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HEALTH CARE IN THE PLANTATION SECTOR

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Background

The origin of the plantation sector in Sri Lanka is historically a part of British colonial rule in the country. During this period, three major cash crops namely coffee, tea and rubber were introduced, to support the creation of an export oriented economy from what was mainly a subsistence based economy. A dominant agrarian economy became commercial and capitalist.[1]

In the 1820's coffee plantations first came into being and became well established during the period 1835 to 1880.[2] In the 1880's when coffee was at its height, it was devastated by the leaf fungus *Hemileia vastratrix*. Following the collapse of coffee the cultivation of cinchona was attempted, but finally it was tea that gradually replaced coffee to become the major plantation crop in the country. The end of the 19th century and the beginning of the 20th century, also witnessed the establishment of rubber plantations in the mid and low country areas of the island. In the late 1880's, indigenous planters took to coconut cultivation, which flourished predominantly in the North Western Province.[3]

key requirement for coffee cultivation was the availability of sufficient labour especially during the picking season. Attempts to obtain indigenous Sinhala labour from the surrounding villages was not successful, partly due to the influence of the feudal system, the arduous regimented labour, poor working conditions, unattractive remuneration and the availability of a living from their own lands. The colonial planters then turned to the large reservoir of labour which was available in South India. Thousands of Indian labourers thus began to make an annual trek to the coffee plantations in the Central and Southern regions of the country. These labourers were exploited by planters and their recruiting agents alike and in travelling across the dry zone of Sri Lanka, were subjected to high levels of mortality and morbidity. The main route taken by the Indian migrant labour till the end of the 19th century, was referred to as the 'North Road'. It was the most popular route as it was the cheapest. Landing at Mannar or Talaimannar the immigrants were obliged to walk to Madawachchiya and then along the North Road through Anuradhapura and Dambulla to Matale, a distance of 131 miles. This migrant labour also brought with them deadly communicable diseases particularly cholera, small pox, dysentery and plague. Large numbers died on the way from these diseases and also from starvation, exposure or exhaustion. The sick were either abandoned or admitted to hospitals built along the route, specially for this migrant labour. The districts at the beginning of the route acted as a kind of natural quarantine in protecting the plantation districts. Though the mortality was heavy, the great majority reached the plantations. The "immigrant hospitals" set up to cater primarily for migrant labour, have developed into important institutions in the present medical structure. The influx of migrants continued despite the difficulties faced, due to the appalling economic conditions at that time in South India.[4] In 1899 the North road was finally closed to immigrant traffic and an alternative sea route established from Tuticorin in South India to Colombo. A transit camp (at Ragama) served as a quarantine facility from where the migrant labour was sent by train to the plantation districts. This route though more

costly than the former, was able to minimize the incidence of disease spreading in the country.[2]

The shift from coffee to tea resulted in a significant demographic development. The seasonal movement of immigrant labour that returned annually to India, changed with the growth of tea and rubber plantations. Immigrant labour now tended to settle in estates as a 'permanent' resident labour force. The plantations, which were privately owned, became an enclave in relation to the surrounding rural areas. The people who lived and worked in them became an isolated group. Geographically nearly 500 plantations came to be spread out over the Central, Uva, Sabaragamuwa, Western and Southern provinces, with a major concentration of resident estate population living in the up country or hilly regions of the country. Substandard housing consisting of barrack-type 'line rooms', poor water supply, lack of sanitary facilities, ignorance and illiteracy were major factors that affected the health of this immigrant population.

Health care on the plantations

The provision of health care on plantations or estates as they came to be known, has close links to the historical and political events that surround this sector. Three definite periods can be identified namely: the colonial period and the years that followed up to the mid 1970s, the period of total state ownership and management, and the period of restructuring.[5]

(i) The colonial period and the years that followed up to the mid 1970's.

