

Kalpana

UNIVERSITY OF JAFFNA



Professor Chellathurai Sivagnanasundram Inaugural Memorial Lecture



War and Health in Northern Sri Lanka
How did the people survive?

By

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April 10, 2007



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Message from the Vice - Chancellor

Late Professor Chellathurai Sivagnanasundram's contributions to Health Education and modern Tamil Literature is well known and well recognized. He is the first Professor of Community Medicine in the University of Jaffna. He was one of the most dedicated and dynamic dons who played a pivotal role in guiding the development of the University of Jaffna in general and its Faculty of Medicine in particular.

Prof. Sivagnanasundram's family members have graciously established a fund for conducting a memorial lecture annually to honour their family leader and to remember his yeoman services. I am happy to see Dr.N.Sivarajah, another well known personality in the field of Community Medicine delivering the first memorial lecture.

Dr. Sivarajah's lecture is on a topic that is very relevant to us today. We are obliged to appreciate and encourage research on the problems faced by the community as a result of the war in the region. I wish Dr. Sivarajah every success in his endeavors to bring out the health problems faced by the inhabitants of Northern Sri Lanka. The Tamil community is grateful to Dr.Sivarajah for his continuous contributions to the healthcare of the people.

Office of the Vice Chancellor
University of Jaffna.
29th March 2007.



Prof.R. Kumaravel
Acting Vice-Chancellor

Professor Chellathurai Sivagnanasundram Inaugural Memorial lecture

Vice Chancellor, the Dean Faculty of Medicine, members of the family of Professor Sivagnanasundram, friends, colleagues and students.

I thank the members of the family of the late Prof. C.Sivagnanasundram, the members of the Faculty of Medicine and the University of Jaffna for inviting me to undertake this task of delivering the Professor Chellathurai Sivagnanasundram Memorial Lecture.

I have been a close associate of Professor Sivagnanasundram for over quarter of a century. He has been my boss, my teacher, a friend, an elder brother, a father, and many more.

Prof Sivagnanasundram qualified from the University of Colombo in 1955 and served in the state's Health sector, in different capacities. In 1965 he joined the Department of Community Medicine, at the University of Peradeniya and rose up to the post of Associate Professor. While in Peradeniya he played a leading role in the organization and conduct of the first ever Post-Graduate course in Community Medicine in Sri Lanka, which commenced in 1972, leading to a Master of Medical Science awarded by the University of Peradeniya.

When the Jaffna Medical Faculty of the University of Jaffna was opened in 1978, he was invited to the Faculty to be its first Professor of Community Medicine, the post he held until his untimely demise.

He was the corner stone in the establishment and development of the Department of Community Medicine and the Faculty of Medicine of the University of Jaffna. He was one of those who laid the foundation stone for the medical faculty building at Kokuvil on 29th November, 1979.

He had been the Dean of the Faculty of Medicine, a member of the University Council, Acting Vice Chancellor, member & examiner at the Post-Graduate Institute of Medicine and also a member of its Board of Management

His contribution to Public Health and Community Medicine is immense. He pioneered several Research projects.

He was an international consultant to the World Health Organization and also the Ministry of Health in the Kingdom of Jordan. A guide book for Paramedics prepared by him in 1981, has been translated into Arabic and used as a training manual for Paramedics in Jordan. As a consultant on Health Service Research, he has served in Malaysia, Bangladesh, North Korea, Mongolia, India, Myanmar and Zimbabwe.

He had been actively taking part in several Academic organizations such as the Jaffna Medical Association and the Jaffna Science Association.

He shined not only academically, but also as a writer and actor. He was a voracious writer in Tamil and English. He started writing at the tender age of thirteen. At the age of nineteen he published his first short story "*Sanchalamum Sandoshamum*" in the '*Veerakesari*'. Three of his novels have received the Sri Lanka Sahithya Academy Award. In 2002 he

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received the Governors Award (North East Province) in recognition of his contribution to modern Tamil literature. He has been the editor of '*Sai Margam*' for six years since 1998.

His books in English were mainly for the medical fraternity. His book on '*Learning Research*' has had two editions and is widely used across all medical schools and Post Graduate students in Sri Lanka. In addition, he has over fifty publications in National and International medical and public health related Journals.

He has published seventeen books in Tamil. Four of his Tamil books are on preventive medicine for lay people, two for children, two on spirituality and one a Handbook for teachers on Sri Sathya Sai Education on Human Values.

