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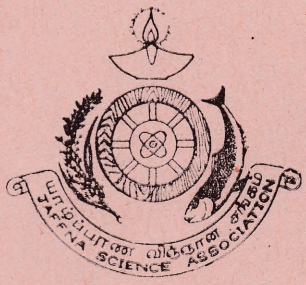

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General President's Address

SOME ISSUES OF A DIVIDED POLITY IN SRI LANKA

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The JSA has completed one year of satisfactory service. As an organisation its main purpose is to promote research and learning and disseminate knowledge in a multiplicity of disciplines. The organisation draws its membership from University academics, teachers from educational institutions and other professionals and this helps to link the University and the professional community outside.

I have decided to address you today, Ladies and Gentlemen, on a theme that highlights important issues that are very much relevant both to us in the region and to the country as a whole and captioned it: "Some Issues of a Divided Polity in Sri Lanka".

Within a nation-state framework a polity denotes a society and its people politically organised for the purpose of governance. A polity will have a constitution, providing the basic legal framework, a system of government, a state apparatus and a governmental machinery and other necessary institutional arrangements. In terms of the exercise of political power, a polity may be authoritarian or democratic and in the case of the latter, therefore, the participatory machanisms determining the relationship between the government and the governed are fundamentally different from that of the former. In terms of the location and/or distribution of state-power, a polity may display unitary or federal or quasi-federal characteristics.

Sri Lanka's polity that had evolved over the past century or so is a centralised or unitary polity. From the time of the political and administrative unification brought about by the British rule, the major emphasis has been on the evolution of centralising mechanisms and of a unitary framework. The

constitutional and state structures embodied in the Donoughmore constitution (1931–1946), which gave a considerable degree of internal self-government, and the Soulbury constitution (1947–1972), which ushered in the country's political independence, also determined the nature and content of the unitary set-up. This was reaffirmed by the first republican constitution of 1972 and the second republican constitution of 1978 and it was explicitly stated that 'the republic of Sri Lanka is a unitary state'. Thus the concept of an all-island polity, based on the principles of a unitary state emerged, though, as witnessed in later years, its foundations were neither strong nor stable and its viability became a matter of dispute in the context of the Sinhala–Tamil ethnic conflict.

The unitary state framework in the post-independence period has been in a state of crisis since the 1950s, with the escalation of the ethnic conflict. Consequently the country's polity and the political system stand deeply divided, with a a significant section of the people (i. e. the Sri Lankan Tamils) alienated from it, and remaining politically outside the national polity. It is this aspect of a divided polity and some of the salient issues related to it - how it came about and what brought it about - that I wish to elaborate in today's address, dealing largely, but not exclusively, with the political dimensions.

Howard Wriggins, a former U.S. Ambassador in Sri Lanka and a specialist on South Asia wrote his major work on Sri Lanka, published in 1960, titled *Ceylon - The Dilemmas of a New Nation*. As a case study of an Asian political society and within the perspective of a newly independent nation this book dealt with "the dynamics of social, economic and political changes". The dilemmas that he gave expression to then are still very much with us and some of them have even become increasingly complex. He observed that "a study of politics in any country is not necessarily a study of that country's highest philosophy or its most gentle arts. Though politics demands the highest qualities of leadership and poised judgement it is also the study of 'who gets what, when and how', which is not

likely to be the field of human endeavour where the best is always revealed" (Wriggins 1960). When Howard Wriggins spoke of 'who gets what, when and how', he touched on the most intricate and complex issues of the exercise of political power, competition for political power and sharing of political power in an established polity. This has been and still is the fundamental problem in the country's polity with a multi-ethnic society in which throughout the post-independence period the political power configuration was characterised by a dominant-subordinate relationship between the majority Sinhalese and the minorities, particularly the articulate principal minority, the Sri Lankan Tamils.

B. H. Farmer (1963), significantly enough titled his book on Sri Lanka, *Ceylon–A Divided Nation*, analysing both the historical antecedents and the events in the first decade after independence, highlighting the ethnic divide, and the polarisation, politically, of the two communities, the Sinhalese and the Tamils. It is of interest to note that Lord Soulbury, who headed the Soulbury Commission (1944) on constitutional reforms, in his forward to this book remarked: "I now think it is a pity that the Commission did not also recommend the entrenchment in the constitution of guarantees of fundamental rights ... ... ". Whether this would have served much purpose in the light of subsequent developments in the country is a debatable question. Farmer (1963) further observed: "Ceylon is indeed a divided - nation. The reader may be inclined to form the conclusion that it was always so, and that optimistic views on national unity held in Ceylon at the coming of independence and repeated by commentators in other parts of the world rested on illusion or ignorance".

In a more recent work by a well-known Sri Lankan political scientist, covering the four decades after independence, with a controversial title, *The Break-up of Sri Lanka - Sinhala - Tamil Ethnic Conflict*, A. Jeyaratnm Wilson observes: "My considered view is that Ceylon has already split into two entities, at present this is a state of mind; for it to become a territoria reality is a question of time" (Wilson 1988). Needless to say this observation carries with it far reaching political implications.

Most of the newly independent states or nations in the post-colonial phase have experienced challenging and complex economic, political and social problems. They closely interact with one another and can and do generate instability, tension and conflict. Several new states and nations found their political systems unstable and unable to cope with the tasks of 'nation - building' and political integration especially in situations where diversities arising from religion, language and group identities are dominant, politically. Many of the new nations could not sustain their democratic structures and gradually drifted towards authoritarian or one party rule in Asia and Africa.

Sri Lanka in the post-independence period, in contrast to many countries in Asia and Africa, has had an impressive record of democratic politics. With the granting of adult franchise as far back as 1931, electoral politics and politicization of the electorate developed gradually since the 1930s. In the post-independence period, governments had been changed periodically through the democratic process and electoral participation, judged by voter turn-out at the general elections, has been as high as 85 per cent. The democratic framework on the whole has survived, despite emergency rule for several years, intermittently, the threats posed by the JVP challenge in 1971 and in a renewed form in the 1980s and the retaliatory state violence and the eroding of democratic processes and norms. However, the stability of the political system is to be no longer taken for granted. Even the very recent challenge from within the United National Party Government to the authority of the executive presidency through an 'impeachment motion' and other political events in the 1980s and 1990s indicate that at the national level the polity is in disarray; and the ethnic conflict adds another facet to the troubled political landscape.

To understand the nature of the present ethnic conflict, one has to go back at least to the Donoughmore era and the political background that preceded it. Ironically it is

the principle of 'majoritarian democracy' with the introduction of universal suffrage that came to be institutionalised since the 1930s that nurtured Sinhala nationalism which was to dominate the political events of the later decades.

In the pre-independence period of constitutional reform the evolution of an all island identity or a Ceylonese nationalism was neither deep-rooted nor a lasting phenomenon; it was a transient phenomenon at the elitist level among the Sinhalese and the Tamils. Instead, what emerged as a dominant ideology was the Buddhist Sinhala ideology, based on age-old concepts of *Dhammadipa* and *Sinhadipa* derived from the Mahavamsa tradition. Gananath Obeyasekera (1970) remarked that until the 16th century, it was the Buddhist–Sinhala identity that was pre-eminent. And its affirmation came in the later period in the 19th and 20th centuries, following Buddhist revivalism. To quote him, " if before the sixteenth century the term Sinhala implied Buddhist, today the term Buddhist implies Sinhalese. Thus the affirmation of Buddhism implies the affirmation of old Sinhalese identity". With the important socio–political changes that took place since the late 19th century, Sinhala-Buddhist identity became a dominant ideology with strong political implications.

The constitutional reform movement spearheaded by the nationalist leaders, both Sinhalese and Tamils, represented in the Ceylon National Congress in the early decades of the twentieth century, projected an all-island perspective, liberal and secular and integrationist in character leading towards a national polity. But this common and island-wide perspective towards a national identity, transcending sectional interests, was only a short lived experience. The Tamil leadership in the Ceylon National Congress was soon disillusioned and the resignation of its founder President Sir P. Arunadchalam from the Congress in 1921 brought to the forefront serious disagreement with, and estrangement from, the Sinhalese leadership-partly over the issue of a seat for the Tamils in the Western Province in the Legislative Council. The Ceylon National

Congress lost its all-island representative character and thereafter it was largely dominated by the low-country Sinhalese leaders. It is worth recalling that Sir P. Arunadchalam when he left the Ceylon National Congress criticised it as one "representing mainly a section of the Sinhalese" and "that it had destroyed the feelings of mutual confidence and co-operation between the various communities." In the words of K. M de Silva "national unity and ethnic harmony which the Ceylon National Congress was expected to epitomise proved illusory within three years of its establishment" (de Silva 1986). With the withdrawal of the Tamil leaders from the Ceylon National Congress, Sir P. Arunadchalam himself increasingly gave expression to Tamil identity and Tamil solidarity on which his brother Sir P. Ramanathan had been even more outspoken from an earlier period (Wilson 1988). It is significant to note that the Tamil leadership of the time was already beginning to move away from the mainstream integrationist political perspective, when the Donoughmore Commissioners arrived in 1927 to recommend a new constitution.

The Donoughmore costitution, though not welcomed at the time by various political groups for different reasons, was a landmark in the evolution of the Ceylonese or Sri Lankan polity. The grant of adult franchise, combined with the abolition of communal representation – which the colonial authorities favoured earlier as part of their 'divide and rule' policy – and the extension of territorial representation paved the way for the future domination of the majority Sinhalese. It provided them the mechanism towards access to political power and a form of representation in the national legislature that assured a dominant power relationship. This laid the foundation of 'communal' or ethnic polarisation between the Sinhalese majority and the Tamil minority. The share of representation of the Sinhalese in the national legislature after 1952, with the disfranchisement of Indian Tamils increased significanty and by the time the second republican constitution (1978) was introduced it was nearly 80%.

Jane Russel (1982) in her book documents the intensity of what she called 'communal politics' in the Donoughmore era and states: "In Ceylon it was not the national ideas or character, but the communal ideas and the sense of communal identification which increased sharply under the impact of universal franchise". From a somewhat different interpretative approach, K. M. de Silva observed: "the establishment of an eloctorate based on universal suffrage was among the determining factors in the reemergence of a form of nationalism intertwined with a Buddhist resurgence and its associated cultural heritage" (de Silva 1988).