This period witnessed the development of a basic, curative oriented health service on estates. Initially, with no health system in place individual planters kept stocks of medicine to treat the labour. Later, groups of estates employed a dispenser and at times a doctor. In 1865 the Colonial Governor's concern regarding health on estates was expressed by the enactment of the Master-Servant Law, that made it mandatory for an employer to provide lodging, food and medical care in times of sickness for employed labour.[2]

The colonial Government considered the health of the plantation worker economically important enough to be safeguarded. The first practical intervention came about in 1872 with the enactment of Ordinance No 14. This was mainly a planter managed medical scheme limited in scope, with minimal Government control or supervision and failed to bring about any improvement in health.[2] In 1879 a Commission appointed by the Governor found the estate health system to be inadequate, resulting in the Medical Wants Ordinance No 17 of 1880. Its main provision was for Government to undertake the medical care of estate workers. Under this Ordinance estates were grouped into plantation districts and each district was provided with a district hospital for estate labour, under the care of a District Medical Officer with one or two medical assistants. This nomenclature even exists today though its origin may have been forgotten. The plantation districts did not however conform to the administrative districts.[4] The Ordinance also provided for visits to estates by the medical officer. In addition the Government decided to throw open for the benefit of estate labourers, the Government Civil Hospitals situated in or near the plantation districts.[2]

In spite of these initiatives, the reported death rate in 1893 among immigrant labour admitted to district hospitals, was much higher than the general population. The Hospital Mortality Commission recommended that facilities for treatment should be

made available as near to the work place as possible. This resulted in the Estate Dispensary Scheme manned by medical assistants and dispensers. From 1900 onwards there was a rapid increase in estate dispensaries, which increased from 15 in 1893 to 143 in 1906.[2] Two important legislative enactments namely the Medical Wants Ordinance No.9 of 1912 (with subsequent amendments) and the Diseases (labourers) Ordinance No.12 of the same year, provided for domiciliary health care, institutional health facilities on estates, and the appointment of Inspecting Medical Officers to monitor the health of the labour and report on estate sanitation. A tax rebate was given to those that complied with the Ordinance. While actual implementation left much to be desired, many estates did maintain satisfactory medical facilities. In 1930, the Ceylon Administrative Report of the Director of Medical and Sanitary Services, identified the hardships of pregnant women, the lack of maternity wards and the need for well trained midwives. From 1932 to 1949 the number of midwives on estates increased from 89 to 272.[6]

The overall effect of health legislation did have some influence on mortality, but being mainly curative in approach did not lend itself to achieving long term health benefits. Infant mortality (as an index of community health) continued to remain high. From 1972 to 1975 the infant mortality rates were consistently over 100 per 1000 live births, which was twice the reported national rate.[7]

An account of this period would not be complete without some reference to the effects of hookworm and malaria on the estate population. Hookworm infection was first identified as a major public health problem, when it was found to be exceedingly common among South Indian immigrant plantation labour. In the official Administrative Report Sir Allan Perry had stated that "the disease like many others in the island is brought over from India by the Malabar immigrants, in whom it was almost a natural condition to house a intestinal parasite. The ravages of the disease lies in the sequelae and a very large death rate exists from the profound anaemia which results from the affection".[4] In 1903 Perry again asserted that the disease was been constantly introduced from India by the immigrants and was spreading owing to their careless habits. In 1906 the Planters Association of Ceylon (PA), was urged to take remedial action. This caused a bitter controversy between the powerful planting interests and the health authorities, since the former did not wish to incur any expenditure on estate sanitation and considered hookworm the "lesser evil". After much resistance, the PA in 1915 permitted the Rockefeller Foundation to fund a pilot project on estates for control of hookworm, to be implemented by the Medical Department. This project initially consisted of administering oil of chenopodium in the form of capsules to the estate population. The results were excellent and demonstrated the salutary effects of the project. On realizing the economic value of preventive measures, the PA were willing to extend the deworming programme to cover all estates and install latrines on estates, with training of the labour on how to use them. The Rockefeller Foundation then extended the hookworm campaign to the Sinhala villages.[4]

