

Relying on the political will to improve the material, social and environmental conditions of the very sections of the population who need these most has so far proved a hopeless wish. That is why the multi-sectoral, preventive and 'low-technology' approach of Bryant and WHO is only realisable within the context of social change as

advocated by Doyal and Navarro.

This study has of necessity been critical of the health care system in Mauritius. This should, by no means, diminish the important contributions of health workers, women and men, who attend to their tasks with the utmost diligence and efficiency.

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(14) Quoted in The Guardian (British Newspaper) 27.8.1980.

(15) Peoples' Health, unpublished report by the MMM, 1980.

APPENDIX I

QUESTIONNAIRE ON FACTORS RELATING TO INFANT/CHILD DEATH

1. Sex of Infant/Child: _____

2. Age at death: _____

3. Cause of death: _____

   (a) Was death medically certified?

   _____

4. Ethnicity: _____

5. Place of death: _____

6. Approx. time of death: (i.e. day or night) _____

7. Age of mother: _____

8. Occupation of mother: _____

9. Occupation of father: _____

10. Educational attainment of mother: _____

11. Educational attainment of father:

    _____

12. Number of Children in the family: _____

13. Other members of the family: _____

14. Income of the family: _____

15. Place of delivery and by whom? :_____

16. Type of housing: _____

    (a) Number of rooms _____

    (b) Number of occupants _____

17. Type of Toilet Facilities: _____

18. Water Supply: _____

19. PRENATAL AND POSTNATAL CARE (Questions to the mother)

    a) What kind of prenatal care was available to you?

    b) Did you make any use of existing services (ex: Maternal clinic etc?

    c) If the answer to (b) is NO, why not?

d) What kind of postnatal care was available to you or your infant?

e) Did the infant receive the visit of a midwife or any other health worker?

f) Was the development of the child monitored in any way?

Ex: attendance at Maternal and Child health clinics or keeping records of the baby's weight etc.

g) Did you breastfeed the infant?

(a) If NOT, on what was the infant fed before six months?

20. TRANSPORT

a) What mode of transport do you use when you have to get the infant/child to the nearest health service?

b) What is the distance to the nearest

i) dispensary?
ii) hospital?
iii) maternal and child health clinic?
iv) health center?

c) What is the average cost of the journey to the nearest hospital?

d) What is the average time of journey to the nearest hospital?

21. SOURCES OF HELP

a) Where did you seek help from when the infant/child became sick?

i) dispensary
ii) hospital
iii) maternal and child health clinic
iv) private doctor
v) private clinic
vi) health center
vii) any other source
viii) no help was sought at all

22. HEALTH EDUCATION (Questions to the mother)

a) Through what channel does Health Education reach you?
b) Do you have a TV?
c) Do you know if there is a Health Education Programme on TV?
d) What time is the programme?
e) Does the time suit you?
f) Do you understand the content of the programme?
g) Do you find it useful?
h) Do you attend talks at the Maternal and Child Health clinic?
i) If the answer to (g) is no, why NOT?

23. Has there been any other infant/child death in the family?

a) What was the cause/s

APPENDIX II

QUESTIONNAIRE ON

ATTITUDES OF PRIMARY SCHOOL TEACHERS TOWARDS THE TEACHING OF 'HEALTH EDUCATION' IN SCHOOLS

1. How many hours a week do you devote to 'Health Education' on its own?

2. How many hours a week do you think Health Education should be taught in primary schools?

3. (a) Is there an examination in Health Education in primary schools?

YES ___

NO ___

DON'T KNOW ___

(b) If NO, do you think your pupils should be assessed on health matters taught to them?

YES ___

NO ___

DON'T KNOW ___

4. What importance should Health Education be given with regards to other subjects such as English, French and Maths?

Equal importance ___

Less importance ___

More importance ___

5. How do you rate your own training in Health Education? Are you

Well trained? ___

Not well trained? ___

Fairly well trained? ___

6. Does your school possess any basic audio-visual equipment to teach Health Education?

YES ___

NO ___

DON'T KNOW ___

7. Do you think there should be a special teacher trained in Health Education to teach the subject (just as you have oriental languages teachers etc?)

YES ___

NO ___

DON'T KNOW ___

APPENDIX III

PUBLICITY PAMPHLET OF AN AYURVEDIC PRACTITIONER.

HEALTH INFORMATION

GOOD HEALTH GIVES YOU HAPPINESS, INTELLICTUAL, MONEY AND LONG LIFE.

IMPORTANT NEWS:- For the people of 'PLAINE WILHEMS' (Beau Bassin, Rose Hill, Quatre Bornes, Vacoas, Curepipe & Port Louis.).

You may easily solve your 'HEALTH PROBLEMS' by using Ayurvedic Medicines from the 'HIMALAYA DRUG (AYURVEDIC MEDICAL HOUSE) at BEAU BASSIN.

1. Ayurvedic treatment is an ancient treatment.
2. Health problem is the greatest trouble in life.
3. Ayurvedic Medicines have no any side effect.
4. Ayurvedic Medicines is a 'Natural Medicine' which is made from fresh herbs of Himalaya.
5. Don't be worried about your general and chronic disease. All your disease will remove by using Ayurvedic Medicines.

Such as:-

(a) DIGESTIVE SYSTEM: Gases, Acidity, Ulcer, Indigestion etc.
(b) CIRCULATORY SYSTEM: Palpitation of heart, Cardiac, weakness etc.
(c) URINARY SYSTEM: Diabetes, All stone (Corail) All calculi etc.
(d) SKIN DISEASE: Piles, Eczema, Psoriesis, Scabies, Chronic wounds etc.
(e) RESPIRTORY SYSTEM: Asthma, Bronchitis, Chronic cough etc.
(f) NERVOUS SYSTEM: Epilepsy, Sciatica, Gout, Rheumatism, Alcohlism, Brain & Nervous weakness Sinusitis etc.
(g) DISEASE OF: Eyes, Nose, Ears, Teeth, Tonsillitis etc.
(h) Children and Adults diseases.
Male and Female secret diseases - Impotency, Sterility etc.

Note:- If you have only '*Daughter*' you may get '*Son*' also easily.

For full information please contact:-

AYURVEDIC PRACTITIONER:-

APPENDIX IV

Additional Data On Breastfeeding *

Breastfeeding and age of mother

Those who breastfed

Age	Nos
15 to 20	5
21 to 25	5
26 to 30	4
31 to 35	2
36 to 40	3

Those who did not

Age	Nos
15 to 20	4
21 to 25	5
26 to 30	7
31 to 35	2
36 to 40	3
41 to 45	3

Breastfeeding and number of children

Breastfeeding		Nos
Families with	1 child	3
	2 children	5
	3	6
	4	1
	5	1
	6	1
	7	2

Bottlefeeding		Nos
Families with	no child	1
	1 child	7
	2 children	5
	3	0
	4	4
	5	2
	6	4
	7	0
	8	1

Breastfeeding and Ethnicity

Breastfeeding	Bottlefeeding
8 Hindus	15 Hindus
9 Population Generale	4 Population Generale
2 Muslims	5 Muslims

Breastfeeding and delivery of baby

Breastfeeding		Bottlefeeding
9	Hospital	14
7	Traditional Midwife	5
3	Government Trained Midwife (Delivery at home)	5

*Results from question 19(g) (see appendix 1)

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