The Donoughmore Commissioners argued that communal representation prevented "the development of national or corporate spirit..."; and that "only by its abolition will it be possible for the various diverse communities to develop together a true national unity" (Special Commission 1928). This was the basic perspective around which they envisaged the evolution of an intergrated national polity–which, however, was to remain an elusive goal in the subsequent decades.

The major questions about minority representation - in a representative polity — following the introduction of adult franchise associated with a territorially based electoral system with a numerically preponderant majority, which placed the Sinhalese at a political advantage, became issues of much controversy and debate in the 1930s and 1940s — with the emergence of a new Tamil leadership represented by the Tamil Congress led by G. G. Ponnambalam. And Tamilian nationalism itself surfaced as a potent factor in the country's political arena.

The minority communities were no doubt apprehensive of the outcome of the newly introduced Donoughmore structure, when the first elections to the State Council were held in 1931. The elected State Council under territorial representation and adult suffrage provided for a system of Executive Committees, the Chairmen of which constituted the Board of Ministers. The new system provided for a degree of internal self government not hitherto enjoyed.

The creation of a Pan-Sinhalese Board of Ministers in the State Council after the 1936 election further alarmed the minorities. That the majority-community state councillors were able to manipulate the committees resulting in the creation of such a Board of Ministers, particularly when the minorities expressed deep anxieties about the pattern of representation, would have undermined their confidence in the system and exacerbated communal feelings.

The elections in Jaffna to the first State Council did not take place because of the successful boycott organised by the Jaffna Youth Congress. The Jaffna Youth Congress, influenced by Indian freedom struggle stood for a national perspective, *Swaraj* and social reform and was strongly anti-imperialist. The Youth Congress, while supporting some of the Donoughmore proposals, was of the view that it did not go far enough towards self rule. The political perspectives, espoused by the Youth Congress were, in some respects, at variance with the then emerging Tamil identity and ethnic consciousness and the views of the Tamil leadership. But the Youth Congress did receive support from some of the Sinhalese political groups, including a few of the leaders of the Ceylon National Congress and, especially, the newly emerging leftist or Marxist groups. Short-lived though its existence was, the role and impact of the Jaffna Youth Congress was significant in the politics of the Donoughmore era both at the regional and national levels (Kadirgamer 1980).

G. G. Ponnambalam was elected to the State Council for the first time in 1934 after the boycott of the first election in the north. This election marked his rise to prominence in Tamil politics and his political leadership remained unchallenged until the early 1950s with the ascendency of the Tamil Federal Party under the leadership of S. J. V. Chelvanayagam.

G. G. Ponnambalam came to the forefront of Tamil politics and as the old Tamil leadership had almost faded away, his political leadership and the Tamil Congress gained

recognition with his advocacy of 'balanced representation' or more commonly known as the 'fifty-fifty' formula. This principle of balanced representation involved a division of seats in the national legislature whereby not more than fifty percent is to be held by the majority and the balance fifty percent by the minorities. Politically, it was considered an unacceptable demand by the Sinhalese leadership and was also rejected by the colonial authorities and later by the Soulbury Commission. The debate, polemics and controversy that centred around the issue of 'balanced representation' in the 1930s left the two communities - Sinhalese and the Tamils - sharply divided. It was reported that the then President of the Ceylon National Congress in 1938 - with no firm commitment from the Congress itself-agreed for a 60:40 formula (de Silva 1986). It was very unfortunate that this proposal was not pursued actively by the then Tamil leadership. The campaign and controversy associated with the 'fifty - fifty' formula was again revived and the still unresolved issues concerning the pattern of representation, in a multi-ethnic society, confronted the Soulbury Commissioners in 1944, when they were sent to review the working of the existing constitution and to suggest proposals for constitutional reform.

As the Soulbury Commissioners arrived in Sri Lanka to review the working of the constitutional structure, there was already a marked division between the Sinhalese and the Tamils, reflecting the developing polarisation into two separate identities in political terms, underpinned by Sinhala nationalism on the one hand and Tamil nationalism on the other.

The evolution of political systems and nationalism in the context of nation - building, in newly independent countries particularly in multi - ethnic societies, presented a complex set of problems relating to national identity and integrated polity transcending group identities and loyalties based on language, religion and other cultural diversities. Group or sectional identities based on religion, language and culture were found to be often in conflict with the concept of a common, all-embracing national identity. Paul Brass (1974), referring to language,

religion and group identities, posed the question: "how is it that language and religion have both provided the motive-power for nationalism in South Asian states and also constituted the chief threat to the national unity of those states."

That such dilemmas confronted Sri Lanka in the 1930s and 1940s was clearly evident; and the political leadership which pursued an 'integrationist perspective' seemed to have underestimated the strength of the culture/language based identities.

The concept of Ceylonese or Sri Lankan nationalism based on an integrationist perspective and strongly advocated by the Sinhalese leadership represented by the Ceylon National Congress and other political leaders always had an uneasy relationship with another brand of nationalism anchored more fundamentlly in Buddhism and Sinhala 'race'. In differentiating what K.M. de Silva (1986) labels the "two brands of nationalism", one is described as secular and moderate and broad-based representing a Sri Lankan identity which, while recognising the pluralistic pattern of society, gave due importance to Buddhist Sinhala perspective as well on account of their majority status. The other type is the 'militant' Buddhist - Sinhala nationalism which gave the Sri Lankan polity an essentially Buddhist and Sinhala orientation. Thus in this configuration there co-existed for sometime a more elitist and broad-based Ceylonese or Sri Lankan nationalism and a less elitist and more fundamentally Buddhist - Sinhala nationalism – the antecedents of which go back to earlier periods - which also had a wider support base with the increasing politicization of the electorate S.W.R.D. Bandaranayake, with his Sinhala Maha Saba, gave expression to this effectively and made political capital in the 1950s.

It is this so-called second brand of Sinhala nationalism, that triumphed politically and was to dominate the scene in the post-independence period and found itself in sharp conflict with ethnic Tamil nationalism. What is also significant is that this fundamentally Sinhala - Buddhist nationalism was

very often equated with an all-island nationalism and as Michael Roberts (1979) aptly observes "the whole was consciously or unconsiously subsumed by the part...; sinhala nationalism absorbed the colours of Ceylonese nationalism". For most of the decades in Sri Lanka's contemporary history, the fundamentally Sinhala - Buddhist nationalism became the dominant and pervasive phenomenon and that, therefore, provides the background to the understanding of the emergence of 'ethnonationalism' of the Tamils in Sri Lanka.

The Soulbury Constitution, which incorporated many of the proposals contained in the 1944 Board of Ministers Draft, provided for a Westminister model of a cabinet parliamentary system of government committed, no doubt to a unitary framework. The Soulbury Commissioners found the relations between the Tamil minority and Sinhala majority in their own words,"the most difficult of the many problems involved" (Commission 1945) The Commission therefore had to address itself, to this minority question and provided what Commissioners then believed to be adequate safeguards — which as Lord Soulbury himself was to recall later, in the aftermath of the 1958 race riots, proved ineffective.

Apart from the principles of electoral delimitation which incorporated the area rule — one seat for every 1000 sq. mile and one seat for every 75,000 persons — which was meant to give some weightage to sparsely populated areas, multimember constituencies, nominated members and representation in the second chamber, the new constitution incorporated the well known section 29(2). This was intended to prevent discriminatory legislation by a majority dominated parliament on racial or religious grounds. But this section did not and could not work with any measure of success.

When the British decided to transfer power, they found the political leadership of D. S. Senanayake most acceptable. Undoubtedly with his 'State Council Politics', D. S. Senanayake has gained natioal stature and has emerged as a leader of

standing among the Sinhalese politicians. As the second world war drew to a close, the Indian subcontinent and the geo-political considerations loomed large in British overseas policy. The British were keen to maintain their post-colonial links with Sri Lanka especially in view of its strategic position in the Indian Ocean. Thus the transfer of power and the granting of independence in 1948 was a smooth process and D. S. Senanayake's political leadership and Premiership matched very well with this event of national importance.

The constitutional structure and the system of government that was established at that time of independence, it was observed, "sought the reconciliation of the interests of the majority and the minorities within the context of an all-island polity"(de Silva 1981). The Tamil Congress leadership, which had abandoned its earlier confrontationist posture opted for 'responsive co-operation' and joined the first post-independence UNP government under the leadership of D. S. Senanayake and G. G. Ponnambalam, who had led the Tamil Congress to victory at the 1947 general elections, became a Minister in the Government in 1948. Another section within the Tamil Congress including S. J. V. Chelvanayagam did not join the government and remained in the opposition. As the country made a peaceful transition to independence, the Tamil Congress and G. G. Ponnambalam joining the Government made it appear that the 'Tamil problem' was out of the troubled political arena. But very soon dark clouds were to gather which were "to bring heavy and disastrous storms in the first decade of the post-independence period" (Farmer 1988) – and, needless to add, thereafter as well.

Immediately after Independence, marked by a smooth and peaceful transition, the first blow to the much hoped for united polity – within a unitary framework – was struck by the very architects of the new system that sought reconciliation between various communities with the legislative enactments to disfranchise the Indian Tamils through the citizenship act No. 18 of 1948 and the Indian and Pakistani Resident Citizenship

act No. 3 of 1949. This legislation, coming soon after independence, deprived large numbers of Indian Tamils of their citizenship and thereby the right to vote. This has remained a thorny issue for several years. The Indian Tamils, who had their elected representatives in 1947, had been deprived of representation in Parliament through this act of disfranchisement. These seats went to the Sinhalese in plantation areas and Sinhalese or majority representation increased at the expense of the plantation Tamils.

Following the Indian citizenship legislation – supported by a section of the Tamil Congress leadership in the Government, but opposed by a section of the Tamil Congress – a significant political development was the formation in 1949 of the Tamil Federal Party led by S. J.V. Chelvanayagam. With the formation of the Federal Party and its subsequent role, the Tamil (ethnic) nationalism entered a new phase which was to determine largely the course of events *vis-a-vis* 'Tamil politics' for the next three decades.