"Malaria was a seasonally recurring pestilence in the majority of low and mid country estates and for an unfortunate few a more or less permanent scourge".[8] At the request of the Ceylon Association in London, Sir Ronald Ross (who first identified the mosquito as the malaria vector), visited the island in January 1926, and advised the Ceylon Estates Proprietary Association (CEPA) on ways to reduce malaria. On his recommendation a plantation malariologist was appointed, following which statistics of malaria in estates and a system of forecasts and warnings were instituted. The

practical measures relied on were antilarval, (localised oiling including river beds in times of drought), with drug prophylaxis and after treatment. These activities were administered by the CEPA Malaria Control Scheme. The great malaria epidemic of 1934/35 which swept the island was said to have been responsible for the loss of 100,000 lives. During this epidemic, estates that carried out the instructions of the Malaria Control Scheme, suffered appreciably less than the totally unprotected village and urban populations. In 1937 the government launched the Malaria Control and Health Scheme (later known as the Anti-Malaria Campaign -AMC). The CEPA Malaria Control Scheme extended its full support and maintained close coordination with the AMC. As the problem of malaria was brought under control, the CEPA malaria control scheme, extended its advisory services to "matters affecting health, hygiene, nutrition and sanitation in the estates". In 1949 the name was changed to Planters Association Estate Health Scheme (PAEHS), which now also extended its advisory services to the up country estates not affected by malaria.[8]

The events of the mid 1940's had a direct bearing on the estate population. In 1948 Ceylon gained independence from the British. The following year the Citizenship Act of 1949 was enacted, which made those immigrants of Indian decent "stateless". This also meant the loss of adult franchise granted in 1931 to all citizens. Left isolated within the confines of private or foreign owned estates, social change including that of education and health, tended to by pass this group, with social indicators remaining virtually static.

The Sirima Shastri Pact of 1964 was an effort to solve the question of statelessness. Under this pact, of an estimated 975,000 stateless persons, India was to grant citizenship to 525,000 persons (with their natural increase) and likewise Sri Lanka to 300,000 persons. The remaining 150,000 was to be decided at a later stage. Implementation was to be over a 15 year period. A further enactment in 1988, referred to as the "grant of citizenship to stateless persons (special provisions)", provided for those who had not applied for Indian citizenship and were lawfully resident in Sri Lanka to obtain a Certificate of Citizenship or an affidavit (9). These events have had a significant bearing on the future of the immigrant Indian estate population in Sri Lanka.

In summary it could be said that the colonial period and the years that followed upto the mid 1970's, were characterized by very high morbidity and mortality due to bad housing, insanitary and congested living conditions, high levels of illiteracy and limited health care.

(ii) The period of total state ownership and management of estates,

This period followed the implementation of Stage I and Stage II of the Land Reform Law in 1972 and 1975 respectively. Private holdings over a specified acreage and all company owned estates were nationalised and placed under the management of two Government estate agencies, - The Janatha Estates Development Board (JEDB) and the Sri Lanka State Plantations Corporation (SLSPC). For management purposes each agency established a central office in Colombo and offices in the plantation regions (JEDB-7 and SLSPC-8). Following nationalization, the accumulated burden of providing basic services including health became Government responsibility. In anticipation of nationalization, neglect set in on many estates with little or no development taking place. The appalling health situation demanded effective measures to improve standards of health care for this sector of the population, resulting in a wide range of health and welfare interventions, with a major emphasis