The United National Party government, supported by capitalist interests, propertied classes and upper - middle class, did not or could not establish firm links with a wider spectrum of Sinhalese society represented by the rural intelligentia, lower - middle classes and other strata of rural society. These segments' with the Buddhist Sinhala resurgence of the mid–1950s found in S.W.R.D. Bandaranayake an articulate spokesman. He had already broken away from the UNP and formed the Sri Lanka Freedom Party (1951). Responding to the Buddhist - Sinhala nationalist upsurge with a wider rural support base, S.W.R.D. Bandaranayake wass wept to victory in 1956.

His government passed the Official Languages Act, which made Sinhala the only official language of the country. For the Tamils, though question of employment was tied up with this legislation, the issue denoted much more, i.e. Tamil identity itself and its denial by this language legislation. The Sinhala only act was the first piece of major legislation by a Buddhist

Sinhala dominated government in the post-independence era that not only denied the language rights of the Tamils, but made the idea of a united polity meaningless, and went contrary to it. The ethnic divide was beginning to loom large in the country's troubled political landscape.

With the Federal Party gaining prominence since the mid-1950s, the concerns of the Tamil political leadership, though still centred around minority rights, also shifted to Tamil 'nationality' perspectives. The Tamil Federal party's conceptualisation of 'an autonomous linguistic state' within a federal structure reflected such perspectives.

It may be of interest to recall that long before the Tamil leadership advocated a federal structure for Ceylon, the Kandyans as early as 1925, viewed themselves as a separate entity and the Kandyan National Assembly comprising the Kandyan elites in a memorandum to the Donoughmore Commission contended that they have a claim of a nation to live its own life and realise its destiny"; this organisation suggested the creation of a Federal state: "a federal system will enable the respective nationals of several states to prevent further inroads into their territories and to build up their own nationality" (Roberts 1979). S.W.R.D. Bandaranayake in the early phase of his political career was also an advocate of a federal structure (de Silva 1981). But he very soon abandoned this position.

When the Tamil Federal Party introduced its political programme in the beginning of the 1950s federalism was not altogether a new concept in Sri Lankan politics. However, the Sinhalese politicians were no doubt apprehensive of this new political development.

Conceptualising in terms of separate nationality/nation-hood the Tamil Federal Party argued its case for an autonomous Tamil linguistic state within a federal structure. This was underpinned by attributes such as a separate historical past, linguistic and cultural distinctiveness and a geographically contiguous territory or 'traditional homeland'. In spelling out the

political programme at its first national convention (1951), the Federal Party declared that the "Tamil-speaking people of Ceylon constituted a nation distinct from that of the Sinhalese by every test of nationhood". This, no doubt, constituted a fundamental challenge to the very concept of a unitary polity. However, the Tamil political leadership until 1977 (or even later) was not opposed to any flexible formula that could accommodate 'regional Tamil autonomy' within the larger national political framework. This was reflected in a number of conciliatory arrangements that were worked out at different times: the Bandaranayake - Chelvanayagam Pact (1957); Dudley Senenayake - Chelvanayagam Pact (1965); District Development Councils (1981); and more recently, the scheme(s) for devolution of power. But none of these was found to be workable, partly due to the opposition from Sinhala nationalists and partly due to the rigid adherence to the unitary framework which prevented effective devolution of power.

Ethnicity has increasingly dominated the politics in South Asian countries and elsewhere in the contemporary period and ethnic conflicts have become all too common. Though ethnicity, nationality and nationhood are closely interrelated, the process of development from one to the other is not necessarily a straightforward one. Ethnicity basically reflects a group identity or group affirmation which can be at a group level or communitylevel with no significant political dimensions. Urmila Phadnis (1986), surveying ethnic conflicts in South Asia defines and identitifies the attributes of ethnicity as follows: "An ethnic group can be viewed as a historically defined aggregate of people with shared objective traits and symbolic referents conecting its distinctiveness *vis-a-vis* similar groups and regarded to be so by others;" and the major attributes derived from this definition are : historical antecedents; objective cultural markers such as race, descent, language, religion; subjective awareness of belonging to a group provided by a culture core; and recognition by others of the group distinctiveness.

On account of an increased sense of group identity or awareness, an ethnic group or category may transform itself into a 'larger' entity i.e. an ethnic community with a further consolidation of its identity formation and sense of belonging. This community level transformation may assist in mobilisation for cultural or socioeconomic and even political purposes. A community identity through a process of mobilistion becomes more assertive and such assertiveness and associated characteristics can take "consensual, competitive or conflictual" pattern (Phadnis 1986). When community identity through ethnicity and its mobilisation assumes a competitive or conflictual pattern, then the factor of ethnicity may become politicized. The forces that can contribute to this may be many, need not be identical and will be contextually determined. But the structure of state power and authority and its response to any kind of community mobilisation centred around ethnicity in politicized terms can determine the intensity of the conflictual pattern in a multi-ethnic society.

At this politicized level an ethnic community may aspire for nationality status leading to the emergence of ethnic nationalism. However, in the progress from ethnic group to ethnic community, and to nationality/nation, in a multi-ethnic context the transformation may be a long process; it need not take an identical or unidirectional pattern and the transformation may be partial and may not even be completed.

In the Sri Lankan polity it may be stated that Tamil ethnicity reached a community level status in the pre-independence period. It became politicized and from the competitive phase has transformed itself into the conflictual phase, which got further intensified in the post-independence period. It has now gained a nationality/nation-hood status. As Paul Brass (1974) notes "an ethnic community becomes a nationality or nation when it mobilises for political action and politically becomes significant leading to political sovereignity or separate political status". This has much relevance

to the present situation in the evolution of Tamil ethnic nationalism.

Ethnicity and ethnic nationlism based on it are anchored on 'race', religion, language, other cultural attributes or a combination of many or all of them. Their political dimensions, of course, interact with socio-economic issues. Arasaratnam (1970) in his discussion of nationalism and the Tamils in the Sri Lankan context emphasises what he calls the language-culture unit" associated with a shared historical experience;" the undisputed antiquity of the Tamil cultural tradition" and "assertion of Sri Lanka as a legitmate and ancient home of the Tamils" are, in his view, two principal sources of "fertilisation and enrichment" of Tamil ethnic nationalism. He further observes that the Tamils possess many of the attributes that contribute to modern nationhood – a shared historical experience, a continuous linguistic and cultural tradition, a common way of life ..... and most important of all a defined territory as homeland.

In the conflictual phase of the ethnic issue roughly from the mid-1950s, employment, language, higher education and territory were the major issues. But language and territory were the most contentious. Language, reflecting a long and almost uninterrupted cultural tradition and territory, also from very early times, give a people a historically shared experience and a settled way of life and thereby their attributes of nationality formation. For these reasons, the Tamil politlcal leadership from the mid–1950s had vehemently resisted, though unsuccessfully, the encroachments into what they considered to be the territorial homeland of the Tamil people when the government carried out its state-aided and state sponsored colonisation schemes in the Eastern and Northern provinces.

The state-aided and state–sponsored colonisation on land settlement schemes – and D. S. Senanayake was the principal architect of these schemes in the early years – were inteneded to restore, rehabilitate and preserve the Sinhala

peasantry and to contribute to increased food production – though in the earlier phase the returns on many such schemes were not commensurate with vast amount of investment outlays. Nevertheless, the political 'fall-out' from these policy was no less important. The resettlement of a large number of Sinhala peasant families in what were considered predominantly Tamil areas did alter the ethnic balance in favour of the Sinhalese and thereby undermined the geographical or territorial contiguity of the Tamil areas. The substantial increase in Sinhalese population in what were traditionally Tamil areas, in the Eastern province, made possible what C. Manogaran (1984) terms "electoral gerrymendering" and this enhanced the elctoral representation and political leverage of the Sinhalese in those areas which had been the focus of colonisation by, and resettlement of, Sinhala peasants under government aided and sponsored schemes.

The formation of the Tamil United Front in 1972 and the Tamil United Liberation Front (TULF) in 1977 paved the way for the Tamil leadership to take concerted action on their political demands. Politically, the most significant policy declaration was the now well-known Vaddukoddai resolution of May 1976, by which time TULF has been formed, which embodied the commitment on the establishment of a separate Tamil state, Eelam, defining territorial limits as well – the Northern and Eastern provinces. The TULF fought the 1977 general elections on the issue. The TULF election manifesto declared that it seeks in the general election "the mandate from the Tamil nation to establish an independent sovereign secular socialist state of Tamil Eelam that includes all the geographically contiguous areas that have been the traditional homeland of the Tamil speaking people" (Manogaran 1987). This declaration on a separate Tamil state, in principle, amounted to a repudiation of the Sri Lankan unitary polity.

While focussing, conceptually, on this change in the basic political perspective, it may not be inappropriate to refer to a general theoretical formulation by Paul Brass (1991) highlighting the linkage between ethnicity and nationalism wherein he

observes "the process of nationality, formation may or may not be pursued to the point where political structures are made congruent with the nationality by creating an autonomous or independant self-governing entity".

As the course of events in the 1970s determined the contours of Tamil politics, a signiticant change was also taking place, which was to completely alter the political perspectives, namely, the growth of Tamil militancy. As the move, 'politically' toward Eelam was made by the Tamil leadership, the youth militants distrustful of both the Tamil leadership and the Sinhala governments had already started operating as an underground movement. With Tamil militancy the whole political complexion began to change. Armed struggle and confrontation with the state security forces increasingly dominated the situation in the Tamil areas. Of the many militant groups that operated in the 1970s and early 1980s, eventually, one group emerged us the major force, i.e. the Liberation Tigers of Tamil Eelam (LTTE), which has since led the armed guerilla struggle against the state security forces and the Government.

As the armed struggle intensified in the 1980s, India's role in the ethnic conflict became important. India's intervention resulted in the signing of the Indo-Sri Lanka Accord in 1987. Indian intervention and the Accord proved a disaster both politically and militarily. With the withdrawal of the Indian forces, the LTTE and the Premadasa Government reached a 'truce'. But fighting resumed between the LTTE and the military forces and the ethnic war intensified. In the ten or more years of the armed struggle the LTTE has proved to be the most committed and formidable guerilla organisation.

Conceptualising, in political terms, the LTTE's liberation struggle has evolved around (i) a Tamil nationalist ideology (ii) Tamil Eelam (iii) Tamil nation-hood (iv) Tamil homeland and (v) Self-determination. In this context the concept of a unitary polity, needless to add, stands totally rejected.

Though the LTTE represents a new and militant leadership there is some continuity with regard to the LTTE's basic perceptions and political objectives with the previous phase of the Tamil struggle.

In this address, Ladies and Gentlemen, I have covered much ground and ranged over a number of important political events and issues pertaining to the main theme of a divided polity. It is time for us to conclude. Tarzie Vittachi (1958) Sri Lanka's foremost journalist in his book on the 1958 race riots- Emergency '58, wrote thus ; "What are we left with? A nation in ruins, some grim lessons which we cannot afford to forget; and a momentous question: Have the Sinhalese and Tamils reached the parting of the ways?" Jeyaratnam Wilson(1988) in his closely argued book, which I have already referred to, by stressing the theme "break-up" appears to provide the answer to this question raised three decades earlier.

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Section B — Applied Science and Technology

Presidential Address

DEVELOPMENT STRATEGY AND TECHNOLOGY FOR DEVELOPING COUNTRIES

Prof. V. Navaratnarajah

Introduction

Extraordinary rapid growth in scientific knowledge in the latter part of the twentieth century coupled with technological innovation and expansion is having a profound influence on our lives. Information technology, which includes the gathering of information via satellites (through sensors, imaging techniques, telephotography), processing and storage (in computers), and transmission (via communication networks) and broadcasting of this information, has since World War II affected our lives and our society more intimately than any other field. The information is reaching our homes through the radio and videoscreen to the extent that it is invading the privacy of our homes besides providing increasing awareness in less developed countries of how the developed world lives, thereby heightening the desire to share their lifestyle and standard of living.

While everybody agrees that it is necessary to use technology for development, there is a lot of confusion as to how this is to be achieved. The index of development as perceived by international lending agencies such as the World Bank, International Monetary Fund and the Asian Development Bank is the Gross National Product (GNP) or more recently the Gross Domestic Product (GDP). Many of the threshold developing countries such as Korea, Taiwan, Hong Kong and Singapore, which have improved their GNP or GDP and have achieved the status of Newly Industrialised Countries (NICs) have been able to improve their lot by adopting a

policy of industrialisation. Hence it is becoming fashionable to think that in order to improve the lot of the people in a developing country, it is necessary for it to adopt a policy of industrialisation, although the economy of the country may be more agricultural based. Sometimes, one wonders whether these countries are more desirous of becoming NICs themselves so that they feel 'more developed'. It is of interest to note in passing that of the NICs mentioned above, agriculture is not a major economic activity in most and almost all have to import the basic materials required for industries.

Development Through Industrialisation

Countries that have achieved the so-called Newly Industrialised Country status have indeed grown at historically unprecedented rates and the main thrust has been by adopting the industrial methods of the developed world. This is only a success story with few countries whereas there are many that have adopted such policies and ended up with more poverty, malnutrition and unemployment. Countries which wish to industrialise but do not have the necessary finance are forced to obtain loans from international lending agencies which expect the loans to be returned in a specified period of time. Having obtained the loan, the developing country has to pay for the new technology and the related machinery that has to be brought in from developed countries, and continuously pay for the spares and maintenance of such machinery in world currency. Various other conditions are also attached to the import of such foreign technology much to the detriment of the receiving country. There is very little transfer of technology (although a lot of noise and show is made about it!) as the level of technology is very high and the trained manpower in the developing country may not be of a level capable of receiving the level of technology. It is due to some of these reasons that one sees grave-yards of unusable machinery rusting in many developing countries.

The products that were manufactured are marketed in the international market in competition with those produced by other developed countries. Even the competition is not an equitable one, since many developed countries adopt a closed market policy of quotas and increased taxes on products manufactured in developing countries. This results sometimes in the inability of the developing country, under foreign debt to the international lending agencies, to meet their obligations towards their loan payments and being forced to get into more debt. Some countries try to sell their natural resource materials (such as tropical woods) at great cost to their well-being in order to meet debt payments for which they are blamed as being responsible for creating environmental problems to the world. It was only recently, in reply to criticism levelled at Malaysia for felling of tropical forest and exporting them to Europe, that the Malaysian Prime Minister countered by drawing the attention of the world community to the fact that "the rich fifth of the world produces four-fifths of the greenhouse gases" and complained of the "undue focus on the tropical forest" (Anonymous 1992). It would seem that the developing countries sometimes find it difficult even to recoup the investment made at great cost and from money borrowed at interest to pay for the high level of technology required for industrialisation.

Besides the cost of investment in technology and the related equipment and machinery, industrialisation also involves cost of other investments. More power would be required and the country would be forced to develop its power supply to a level sufficient for the requirements of the industries, be they hydro-power or fossil fuel operated power generating systems. The latter would create further problems of importing the fossil fuels at great expense of the foreign exchange which is usually earned by marketing the meagre natural resources of the country, sometimes even at very low world market prices controlled and manipulated by cartels of developed countries.

Developing countries are sometimes offered industrialisation by multinational firms on the pretext of using the cheap labour market prevailing in these countries, but this leads to various other problems for these countries. Since industrial estates are built where electrical power is available, there is usually a migration of labour from agricultural rural areas to urban areas, where power is available, in search of 'soft' jobs and attracted by better recreational and entertainment facilities that exist in urban areas. This causes increased density of population in the urban areas with their attendant health and social problems as a result of increased pressure on the existing amenities. A more unfortunate result is the shortage of labour in the agricultural sector on which the developing countries had continued to survive before industrialisation. The shortage of labour in the agricultural sector is then countered by encouraging mechanised farming methods and equipment for which the farmer has to spend most of his earnings and the country a major share of its foreign exchange.

A detrimental fall-out of high level technology and industrialisation that has not been mentioned is the effect of such industrialisation on the environmental and health aspects of the developing country. Industries established in these countries produce waste products; the gaseous ones are sent into the atmosphere polluting the clean air and the poisonous NO_x and SO_2 gases have caused the precipitation of 'acid rain' which has been a decisive factor in the death of forests and overacidification of the soil. The liquid toxic wastes are pumped into the sea and rivers where the fisheries and marine eco-system are destroyed besides polluting the surface water and groundwater reserves with the heavy metals from the industrial effluents. The population of several developing countries is heavily dependent on fish supplies and therefore the prevention of pollution of waterways and improvemnnt of the stocks of fish and fishing rank as important tasks of development policies. The progressive

jeopardization of water quality has increased the spreading of diseases through the mediun of water.

An example of a damage that an accident at an industrial plant can cause locally, is the explosion at the Bopal chemical plant in India which resulted in the death of 2000 and injuries due to the poisonous gases to 200,000 or more people (Bruntland Report 1987). On a global scale, the accident at the Chernobyl nuclear works, besides causing the death of thousands and possible slow death of many more thousands due to the exposure to nuclear dust, caused serious damage to the environment in the European countries. Even today all the effects are not known as the radioactive cloud of emissions are said to have orbited the globe six times. (Hans Jurgen 1991) Data available at the beginning of the 80's show that, compared to the early 70's, the CO_2 concentration in the atmosphere has increased considerably and as a consequence, global temperature increase - the green-house effect - cannot be precluded. Simmonis (1934) asserts that "the developing countries are the cause of the problem in that their energy structure and their industrialisation efforts give rise to a substantial effect in the increase of CO_2, and accordingly a further significant increase in CO_2 concentration must be reckoned with". However this assertion is not true. Simonis and Weizacker (1990) have shown that "more than 90 percent of global carbondioxide emissions related to the use of energy and other human activities are released by the combustion of fossil fuels (about 20 billion tonnes of CO_2) in the Northern Hemisphere. So_2 the industrialised nations are clearly the main contributors to the green-house effect".

One must not be tempted to industrialise and thereby accept implicitly the world view, value systems, social goals and lifestyle of mass consumerism that is foreign to society's traditional orientation. This causes a dilemma to developing countries. If the great majority of the people living in these countries - at present between 75% and 80% of the world

population - were to succeed in copying the "hard" industriali -sation course taken by the industrialised countries, this would mean the immediate and irreversible ecological end of mankind. However, almost all developing countries seem to want to take precisely this course!

Development Strategy for Developing Countries

The perception of development is unfortunately linked with the condition of material poverty. The inequality in living conditions, the economc exploitation and cultural alienation are considered a result of this condition of material poverty. Hence, in order to satisty the basic needs of people and abolish absolute poverty and increase social parti ipation in an atmosphere of cultural identity, the model that has been presented is that of quantitatiative economic growth (such as growth in GNP) and rapid industrialisation. It was assumed that the benefits of economic growth would automatically spread to the poor regions and population growths, by the so-called "trickle-down" effect.

In the desire for improved lifestyle and standard of living, developing cuntries have to search for a proper strategy in order to achieve their goals. The development strategy of developing countries cannot be the same as that of developed countries because models developed in one historical concept under specific sociocultural conditions cannot be transferred to other societies without creating problems and considerable social costs. Braun suggests "that not only that these models from developed countries generally failed to alleviate the most pressing problems of the Third World, but these models seem to engender specific social and economic ills" (Braun 1990). In short, the hoped for 'trickle-down' effect of economic growth has proved illusory. The World Bank draws the following conclusion in its most recent report: "Many developing countries have not merely failed to to keep pace with the industrialised countries; they have seen their incomes fall in absolute terms" (Word Bank 1990).

When one thinks of development, there is a need to appraise the possibility and desirability of developing countries using science and technology, particularly highly sophisticated advanced technology to reach the level of attainment promised by these technologies, without having the necessary background to use and adopt the particular technology. It must not be forgotten that in doing so, developing countries are trying to 'leap frog' the socio-economic stages through which the highly industrialised countries passed in attaining their level of development. If such technologies are used in conjunction with economic and social policies of third world countries to bring about development styles which are imitative of those of highly industrialised countries, then we would be falling into a dangerous trap inspite of the powerful technologies adopted. However, it should not be impossible for developing countries to be able to find technological solutions to their problems in their unique societal scenario, perhaps different from that adopted in developed countries. Besides the disharmony of high level of industrialisation with social background, there are the other draw-backs discussed earlier.

There is therefore the necessity to re-think the priorities of developing countries and choose a strategy for its development in consonance with its level of technology and the capacity to absorb new types of technology. The strategy that would be appropriate must help productivity and improve the quality of life of the people and use technology that is within the reach of these countries and which could be adapted to the needs of the people without too much cost to them. The NIC model of development is based on an ever-increasing rate of personal consumption of resources and goods, paper profits, stock market gains, paper money and big bank accounts. The appropriate strategy of developing countries, however, encourages less consumption and increases conservation with development measured in terms of tangible benefits to the total environment and improvement in the quality of life. The policies should be framed so that the total environment consisting of water, air and all the elements including the cultural values are not damaged.