on preventive and promotive health, utilizing a primary health care approach. In 1973 the first country agreement between the Government of Sri Lanka and the UNFPA, provided funding for family health (FH) services on estates (10). The need for such intervention was borne out in the report of the Medical Director PAEHS in 1969, which stated that "greater attention needs to be paid to antenatal and child welfare work, health education and family planning".[8] The Family Health Bureau (FHB) of the Ministry of Health was given the responsibility for implementing the Estate Family Health (FH) Services Project, which primarily involved the provision of maternal and child health (MCH) services, family planning and other related activities. A medical officer was appointed to the FHB to plan, coordinate and monitor the execution of this Project (the writer served in this capacity at the FH Bureau). Ten medical officers (estates) with transport facilities and supported by Public Health Nursing Sisters, were appointed to establish a network of 200 estate (MCH) polyclinics that would provide integrated MCH/FP services to meet the needs of the estate population. The programme also served to upgrade the knowledge and skills of estate health staff, so as to enable them to competently deliver these services. Women were given paid leave by the management to attend these polyclinics which were held on a fixed day each month. The medical officers (estate) were under the overall supervision of the FHB, with immediate supervision provided by the respective Regional Directors of Health Services (earlier referred to as Superintendents of Health Services). These medical officers operated out of Health Units (HU) or MOH offices, strategically located in the plantation regions, namely HU Kalutara, Akuressa, Kegalle, Nawalapitiya, Nuwara Eliya, Gampaha, Kandy, Ratnapura, Bandarawela and Badulla. Initially 200 polyclinics were established on estates, which subsequently expanded to 400. This polyclinic initiative and its acceptance by estate management, set the stage for introducing more preventive health programmes/activities on estates.

In 1978 the two estate agencies developed their own social development divisions (SDD's) to be directly responsible for health and welfare activities on estates. In 1980 the Expanded Programme on Immunization (EPI), was introduced to the estate sector, with funding and material support from UNICEF. Under the polyclinic programme, the estates were dependant on vaccines brought by the visiting medical officer (estates) and all estates at that time were not yet served by polyclinics. This warranted an alternative strategy for implementation of the EPI. Five to seven estates were grouped around a 'key estate', which served both as a sub-station for vaccine storage and for supervision, monitoring and reporting of immunization activities within the 'group'. The regional plantation offices functioned as Regional Vaccine Centres, and the managers SDD of the JEDB and SLSPC were responsible for overall programme supervision and management. Technical support and guidance was provided by the FHB. It is to the credit of the estate sector that the EPI achieved a high coverage of age appropriate immunization, maintaining proper cold-chain conditions for vaccines. The impact of the EPI was dramatic as evidenced by the rapid decline in incidence of the six immunizable (EPI) diseases of childhood on estates.

Commencing in 1981 the two estate agencies appointed their own medical staff to take on the role of health managers, at central and regional levels. As the two estate agencies developed their own capabilities to manage health programmes/activities, the medical officers (estates) were gradually withdrawn. The FHB continued to provide technical guidance and monitor health activities on the plantations.

Epidemics of diarrhoea and dysentery were common on estates, especially in the hill country estates with congested living conditions. The mid-1980s witnessed large investments to improve water supply and sanitation through projects funded by donors, the UNICEF and the World Bank. In addition the Control of Diarrhoeal Diseases (CDD) Programme of the Ministry of Health was actively implemented on estates with specific emphasis on oral rehydration therapy (ORT), the use of oral rehydration salts (ORS) and personal hygiene. These efforts resulted in a marked decline in mortality as well as epidemics of diarrhoea in the estate sector.[11,12]

An urgent need existed to minimize hazardous deliveries occurring in dark unhygienic line rooms. The construction of maternity units on estates was encouraged with funding through donors, ADB and the World Bank, in order to promote institutional births. In 1992 the Estate Health Bulletin reported 87.3% institutional births of which 40% were in Government hospitals.[12] Under the Maternity Benefits Ordinance, women are provided with a payment (based on loss of workdays) as financial support for the mother and infant.

Poor maternal nutrition together with anemia and low birth weight have continued to be problems on estates. Routine antihelminthic treatment, iron/folate supplementation, nutrition education, family planning and reduction of energy expenditure in the last trimester are emphasized at clinics and during 'line visits'.

Prior to nationalization family planning awareness, education and services were provided by the Family Planning Association of Sri Lanka (FPASL) on request. The post nationalization period ensured that all family planning methods were accessible to the community, either on the estate itself or through Government facilities. The Demographic and Health Survey (DHS) 1993 observed that estates have a high percentage (45.5%) of non-current family planning users. Estate women also have the highest use of sterilization (44%) for all sectors, with 7% using traditional methods and only 3% using temporary modern contraceptive methods, which is the lowest for all sectors. DHS 93 also observed that the estate sector showed the highest percentage (38.8%) of induced abortion, reiterating the need to improve family planning acceptance, particularly the temporary modern methods.