It is therefore important that when strategies are drawn, besides the input of science and technology, there should be inputs that focus on human as well as natural dimensions of the problem. It must encompass research on human interactions with physical and ecological processes. Included in this are such activities as deforestation (for purposes of settlement), depletion of ground water reserves (by excess extraction), destruction of agricultural land (by depleting the nitrogen content of soils) and the erosion of top soil. Attention should also be paid to such topics as the economic, technological, cultural and public policy influences on energy consumption patterns, the impact of social structure and labour markets on the location and use of industrial technologies, including the relationships of these technologies to the ecological effects. The strategy should ensure minimum living standards for all people, urban and rural, generate enough productive employment and minimum social amenities even in rural areas so that the vast majority of people living in these areas will remain on the land attracted by the implementation of suitable patterns of land use and human settlement. An integral approach to both rural and urban development encompassing biological, social, economic and cultural well-being and dignity of the whole populace should be planned.

Having identified the basic requirements of an appropriate strategy, it behoves us to ask what is preventing developing countries from adopting such a benevolent strategy. The main problem seems to be the lack of necessary funds and the need to obtain loans from international agencies to finance their development. International agencies have a tendency to dictate their terms for providing the loan, such as the necessity to restructure the economic policies including the development policies. The countries which may have planned certain policies in view of their societal necessities and immediate needs of the larger portion of their population find themselves in a bind and a dilemma. Most of them eventually succumb to the demands of the lending agencies for reasons of political expediency and survival rather than the long term needs of development

Till recently, lending agencies, which are backed by the developed countries of the world and most of whom adopt a capitalist economic style, were more keen to help developing countries in order to steer them away from turning to the socialist camp for help, as they needed their support in the international fourm. However, even this element has now disappeared with the difficulties in the socialist camp and the break-up of the Soviet Republic. An interesting example of a country which endeavoured to conduct its affairs so as to meet the needs of its people was Zambia inspired by the leadership of Kaunda. Inspite of this land-locked country facing difficulties in transporting its resources to the outside world and the drop in world prices of its main resource, namely copper, Kaunda steered his country in the socialist path, albeit with a one-party rule. Even a railway was built with Chinese help to connect the country with a port on the eastern sea-board to export its products. However, problems in neighbouring countries exacerbated the problems of Zambia and the country had to eventually turn to the lending agencies for help who demanded that the government dismantle some of its subsidies to the people. The result was street rioting and the fall of the Kaunda government. Another country facing financial problems to carry out its programmes is India, our neighbour. India being a large country can be proud of its achievements to-date, but its financial problems have forced it to tailor its structural changes to the dictates of IMF and World Bank. It is pertinent to state here that the difficulties faced by many of the developing countries are not primarily due to lack of a proper development strategy. One of the main problems is the increase in population negating the increased productivity of the development policies of these countries. The Indian Government under Indira Gandhi recognised this problem and incentives offered by the government for sterilisation and the negative reaction to that policy which caused the fall of Indira government is part of history. On the other hand, one of the reasons why Singapore was able to improve its GNP was its policy of restricting its population growth, which at one stage reached a negative growth. China

is aware of its problem and population growth is restricted in China today. Hence, when one is formulating development strategies, cognisance must be taken of the various other factors that would affect the net result of such policies.

Technology Relevant to Developing Countries

Summarising the earlier discussion, it is clear that we need an alternative pattern of development which would ensure a minimum living standard for all our people. The approach should be integral to both urban and rural areas so as to discourage movement of rural people to urban areas in search of employment and better quality of life. The resources which are renewable in principle, such as agricultural land, lakes, rivers, seas and forests and the species living in them must not be overtaxed or destroyed. Maximum sustainable yields have to be determined and adhered to. In this respect the idea of 'sustainable development' has been promoted by the Brundtland Report (1987), but it is not clear yet how this can be achieved in practice.

A country must choose appropriate products and technologies to ensure their supply. Supplies may be obtained by means of an indigenous design and development effort or by purchase from abroad, followed by adaptation and modification to suit local conditions. In defining a role for science and technology in India, Parthasarathy (1990) states that "the harmonization of social, economic and ecological objectives can be achieved by a careful redifinition of goal (the demand side) and means (the supply side). Technology weighs in on both sides through the technology of appropriate production processes".

The adaptation of technology can play its part in various forms such as food grain production in dryland farms, energy alternatives and modifications to machinery and plant required in the development process, including in the production and supply of replacement parts of local manufacture to suit the development machinery which may

have been imported in the first place. Technology may also be transferred by participating in co-operative projects with developed countries which are able to offer high level technology.

Foodgrain from dryland farms: Rainfed lands depend on the yearly rainfall. However, a major research and development extension programme on agronomic practices for dry and rainfed lands in India has established that 'life-saving irrigation' in the form of a single light dose of water can increase land productivity of sizable amounts. A five centimeter dose of irrigation has been shown to increase the yield of Jowar variety of rice by about 70 percent per hectare (Dawan 1988). Another important technical advance is the development by the National Chemical Laboratory (Pune, India) of the polymer **Jalshakti,** which when dispersed in granulated form over rainfed crop lands, is able to reduce water losses from the soil by as much as 30-40 percent over a season (Parthasarathy, 1990). These two approaches show that innovative technology can be used to overcome problems which are usually tackled with capital intensive practices such as sprinkler irrigation or using polythene sheets to cover large areas of agricultural land as in the United States.

The recent advance with the greatest impact on furrow irrigation is the method of surge irrigation (Anonymous 1989). This is the intermittent application of water to alternating blocks of furrows. It reduces the infiltration rate on most soils so that water advances in the field more quickly and less water is required to wet the furrows along their entire length. It is found that surging wets two sets of furrows with about the same volume of water and in about the same time as would be required for one set of furrows using continuous streams.

"Genetic engineering" enables selected bacterial species to be altered to produce new biofertilizers, biocides (replacing chemical insecticides thereby avoiding their attendant ground water pollution), or extra high-productivity plants. Biotechnology is being increasingly used to develop strains of grains

that can grow on dry lands with minimum irrigation by conserving the very low moisture in dryland soils.

Plant biotechnology can transfer the ability to fix atmospheric nitrogen to the naturally occurring bacteria in the stem and leaves of wild species of rice (Sampath 1988). If this could be achieved, the large investment in chemical fertilizers and insecticides currently required to provide nitrogen for conventional high yielding varieties of rice could be saved.

Energy options: Highly industrialised countries turn to capital intensive methods of energy production from fossil-fuels or nuclear energy. Developing countries cannot afford these and must turn to other renewable sources. These are identified as solar, wind or geothermal energies or energy derived from bio-mass based systems.

Photovoltaic (PV) systems are proving to be cost-effective for an increasing number of applications as their prices drop and conventional energy prices rise. These convert sunlight directly to electricity and offer an energy source that is versatile, non-polluting and maintenance free. A PV pumping system is an economical proposition for small irrigation systems or drinking water requirements. A PV output is connected directly to the pump and well water can be pumped into a storage tank or applied direct to the field. Such systems can also be used on pressure-dependant systems such as in drip-irrigation.

Wind energy could be used for lifting water in the agricultural sector and also for generation of electricity through grid-connected wind farms. A favourable situation that exists in our dry zone in Sri Lanka which receives only three months of reliable rain (October, November, December) is that the windy period coincides with the rainless period. Experience has shown that the wind-pump developed by the Water Resources Board can lift irrigate between 0.6 - 0.8 hectars of highland crops during the windy period from May to October.

Waste by-products can also be used economically for producing energy. For example, the Malaysian Paddy Board uses the combustion of agricultural waste (rice husk) as energy for its parboil rice mills or industries needing large amounts of heat and steam (Anonymous 1989). One ton of rice husk replaces over 300 litres of fuel oil, furnishing heat to dry 15.6 tons of paddy rice.

Several technologies use biomass as the main fuel for generating electricity, but biogas production from animal waste is being produced on a large scale in China and on a more modest scale in India. Biogas which is a mix of combustible gases contains 55 to 65 percent methane and is usually produced in a digester made of steel or concrete, with the fermenting material at the bottom and the generated gas in the upper portion. Gas may be withdrawn from the top under pressure and used for producing electricity or for cooking and other purposes. One attractive feature of this form of energy is that it could form part of an integrated system consisting of farming and pasture-land (fodder for cattle), cattle rearing and manufacturing processes producing processed milk and other milk products, both for local consumption, with the benefit of improved health and for export.

Co-operation in technology: Although high technology developed in industrial countries may not be appropriate to other cultures, a certain amount of transfer of technology through cooperation with such countries is fruitful. It is very important to identify suitable partners in this cooperative venture and state the expectations and interests of both sides. Examples of such cooperation can be the utilisation of space technology, renewable sources of energy and environmental protection technology.

Satellite communication and remote sensing at first glance may appear beyond the capacity of developing countries. Sufficient data for the planning and development of an area can only be gathered by satellite technology.

This is true of the planning of traffic infrastructure, the exploration of raw materials and water resources, and the improved use of land, forest and water resources. For example, cooperation by the German Aerospace Research and Testing Institutes, DFVLR, with India has been concerned with meteorology, land and forestry services, water resources and environmental protection, while that with Indonesia has centred on the mapping of land use for settlement projects and the survey of the extent and effects of urban densification (Schmidt - Kuntzel 1985).

In Citius, a village near Djakarta in Indonesia, a desalination plant for the purification of drinking water from brackish water, using photo-voltaic mini-power station was successfully operated with German technical cooperation. Electricity was produced in Picon, Indonesia, by a wood-fired generator which enabled all the rice fields around the village to be irrigated. This was again a cooperative technical venture between Indonesia and Germany (Schmidt–Kuntzel 1985).

The adaptation to local conditions, the simplification of technology with the aim of making it more robust and more reliable and making its operation, maintenance and repair easier are essential aspects in the field of scientific technological cooperation. This can only be achieved by adopting simple technological processes which have been adapted to local circumstances and can be manufactured without outside help and with local materials. An example is the case of wood-fired stoves made of clay, bricks or tin. In such cases, the industrialised country needs to give only advice and limited financial assistance.

Endogenous Technology Development

While local material resources are exploited with imported and adaptive technology, it is equally important that endogenous technology should be developed to meet the needs of development. Research scientists and technologists in developing countries have been trained mostly in industrialised countries and have become familiar with the advanced technology and the related scientific equipment. Consequently, they are quick to import the technology and

the equipment that they used during their training rather than develop endogenous technology and more appropriate equipment that could be produced locally.

Hence, the biggest obstacle to development of endogenous technology is the attitude of such staff to work in an area which might appear to be intellectually and professionally inferior and therefore less satisfactory. In order to encourage their participation, it would be necessary to convince them that such work would be suitably rewarded through promotional procedures in their working environment or financial gains through patent rights!

It is also necessary to create an awareness among staff of the schools of engineering of the importance of endogenous technology developments, by organising regional meetings to focus on the subject, with the help of outside organisations such as the UNESCO, Commonwealth Secretariat, Intermediate Science Foundation, Appropriate Technology International, Intermediate Technology Development Group and Friedrich - Ebert Foundation (Ntim 1988).

Endogenous technology could also be developed in engineering schools by encouraging the staff to direct and supervise undergraduate student projects in the same area and also offer post-graduate courses in which the findings of such projects can be disseminated. The findings of such research projects can then be brought to the attention of the industry through extension services.

It is observed that schools of engineering in developing countries tend to follow curricula similar to those in industrialised countries. While basic engineering sciences should form the backbone of these curricula, it is necessary that more elements of design and meterial and production technology be incorporated so that students are trained to think in terms of innovative designs and the capacity to modify imported designs to suit local technology and available local materials is developed. Engineers and technical manpower trained in this manner would be a boon to the local industries and the community.

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CHANGES IN THE PRACTICE OF PREVENTIVE MEDICINE — WHEN AND WHY?

Prof. C. Sivagnanasundram

Chairman, Section A: Medical Science

One of the proverbs quoted most often by people thinking on health is "Prevention is better than cure", and I believe it has an equivalent in all languages, in some form or other. It is also quoted in circumstances where health is not the issue, to mean that avoiding a problem is better than finding solutions for it, when it has occurred.

I wish to address only the aspect of prevention in health care and during this address, you would realise that I cannot make a sharp dividing line between prevention and cure in the field of health. I will also not be able to stick to Health and Disease most of the time. I will have to deal with other problems faced by the people – social, economic, as they are intimately connected with health and health care.

This audience consists of pure and applied scientists, and scientists in the social and medical sciences. Men of eminence in these sciences all over the world have contributed to changes in the life of the people and development of technology which have changed the concepts of health care from time to time.

"Whatever a mans's craft, he should know the history of its development." This comment made by Maxim Gorky on literature is equally true with health care. My talk deals with the history of development of preventive medicine and the philosophy behind it.

I shall attempt to give a kaleidoscopic picture of the circumstances and variables that led to the changes in preventive health care in Sri Lanka during the last hundred years or so.

The health status, disease patterns, demographic picture, expectations of the people and availability of drugs and technology are some of the major determinants of the type of health care in a country and this is equally true for preventive care and curative care. These would depend on the social, economic, cultural and political environments that influence them.

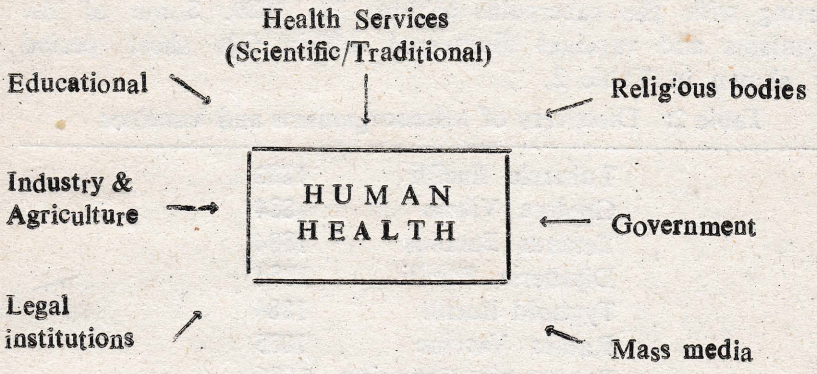

Figure 1. Social institutions influencing health

(adopted from WHO (1974) TRS 558)

The health care concept and delivery over the years lend itself to be divided into broad periods, which of course merge one in to the other (Table 1.)

Table 1: Periods of Health Care

1880 — 1900	Control of Epidemics	– Quarantine
1901 — 1920	Control of Epidemics	– Sanitation
1921 — 1940	Sanitation Personal Health	} Public Health
1941 — 1960	Demographic Changes	– Social Medicine
1961 — 1980	Community Medicine Primary Health Care	
1981 — 1991	Primary Health Care	

1880—1900 Control of Epidemics: Quarantine

In Sri Lanka the most dreaded diseases at this time were small pox, cholera and plague. The other prevalent diseases were malaria, tuberculosis, leprosy, dysentery, ancylostomiasis, parangi, elephantiasis and sprue.

This was the bacteriological era in the West when the causative organisms of infectious diseases were discovered starting with the tuberculus bacillus in 1880. Some of the organisms and vaccines discovered within this short period are shown in Table 2.

Table 2: Discovery of Microorganisms and Vaccines

Tubercle Bacilli	1882
Cholera Vibrio	1884
Tetanus Bacillus	1884
Diptheria Bacilli	1884
Typhoid Bacilli	1884
Rabies Vaccine	1885
Pneumonia Organism	1886
Diphtheria Antitoxin	1890
Plague Bacilli	1894
Dysentery Bacilli	1898
Typhoid Vaccine	1898
Dysentery Bacilli	1898
Diphtheria Toxoid	1904
Syphilis Spirochaete	1905

These discoveries had their impact in all countries and Sri Lanka was not an exception. Having known that these highly infectious diseases were caused by specific organisms the theme of preventive care was *control of epidemics.*

Segregation of patients with major diseases was considered a priority and the main Public Health ordinances were passed during this time. These were the Contagious Disease Ordinance in 1886 and Quarantine and Prevention of Disease Ordinance of 1897. The latter was a special

regulation for the segregation of cases and contacts of the major infectious diseases - cholera, plague and small pox. Vital registration was gaining importance with compulsory registration of deaths from 1897.

1901—1920: Control of Epidemics; Sanitation

The Sri Lankan Health Service continued to be preoccupied with small pox and cholera, although the incidence was much less. Having established a quarantine camp at Mandapam, South India, as a measure to prevent importation of these diseases by the labourers who started coming to work in the plantations, attention was diverted to malaria. This was the beginning of the scientific study of malaria. It may be noted that the parasite was discovered by Ronald Ross only in 1895. In 1911 an attempt was made to control malaria. So it was the time for thinking of prevention based on sanitation, so that mosquitoes could be destroyed in the larval stages, and in 1913 a sanitary branch of the Civil Medical Department was formed under the *Sanitary Commissioner*, the forerunner to the present Director General of Health Services. Sanitary officers, who were later called Medical Officers of Health, were appointed to the sanitary branch. They were in charge of districts and their work was to control infectious diseases and epidemics, and to supervise bazaar sanitation and sanitation of estate, rural and urban areas. They were helped by sanitary inspectors (forerunners of the present PHI, who were appointed in 1914).

Government Sessional paper 4 of 1914 said that, "Sanitation was worse in Jaffna. In 1914, when Jaffna had only a Local Board, and no Municipal Council, disposal of sewage was left to the inhabitants themselves, who according to their means, utilised cesspits, buckets or fenced pits in a part of the compound". Infact this is true today in most parts of Jaffna.

With the control of the major quarantinable diseases the problem of worm infestations came to the surface and

attracted attention. In 1916 a campaign against hook worm and round worm was inaugurated through the co-operation of the International Health Board of the Rockerfeller Foundation.

Many children were found to be suffering from hook worm and the consequent anaemia, and attendance in schools was poor due to this. So that in 1919 school medical inspections were started with a School Medical Ofiicer in Colombo.

This era was in general an unhealthy period, when death rates fluctuated around 30 per 1000 population and this was one of the higest rates in the world. The Infant Mortality Rate was around 180, and the expectation of life at birth was about 50, and therefore many people did not experience old age.

Even in the international field this era was concerned with Public Hygiene. A body known as the L' Office Internationale d' Hygiene Publique was established in 1909 with an office in Paris to advise on Public Hygiene.

1921—1940: Public Health

Small pox, cholera and plague ceased to be major health problems in the country. Plague was completely eradicated in 1889. With the control of these frightening diseases, it was possible for the country's health administration to think in terms of Personal Health of the more vulnerable groups - the pregnant mothers and children. In 1921 the first antenatal clinic was started at De Soysa Lying-in home of Colombo. It should be noted that it was only 20 years earlier that William Balantine, a great Edinburgh Obstetrician, first recognized the public health and social aspect of pregnancy and made it known in his book" Antenatal Pathology and Hygiene". It was during the period 1914-15 that the National League of Health in England established six experimental ante-natal clinics in the neighbourhood of Royal Free Hospital, London.

Nineteen twenty six was a landmark in the history of public and personal health in Sri Lanka. It was the year when the first pioneer Health Unit was established at Kalutara and the training of Public Health personnel was started. This was entirely due to the energy and vision of the pioneer in public health in this country Dr. S. F. Chellappah whose book the "Health Unit Guide" written in joint authorship with Dr. W. P. Jackocks, a sanitarian of international repute, served as a guide to organisers and workers in public health for several years and is still used as a reference book.

The Health Unit was designated to undertake the health work of a community of 40,000 population and dealt with sanitation, control of communicable diseases, individual hygiene, maternal and child health and school medical inspection.

In 1928 the first Child Welfare clinic was set up together with the inaguration of domicilliary midwifery.

In 1939 the Nurses Training School was opened in Colombo.

In the meantime Malaria continued to be an important cause of illness and in 1934/35 it killed 80,000 people in an epidemic which had been documented and quoted by malariologists all over the world. This epidemic ushered a systematic and rapid organization of the Health Services. The Head of the Health Services, whose designation has changed to Director of Medical and Sanitary Services (DMSS), described the 1935-40 period as years when unprecedented expansion of the Health Services took place.