As with other sectors, child nutrition has been a priority concern. Regular programmes on nutrition education for mothers and in more recent times for adolescent girls have been stressed. DHS 93 revealed that 54 percent of estate children showed signs of chronic malnutrition, which is twice that of rural areas outside the estates. The prevalence of stunting is more when mothers had no education. By sector, estate children have the lowest percentage of wasting, which is to be expected with more stunting among them. The introduction of growth monitoring has done much to improve the understanding of the staff and community alike regarding nutrition, child growth and development. The growth monitoring on estates is usually centred around the crèche. With UNICEF advocacy and support, the crèches on estates are now a far cry from the basic custodial care that prevailed earlier. Crèche attendants have been recruited and trained, with the accent on total development of the child.

In 1978 a new category of health/welfare worker, referred to as the Plantation Family Welfare Supervisor (PFWS) was appointed, after a training of three months, to be a 'link worker' between the management, the health services and the estate community. Most estates have a PFWS to support health and welfare activities.

The availability of health personnel on estates has been and continues to be a problem, both in terms of numbers and their competency. Treatment functions at the estate dispensary are provided by registered/assistant medical officers (RMO/AMO), approved estate dispensers also referred to as estate medical assistants (EMA), pharmacists and apprentice pharmacists. This staff together with estate midwives, have adequately performed the functions expected of them. Due credit must be given to them for effectively implementing and maintaining health programmes/activities on estates, sometimes under very difficult circumstances.

Two attempts were made to train AMOs for employment on estates. In both instances, the trained AMOs using various ploys were able to get themselves absorbed into the Ministry of Health. The training of midwives for estates by the Ministry of Health however, has been satisfactorily implemented and needs to be actively supported and sustained. Much time and effort had also been devoted to in-service training of estate health personnel, by the two estate agencies.

A summary of the major strategies used during this period have been (a) the reorientation of estate management and estate health staff regarding the broad concept of health and the cost effectiveness of preventive and promotive health programmes. (b) strengthening the health infrastructure with appropriate health personnel to meet the health needs at estate level and the provision of physical inputs to health institutions, patient transport, drugs etc. (c) developing a system for effective utilization of health data generated on estates (d) maintaining a close dialogue between the estate sector and the Ministry of Health, particularly regarding the implementation of national health programmes.[5]

Donor assisted programmes have also been undertaken to improve worker housing, provide safe water and better access to sanitation. The magnitude of this problem will necessitate a massive capital investment that would require long term planning and programming.

The impact of the health interventions in the estate sector is clearly reflected by the progressive decline in the infant mortality rate from 104 per 1,000 live births in 1973 to 77.0 in 1980, 49.6 in 1985 and 38.6 in 1990.[6,12] Though still higher than the national average, the relatively short period of time in which this was achieved through selected direct health interventions, has been remarkable.

(iii) The period of restructuring

The tea industry like any other agricultural enterprise is subject to the vagaries of the market and the cost of production. The local tea industry was adversely affected and as a consequence, the two Government estate agencies in 1992 were subjected to a process of restructuring by the Government. The underlying principle was to privatise the management of estates, with the intention of improving efficiency, achieving higher productivity and generating more profits. The main feature was the formation of 23 Government owned Regional Plantation Companies (RPCs) each comprising "groups" of estates, that ranged from 12-29 estates. The operational management of these estates were contracted out by the RPCs to private sector companies. This however did not achieve the desired results and the Government in 1995 initiated the sale of majority holdings in the private sector. By 1998, there were 21 fully privatised companies, with the JEDB and SLSPC also managing certain groups of estates. The Government retained a 'Golden Share' in each company to ensure conditions relating to the transfer. The privatisation process resulted in a

complete change in the management structure for health and welfare, established under the JEDB and SLSPC. The social development divisions ceased to function. Instead a new limited liability company called the Plantation Housing and Social Welfare Trust (PHSWT), was established under the Companies Act. The estate health and welfare staff now became employees of the respective plantation companies.