In 1940 three departmental committees were formed in connection with the control of TB, Leprosy and VD. Here we witness a specialised form of public health endeavour.

As regards death rates except for the dreadful malaria epidemic of 1935, the rates fell during the period, and between 1931 and 1946, the death rate was about 21 per 1000 population.

Politically the Donoughmore Constitution of 1931 gave broad importance to social welfare and it manifested itself in two conspicuous directions – education and Health.

The Donoughmore constitution also remarked on the backward characteristic of the social and industrial legislation in Ceylon which had no provision for relieving destitution, no workman's compensation and only the most elementary factory regulation.

Since 1931 the concept of social security was discussed and some were adopted. The provision of poor relief is an illustration ending in a poor law ordinance of 1939.

The Maternity Benefits Ordinance of the same year provided that no woman worker shall be employed for four months following confinement.

In 1936 the State Council began to make provision for a free mid-day meal for necessitous school children.

1941—1960: Demographic Changes and Social Medicine

The demographic happenings during this period have been discribed as a revolution. It was a period when there was a dramatic decline in the death rates, while the birth rates remained high. Health care also saw a revolution with the introduction of DDT in the field of prevention in 1945 and antibiotics in curative therapy. A progressive step in social development was the introduction of free education in 1948, and politically the country gained independence in 1948. A notable development in international health was the inauguration of the WHO in the same year.

During a presidential address in the social sciences section of the Ceylon Association for Advancement of Science in 1970, Selvaratnam, a well known demographer remarked that in Sri Lanka, during the past two decades, no socio-economic problem has been more important than that of population growth, and

that this was the greatest single obstacle to economic development, social progress and improvement in the standards of living of the people.

The average annual growth rates ot the population between 1946—1963 was 2.8, which is double the rate of growth during the period 1871 to 1946. As a result of this, whereas it took 75 years for the population to increase by about 4 million earlier, after 1946 it took only 17 years to increase by the same number.

The very high rate of population growth since 1946 was due to the rapidly falling death rates, whereas the birth rates remained static at a high rate of around 38 per thousand population.

As was stated earlier, at the beginning of this century the crude death rate of Sri Lanka was about 30 per thousand population, which was one of the highest rates in the world. By 1946 the CDR had fallen to 20.3 and in one year it fell to 14.3, a 30 percent decline. This phenomenon is said to be 'unparalled in the annals of demography'. The death rate of the country continued to decline slowly and steadily and in 1963 it was 8.5 per 1000 population, one of the lowest mortality rates in the world. Today the rate is 6 per 1000 population.

The spectacular decline in the death rate during the 1946-47 period has been said to be the result of island wide DDT spraying which was started as a malaria control campaign in 1945. However the continued fall in the death rates cannot be attributed to a single factor, namely control of malaria. Social scientists would remember the controversy that prevailed on this issue during 1960s. Medical men like Collumbine, Professor of Physiology, Abhayaratne, Professor of Public Health, Karunaratne, Director of Health Services favoured the view point that malaria control was the chief cause or contributed to a remarkable extent to the fall in all death rates-crude death rates, infant mortality rates and age specific death rates. But social scientists, using more elaborate statistical reasoning were of the opinion that

malaria control was not the sole or major factor in the post-war decline of mortality in Sri Lanka. Newman, for example, attributed not more than 42 percent of the fall in the CDR to malaria control. Meegama was of opinion that improvement in environment, nutritional levels of the people and provision of medical services were important factors for this decline. He said that even a good control of malaria involves improvement in the socio-economic and health services, including para-medical services.

This period saw the introduction of antibiotics to this country. Sulphas were introduced in 1944, Penicillin in 1945 and Chloramphenicol, the drug for Typhoid, in 1947. BCG Vaccination against Tuberculosis was introduced in 1949. The antibiotics contributed to the fall in death rates and the increase in the rate of population, which rose to about 3% per year. This led to revival of thinking on control of population with a new outlook and name. In October 1932, when the Women's Political Union, at the suggestion Dr. Mary Rutnam, urged the Ceylon Medical Council to include birth control and eugenics in the curriculum of the Ceylon Medical College, the idea had to be dropped because of opposition. At a time of epidemics and fear of population extinction one could imagine that the term birth control would have been an anathema. But after the demographic revolution of mid-1940s, the problem was population explosion and with the introduction of the term Family Planning and not birth control, the concept was more acceptable. This led to the organisation of the Family Planning Association (FPA) in January 1953, as a voluntary body. During this year, as a third year medical student, I listened to a heated debate on the subject of Family Planning at our medical school. The two speakers at the debate were both my teachers, one was Professor C. C. de Silva, the well known Professor of Paediatrics, the other was Rev. Fr. Justin Perera who taught me English at St. Joseph's College, Colombo. I need not tell this audience who proposed family planning and who opposed it. At the end of the debate many of my colleagues and I were at a quandary as to what

decision to make. Prof. Silva produced figures on child morbidity and mortality and spoke on the right of a child to live a healthy life; Rev. Fr. Justin Perera used religious reasons to defend the right of humans to be born in the first instance.

However the new campaign steadily grew and in 1963 i.e. during a period of 10 years, there were clinics all over the country run by Government Medical Officers. Support for the FPA was available from International Organisations, the chief of which was the International Planned Parenthood Federation (IPPF). The issue of Family Planning was raised at the WHO, and the delegate who was to do so was the late Rt. Hon S W. R. D. Bandaranayake who as Prime Minister supported the FPA in Sri Lanka. By 1964 the FPA was fully recognized.

In the International field, the inauguration of the WHO in 1948 was a great step towards health. The type of functions of the WHO was financial help, technical information, training and publication. The field of activities of the WHO include P. H. administration, environmental sanitation, epidemiological information, Health statistics, personal health of different groups-control of diseases, nursing, health education, research etc.

The WHO apart from providing and guiding people of the world in many aspects, provided a new definition of health with a positive and holistic approach. The WHO constitution declared that 'Health is a state of complete physical, mental and social well being and not merely the absence of disease or infirmity'. Recently the WHO has also introduced the spiritual component into the state of well being. These were the ideals of health visualised by the renowned ayurvedic physician Charaka, who lived 2500 years ago when he said that "Health is vital realization of the four-fold aims of life, namely the ethical, artistic, material and spiritual development of man" In his words:

"Dharmartha Kama Mokshanam
Arogyam Moolam Uthamam"

In recent times, the concept that health has several components came with the WHO definition, and that for maintenance of health, the country should develop socio-economically. The WHO, assessing collaboration in Health development in Southeast Asia remarked thus in its fortieth anniversary volume:

> "By 1960 the Government (of Sri Lanka) was providing a whole range of welfare services, unequalled in most parts of Asia: education, irrigation projects, land redistribution schemes, health services, subsidized public transportation in the form of cheap bus and rail fares and above all food subsidies. State expenditure on primary and secondary education was one of the highest in Asia constituting an average of a little more than 4 – 5 percent of the GNP between 1959 and 1968. The literacy rate (if the 0–4 age group is excluded) was as high as 85 percent of the population".

As a result of the developments in these inter-related components of socio-economic status, the health status also changed. Changes in concepts regarding the quality of life, life style and value systems produced different expectations and demands regarding health from the people.

On April 9th 1952 the Health Services Act No. 12 of 1952 came into operation. This act was based on the report by Dr. J. H. L. Cumpston, known as the Cumpston Report. The Department of Medical and Sanitary Services was reorganised by this act and it came to be known as the Department of Health, with a Director of Health Services. There were three main divisions in the Department, namely Medical Services, P. H. services and Laboratory services each in charge of a Deputy Director. The division between the medical services i. e. curative services and preventive services went down even to the grass root levels at the periphery and in a way the division was unfortunate. Even today we are unable to get out of this separation between the two components of health care. Although at that time, the concept of Peripheral Units

was introduced as a place for the integration of the curative and preventive services, it did not work in practice. The Peripheral Unit remained a curative institution.

This was the era when Ceylon became Sri Lanka with its independence. Ayurveda was to be given its due place in the Health Care of the people. As a substantial section of the population resorted to ayurvedic treatment, even practitioners of allopathic medicine supported the development of ayurvedic system, but many were conscious of its keeping its identity, philosophy and method. The thinking of most medical men of allopathy is best summarised by the following statement made by Dr. M. C. M. Kaleel in his presidental address before the Ceylon Medical Association in 1956. He spoke thus: Ayurveda has a great future before it, if developed on proper lines. The Ayurvedic Practitioner can render valuable service to the vast majority of people in the country who prefer ayurvedic treatment. But it would be highly dangerous for any section of these people to be allowed to gate-crash into a well organised system which has set itself its own educational standards of ethical conduct. I think it was a Chinese sage who said "when the wrong man uses the right means, the right means works the wrong way".

1961—1980: Community Medicine

During this period, in the beginning malaria control was a great success, but in seven years, the Malaria Eradication Programme in its consolidation phase was a dismal failure bringing forth a major epidemic. Attention of the health service providers and epidemiologists was also drawn towards poliomyelitis and diarrhoeal diseases. Small Pox was eradicated from the world. An expanded Programme of Immunisation (EPI) was started to save the children from the common immunizable diseases. The concept of Primary Health Care and Health for All became catchy slogans in Health Care.

In general, the health status of the country, as seen by the vital rates was impressive for a developing country (Table 3).

Table 3: Sri Lanka : Health Status (Indian figures in brackets)

	1970	1980
CDR	7·5 (18·8)	6·2 (15·1)
IMR	47·5 (140)	34·4 (114)
MMR	1·2 (13·4)	0·6 (4·6)
Life expectancy at birth		
Male	64·2 (47·1)	67·8 (55·1)
Female	67·1 (45·6)	71·7 (54·3)

Adopted from: Fortieth Anniversary Volume of WHO SEARO, 1988 and Sri Lanka Health Bulletin, 1989.

The general morbidity pattern as seen from hospital admissions are :

(a) infections and parastic diseases, of which about 50% are due to intestinal infections,

(b) diseases of the respiratory system, and

(c) injuries and poisoning.

There has also been a steady increase in admissions due to heart disease and cancers attributed to increased life expectancy.

Epidemiology of malaria during this period has many lessons to the administrators of preventive medicine.

The Malaria Control Programme, which started in 1946, became converted to Malaria Eradication Programme (MEP) in 1958. Table 4 shows the number of positive slides by years from 1959 to 1969. The 1959 position represents a quantity achieved in a successful control programme, where the objective is to keep the incidence of disease at a level when it is not a major public health problem.

The success of the control programme was due to residual spraying of DDT and use of modern anti-malarial drugs. The existence of a well distributed health service contributed to this success.

Table 4: Sri Lanka : Number of Malaria Positive Slides

Year	Positive Slides	
1959	1,596	Attack Phase (MEP)
1960	467	
1961	125	
*1962	31	
1962/63	16	Transmission Interrupted
1963/64	29	Consolidation (No spraying)
1964/65	392	Set Back (Spraying in some areas)
1965/66	439	
1966/67	1,314	Local outbreaks
1967/68	310,104	Epidemic
1968/69	522,704	

* January — September 62

An eradication programme however aims at total elimination of the disease. To attain this state, perfection in methodology is an absolute necessity. Sri Lankan strategy lacked this perfection.

Because of the success of the control programme, the MEP in Sri Lanka started off in the attack phase i.e. with spraying. The preparatory phase was missed in the MEP, and hence geographical reconnaissance which is a sine-qua-non for eradication was inadequate. This interfered with both spraying and surveillance. Further, epidemiological information was also inadequate, as there was no epidemiology

unit in the campaign. Entomological monitoring was poor as there was no entomologist in the crucial stages of the programme. In addition there was poor diagnosis and unsatisfactory record keeping in medical institutions. Hence it could be summarised that the major components for the failure of MEP in Sri Lanka were administrative, operational and technical.

The result was that when in 1962/63, there were only 16 positive cases within 4 years there was an epidemic with half a million cases in one year (1967/68).

The country reverted back to a control programme in 1975 and the vector *Anopheles culicifacies* developed resistance to DDT. All malarious areas were put under malathion spraying from 1977. Malaria is now endemic in Sri Lanka.

The failure of the Malaria Eradication Programme in many countries and the success of the global eradication of small pox make interesting studies in comparative epidemiology. the basic discipline of Community Medicine. Small pox, the master killer of the past in the Indian sub continent and African region, was completely eradicated in October 1977 with the last case in Somalia. The eradication of small pox from the earth has been described as one of the crowning achievements of modern international public health. This achievement was due to a combination of many factors which include clear objectives, definite strategy, sound management principles, and the will of the international community to co-operate towards achievement of the goal. In addition the vareola virus, the causative virus of small pox, rendered it eligible for eradication. For example man was its only host, the patient was infectious on an average only for two weeks and there was no carrier state or sub-clinical cases. The disease was easily diognosed because of its rash. But the most important factor was the availability of an effective vaccine to prevent the disease.

Coming back to Malaria, it is clear that none of these advantages were available for malaria eradication and the world hopes to discover a vaccine that could help in the fight against the disease.

Vaccination against diseases form the vanguard of the programmes against communicable diseases in modern practice of Community Medicine. If there is an effective vaccine, one is confident in the fight against a particular organism. Based on this the WHO embarked on a programme which is well known as the EPI - the Extended Programme of Immunization in 1974. This was given high priority in 1982 by the World Health Assembly. In Sri Lanka the EPI was started in 1978 and accelerated in 1985. The diseases that are prevented by this programme are, the six childhood diseases – poliomyelitis, diphtheria, whooping cough, tetanus, tuberculosis and measles. These killed children in the past. Since the inauguration of the EPI, these diseases are on the decline. The WHO has planned to eradicate one of these diseases, namely poliomylitis, by the year 2000 AD.

The diseases that are a problem now – diarrhoeas, acute respiratory infections, malnutrition, cardio-vascular diseases, malignancies and mental diseases have no vaccine. We have to clear our environment, produce sufficient food, change our life style, look after the vulnerable and handicapped members in our society. This has to be done at the grass root level and by the people themselves. This thought coming from several countries led to a famous prononcement by the world community at Alma Ata in Russia in 1978. It is known as the "Alma-Ata Declaration" and it makes Primary Health Care (PHC) the key approach for achieving the goal for "Health For All by the year 2000!"

PHC is essential health care based on practical, scientifically sound and socially acceptable methods and technology, made universally acceptable to individuals and families in a community through their full participation and at a cost

that the community and country can afford to maintain at every stage of their development and self determination. In the PHC programme, greater emphasis is given to decentralization of the health administration and to community participation. It encompasses all the PH activities and the global programmes of the WHO, like the EPI and Control of Diarrhoeal Diseases at the district, sub-district and village levels.

The plan, as most Sri Lankan plans are, is an excellent one. For its success Sri Lanka needs persons dedicated to serve at least for their salary, who believe in good and honest keeping of records and are politically are mature.

During this period, in 1971 Sri Lanka was subject to unrest led by the Jathika Vimukthi Peramuna (JVP), dominated by unemployed educated youth. Sri Lankan politics was also responsible for a large outbreak of communal violence, one in the series from 1956, when a large group of Tamil refugees moved from the Sinhala areas to Tamil areas, and later from Tamil areas to India and other countries. The story of health and disease, physical, mental and social, debility and infirmity of the people especially those in North and Eastern parts of the Island will depend on these happenings for some time.

1981 — 1991: Primary Health Care

In 1980, in a historic resolution, the World Health Assembly of the WHO declared "The world and all its people have won freedom from small pox". While the people of the world were jubilant over this, nature threw a challenge in just one year. In 1981 a new communicable disease was diagnosed in the Uuites States. This was AIDS (Acquired Immuno-Deficiency Syndrome). The virus causing this syndrome was discovered in 1983, and was named Human Immunodeficiency Virus (HIV) in 1986. By 1990, an estimated six million people throughout the world have been infected and

a further spread is inevitable. (WHO AIDS Series No. 8, Geneva). When the virus of AIDS enters the body of a person, it introduces its genetic material into the genetic material of the person's difensive cells. The body's immune defense system is destroyed, leaving the person vulnerable and defenseless against infectious diseases and some cancers which normally would not affect the person. HIV infection is presumed to be life long and the infected person is infectious for life.

The socio-economic stress associated with AIDS has become a political and cultural issue. They may distrupt the fundamental value of society and threaten travel and communication between countries.

AIDS, in its capability to cause fear and chaos has humbled small pox. Its acts on a system making a person defenseless even to a common cold. In the art of spreading it has caught man and woman at the weakest moment – its main mode of spread is sex activity. So far there is no vaccine against it and there is no cure. The only method of prevention is controlling sexual activity and the practitioner of Community Medicine is forced to play the role of a priest. That was mother nature throwing a challenge to us, and we may have to seriously consider what Robert Malthus, the famous economist said a century ago. He believed "that wars and disease would have to kill off the extra population, unless people decided to limit the number of children" we may add: to limit the number of sex contacts as well.

Returning to lesser evils and to Sri Lanka, the population continues to live in a challenging environment and the high incidence of infectious diseases, in particular intestinal infections and respiratory deseases. Malnutrition and anaemias add to the morbidity. Traumatic injuries and poisoning and road accidents are on the increase, malaria is still endemic. Due to the increase in life expectancy and ageing population there

is an increasing trend in hypertension, ischaemic heart disease and malignancies. A catagory known as "signs and symptoms and ill defined conditions" still form about 8% of the recorded diseases showing inadequate diagnosis even in hospitals.

In general this is the pattern of diseases in Sri Lanka; it is a hybrid situation between a developing country with its communicable diseases and a developed country with its heart diseases and cancers. These data are derived from hospital admissions. The actual load and pattern in the community can differ. Even from hospital data no serious quantitative analysis could be made, as there is poor notification of communicable diseases, poor diagnosis, poor recording and poor registration of deaths. The Annual Health Bulletin of Sri Lanka analyses and comments on these data, which are questionable. Sri Lankan attitude towards record keeping should improve to standards maintained in developed countries, if the country is to be successful in its programmes. Otherwise the failure of the type in malaria eradication programme will occur in all its activities.

In addition to these diseases, which can be said to be endemic, Sri Lanka has to be aware of its other problems. For example: Drug addiction, self medication, suicides and attempted suicides, ageing population and the possiblity of new diseases being imported by its expartiates – diseases like schistosomiasis and yellow fever.

In 1983 Sri Lanka witnessed another ethnic conflict, when the Tamils once again were transported to Tamil areas for safety. Later the riots became actual war. In 1986 it was the Sri Lankan army that fought in the Tamil areas and in 1987 it was the Indian army.

From then it was a tale of two countries. While the rest of Sri Lanka moved on in its normal way, the North and East of Sri Lanka suffered heavy losses and setbacks.

Buildings (dwelling places, work places, religious places, schools, co-op stores, libraries etc.) were destroyed : civilians, many of whom were bread winners, were killed; people were displaced as refugees; all health programmes and activities were disturbed. Blockade of various descriptions- economic, social, medical was imposed from July 1990. A quantitative assessment of the impact of all these on the health of the people, on its components and physical, mental and social has to be done. Debility, disability and infirmity has to be counted and described. The health situation is one of emergency. For urgent help in matters of disease, drugs, health and life we look forward not so much to the WHO as to the ICRC. Our medical men, many of them brilliant and at one time dedicated, have deserted us, as water birds leave a drying pond. Only some us, like the water weeds in that pond have remained here to do our bit of service, may be because we do not have the wings to fly.

The numbers below shows some of the cadre and avilable presonnel on the preventive side of health care in the Jaffna RDHS division.

	CADRE NUMBER	STAFF AVAILABLE (Dec. 1991)
MOH	08	04
PHI	57	16
PHN	09	01
FHW	357	116

With this situation, the PHC activity in our regions is due for a dismal failure, and as regards the goal of HFA by the year 2000 AD, our 2000 AD has been pushed away for at least 50 years.

Yet, as regards the opportunity for solid re-thinking to build a new North-East, viable socio-economically and healthy, this is our best hour. Our towns have been distroyed, so that we could think of new towns with modern sewerage schemes. Our health care has been distrupted; we could suggest more appropriate health care strategy. We have all been affected without discrimination; it is the time to change our attitude, so that our own socio-economic disparity is removed.

New concepts, according to our needs are necessary not only in the practice of Community Medicine but also in community development in general, and in this dynamic process, knowledge of the history of the past is as important as the ability to plan for the future.

St. Joseph's Catholic Press,
Jaffna. 1993