The PHSWT became operational in January 1993, with its head office in Colombo and seven regional offices. A twelve member tripartite Board directs the affairs of the PHSWT. Six directors represent the plantation companies, four represent the State from the Ministries of Finance, Health, Housing and Plantation Industries, and two the trade unions. The operating costs of the PHSWT are met by the RPCs, through their managing agents, in terms of a population–based levy. Being an independent organisation the PHSWT does not have any direct administrative authority over the implementation of health and welfare on the plantations, unlike the social development divisions of the JEDB and SLSPC. This considerably weakens the position of the PHSWT in planning and directing health activities on estates. Given these limitations, the PHWST and its regional offices have been able to establish good liaison and credibility with the plantation companies in maintaining and implementing health and welfare programmes/activities on estates. The organisational and management structure in the estate sector has also contributed in no small measure to the effective implementation of health programmes. While the population coverage for most programmes have been satisfactory, issues relating to quality still need to be improved. The impact of the estate health services is reflected in some of the health indicators for 1997.[13] The crude birth rate (CBR) was 14.8 and the crude death rate (CDR) 6.5 per 1,000 resident population respectively. The infant mortality rate (IMR) was 24 per 1,000 live births, institutional births 91.6% and the incidence of low birth weight 16.1%. Contraceptive prevalence was 70.5%, with use of permanent methods 56.5%, temporary modem methods 10%, and traditional methods 3%. The most recent data available for the year 2000, reports a CBR of 16.9, CDR of 5.9 and an IMR of 19.1 for estates under the purview of the PHSWT. Maternal mortality rates (MMR) during the 1990's have fluctuated between 1.9 and 0.9 per 1,000 live births. The marked variation in MMR is mainly due to the small numbers of maternal deaths, which when calculated as a rate results in much distortion. Given the difficult terrain and the long distances that need to be traveled, many of these deaths have been due to delay in reaching government institutions that provide emergency obstetric care services.

The emphasis on interventions for prevention and control of anaemia, have shown some response. A PHSWT commissioned study, by Atukorala and Radhika in 1999 revealed that the prevalence of anaemia in pregnant estate women was 25.1% compared to 58.4% in a previous study during the period 1998 to 1991 (de Silva and Atukorala). However this study also noted that 40% of the pregnant women had depleted iron stores, indicating that iron deficiency is still a major problem.[14]

Alcoholism is a significant problem on estates, in all the regions, and affects the health, wellbeing and economic status of families. Recent initiatives with the Alcohol and Drug Information Centre (ADIC) to develop strategies that address this problem have shown some response albeit on a limited scale. Its wider application however needs to be tested.

The PHSWT has actively encouraged participatory programmes involving the estate community, that have been mutually rewarding. These include the health volunteer

programme, creche development committees, empowerment of women through credit and savings schemes (Mahila Shakthi), water management committees, self-help housing schemes etc. All these initiatives have been gender sensitive in their implementation.

Progress regarding the improvement in water and sanitation has been slow. Approximately 78% of estate households under the purview of the PHSWT have a piped water supply. Only 59% of households have latrine facilities either individual or shared, with sanitation still remaining a public health problem.[13] More recently both housing and sanitation have received massive funding, by both Government and donors.

Soil transmitted nematode infections (roundworm, hookworm and whipworm), a legacy from the colonial past, still continues to be widely prevalent on estates. Hookworm infection is more common in the low and mid country estates where climatic conditions are very favourable. The high prevalence rate of nematode infection is also a reflection of the faecal contamination of the environment, that still persists on estates even today. The PHSWT with assistance from UNICEF, has initiated a routine deworming programme for estate children and adolescents in the age group 2-18 years, in which a single dose of mebendazole (500mg) is administered biannually. The plantation companies have also been encouraged to expand the de-worming programme to cover the entire estate population, with the PHSWT reimbursing half the cost of the drugs through its Plantation Development Support Programme. A few of the more enlightened plantation companies have taken up this offer, with the expanded programme now being implemented in about 15-20% of estates.

The plantation workers, most of whom are unskilled or semi skilled are exposed to physical and chemical hazards in the course of their work, warranting more attention to occupational safety and health (OSH). Better data collection on OSH, as well as greater awareness and training are required at all levels. The PHSWT in its recent revision of health information, has included OSH data collection within the routine health information system.[15]

Overall, the positive health trends that have taken place in the estate sector, have been maintained during the early years of the restructuring period, which is encouraging. Regional variations are also observed, as well as some striking differences in performance between individual estates. A certain degree of reluctance has also been noticed on the part of some plantation companies to adequately meet their obligations in the provision of health care on estates. Mention must also be made regarding the limited role played by the provincial/district health authorities, in assisting estate management to maintain and improve health care on estates. More recently however, the Provision Health Authorities in some areas, have shown a positive interest in estate health, by adopting an integrated approach with estate management, in providing healthcare on estates.

Healthcare in the new millennium – 2001 and beyond

The post privatisation scenario in the plantation sector, gives priority to minimizing expenditure and maximizing profit. In such a milieu, health and welfare services tend to become prime targets, unless adequate safeguards are provided to at least maintain what has already been achieved. Two attempts by representative committees (the last being in 1997), to have some legislative provision in the form of an 'Estate Health

Law', though submitted in draft form, was not taken to its logical conclusion. The present situation therefore makes the support and closer involvement of the Ministry of Health/Provincial Health Authorities all the more important. The plantation industry is both complex and unique, in that it not only employs a massive work force but also provides for the workers and their families to be resident within the industry. The management structure (not necessarily operating in the colonial mode) must be understood and appreciated, with the realisation that what is possible in a rural setting is not necessarily replicable on estates.

Today the issue of health personnel to work on the plantations is a major concern, the training of EMAs and AMOs having been discontinued. The sector is now hard pressed to find suitable health personnel to maintain the dispensary services, that serves a resident population of 867,084 (as well as the non resident labour), on 466 estates, which come within the purview of the PHSWT.[13] Some attempts to introduce Government AMOs to work in estate health facilities managed by plantation companies, had created problems regarding supervision and management. Working hours for out-patient services also did not coincide with the needs of estate labour. These issues had been discussed between the Planter's Association (PA), the PHSWT and the Ministry of Health, but a mutually acceptable solution could not be reached at that time. Employing a MBBS qualified doctor to serve a "group of estates", both as health manager and service provider has been suggested, but most companies remain wary of this proposition. At present RMOs, AMOs, EMAs and pharmacists are employed in estate dispensaries. The estate dispensary as the first point of contact for the estate worker provides basic out-patient services, makes referrals to government institutions, maintains service records and vital statistics, provides some preventive healthcare, and is an important facet in the running of the plantation industry. The requirements of personnel to provide for the future needs of the dispensary service on estates must receive serious consideration, given the non availability of AMOs. The future of the dispensary services may lie in the recruitment of qualified pharmacists provided with some additional training and supervision, to maintain the estate dispensary services.

The registered midwives employed on estates have been the mainstay of the MCH/FP services. It is vital that the Ministry of Health continue to train more midwives for employment on estates in the future. Estate management should in turn give due recognition and adequately provide for this professionally registered category of health worker (unlike the earlier untrained midwife), by ensuring suitable living conditions and appropriate remuneration.

The National Health Policy (1996) states that "the Health Ministry will strengthen integrated approaches with other Government and non Governmental agencies to facilitate further coordination for better health care", the key word being integration as different from takeover. Today under the privatised management system, estates have been grouped into company-wise clusters, to provide a more coordinated approach to management. This 'cluster' approach is also well suited to initiate a health planning process between estates and the respective DDHS/MOH, regarding the health needs on estates. The process could identify the 'service gaps' within the estate cluster and the resources needed to meet any shortfall. The development of a 'Cluster Health Plan', between the plantation company and the Provincial/Regional Health authorities, could form the basis for planning and implementing an integrated health service on estates, in a spirit of mutual cooperation. It is heartening that today

many Medical Officers of Health have realised that health has no barriers and that the estate community is also their concern and responsibility.

A recent political decision required the Ministry of Health to takeover the 54 estate hospitals. This commenced in 1994 and by mid 2000, nineteen estate hospitals were at various stages of implementation. Whether estates should maintain hospitals, given the prevailing extensive national health infrastructure, is questionable. In reality most estate hospitals have modified their services accordingly, and actively maintain only the maternity and dispensary services. In this scenario, what is of real concern is that, prior to commencement of the takeover of estate hospitals, no firm criteria had been established to ascertain either the usefulness, or the need for 'takeover' of these hospitals. Neither had any study been done to identify the issues involved with such a 'takeover', be they organisational, financial or operational. The problems associated with the 'takeover' process are all too well known to those involved. The cost incurred has also been considerable and one wonders if such expenditure can be justified. By way of example, the expenditure involved with the takeover of seven estate hospitals in the Central Province during 1998/99 has been a little over Rs.34 million, with a further allocation of Rs.9.5 million for the year 2000 (Ministry of Livestock Development and Estate Infrastructure). This does not include recurrent expenditure for personnel, medical supplies, drugs, transport etc. and other capital costs that need to be incurred annually. The National Health System does not need to add peripheral institutions (at the level of a rural hospital or even a peripheral unit) to its already well-established network of institutions, but instead to selectively develop some of the existing District Hospitals to competently handle emergencies. This is of particular relevance in the estate sector where distances matter. Many estate maternal deaths may not have occurred, if the time spent in reaching Government hospitals with essential obstetric services, could have been reduced. It may now be prudent to pause and take stock of the entire process, before proceeding any further.

In view of the uncertainties created in a 'takeover situation', there have been mixed reactions from plantation companies regarding the extent of their involvement in estate health, be it financial or otherwise. A study conducted in 1996 on twenty estates, revealed that recurrent costs made up 60-65% of the total expenditure on health, of which most was spent on personnel emoluments. Physical maintenance of estate institutions with a few exceptions was very low and drugs and medical supplies accounted for only 3-5% of recurrent expenditure. Statutory expenditure (mandated by legislation) was between 30-40% of total expenditure, while capital expenditure was minimal ranging from 2% to zero.[16] Though not a reflection of the estate sector as a whole, it does give an indication of the ambivalence that prevails towards health care on estates, unless mandated by legislation or at least made a part of collective agreements, between the plantation companies and workers. The long term benefits of a healthy and contented workforce on productivity are well known to plantation management. A few have already set high standards for themselves in respect of health and welfare on estates.

Mention needs to be made regarding the considerable number of proprietary owned estates and 'small holdings', many of which have retained resident estate workers and their families. There appears to be no formal system at present, to identify and provide for the healthcare needs of this section of the estate population. This is an area which the Provincial Health Authorities would need to address as early as possible.

Some of the complacency towards provision of health and welfare may lie in the belief that the estate community is still a 'captive' population. This is furthest from the truth, particularly in the mid and low country estates, with estate labour seeking other avenues of employment. In this context, David Dunham has observed that 'estate work seems increasingly to be acquiring the stigma of a low status occupation. Workers turn out for neighbouring (tea) smallholders, as gem miners, as domestic workers, as boutique help or as general labourers. Sri Lankan citizenship has had the unexpected side effect of facilitating geographical mobility to urban centres and as elsewhere in the rural sector, increasing awareness of the material benefits of an open economy has begun to permeate the local community and raise expectations.'[17]

The plantation industry is vital to the country's economy and must be nurtured not only in terms of agriculture and management practices, but also its workers who are the means of production. Needless to say, the contribution of the state health sector towards this end is vital, and should be done through close dialogue with plantation management and in a spirit of mutual cooperation. Precipitate actions must be avoided, with future planning based on practical and realistic considerations. The 'estate cluster health plan' referred to earlier may provide a good starting point for planning between the two sectors. The new millennium will undoubtedly present many challenges not only for the industry itself, but also to those who live and work on the plantations.

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