Prof. Sivagnanasundram is a keen observer. His Tamil novels and short stories portray the characters he met in his daily activities. Each one of his short stories gives both a potent and introspective message. Most of his stories have embedded Health messages. He introduced his medical experiences into the Sri Lankan Tamil literature.

While working at Hiripitiya, he portrayed the character of the local midwife through his publication "*Singalaththu Maruthuvichchi*". With his experience in managing the cholera epidemic in Jaffna, he wrote the novel '*Thangachchiamma*'. While working as MOH Nawalapitiya he portrayed the plight of the Estate labour through his novel "*Malaikolundu*"

He had a dynamic personality and was a creative genius. His extraordinary talent extended beyond his academic excellence. For several years he was the "Radio doctor" for "Radio Ceylon"

He was also an actor. He has acted in over 50 dramas. He has during a two year period (1952 - 53) acted in 25 Tamil Radio dramas. He has even acted in a lead role during the early stages of the Tamil film industry in Sri Lanka, in a Tamil film "Ponmani" directed by Dharmasena Pathiraja.

He helped in the development of several people he met in his life. I am what I am today, because of him

Prof Sivagnanasundram was very happy to teach Health to the layman and carry on with health promotion even under trying circumstances

Even under adverse conditions he always strained to maintain high standards of Health care and education in the places he worked and in the Medical Faculty. Some of the things I propose to present are what I have learnt from him

It gives me great pleasure to deliver this inaugural Professor Chellathurai Sivagnanasundram Memorial lecture on:

War and Health in Northern Sri Lanka
How did the people survive?

War and Health in Northern Sri Lanka. How did the people survive?

I feel that it is a very suitable topic to honour the memory of a man who lived amidst the war and devoted his entire life to education and the improvement of Health in this part of the Island.

Health Care in Jaffna during the 19th and 20th centuries

The American missionaries who came to Sri Lanka in the early 19th century ended up in the Northern part of the Island.

The arrival of the American missionaries in Sri Lanka marked the introduction of Allopathic medicine into the community which was engrossed in Traditional medicine. Rev Dr. John Scudder and his wife who arrived in 1819 were the earliest medical missionaries to arrive in Ceylon¹. He established the first dispensary in a thatched hut in Pandatherippu on the 8th of June 1820.

Dr.Samuel Fisk Green followed Dr. Scudder and practiced allopathic medicine. He established a Medical School in Vaddukkoddai which was later shifted to Manipay. This was the first medical school in Allopathic Medicine in Ceylon, and probably the first in South East Asia.

According to Dr. Vaithilingam alias W Chapman,² Dr. Green had a vision to provide one doctor to every 10, 000 Tamil population. He had trained 134 doctors between 1848 and 1879 including the 62 who were taught indirectly through his students when he was away in America. A massive achievement in the 19th century!

Dr Samuel Green expected his students to remain in Jaffna. But when he found that doctors who passed out of his medical school started migrating to other countries like Malaysia, Singapore and Burma, he switched the language of education into Tamil. For this purpose he learnt Tamil and wrote several Medical books in Tamil.

The Jaffna Friend in Need hospital - the fore runner to the Jaffna Teaching Hospital - from its commencement was supplied by doctors from among Dr. Green's students. According to Dr. Chapman, in the year 1884, the hospital accommodated an indoor of 30 patients and had an outdoor of 50 patients daily.

On the first of June 1870, the Colombo medical school was opened. On the first of May 1879, the remaining seven medical students at Dr. Green's medical school were absorbed into the Colombo medical school. This ended that era of medical Education in Jaffna and the pioneer educational centre was closed down until the opening of the present Jaffna Medical Faculty one hundred years later.

During the early part of the 20th century and even up to the late 1960s, the Jaffna District had very good health care facilities available to the people. The district was studded with allopathic medical institutions managed by the state. There was also a very good private sector group of hospitals such as the Moolai Cooperative Hospital and the American mission hospitals like the McLeod Hospital in Inuvil and the Green Memorial Hospital in Manipay. There were also several Private Hospitals and general practitioners providing services throughout the district. Names such as Pasupathy, Vettivelu, Sambanthar, PS. Abraham, Dharmalingam, Philips, Naganathar, Gengatharan were household names.

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There was also a very popular group of Traditional practitioners who practiced their profession diligently. Some well known names were Athanasiyar, Innasithamby, Sillalai pariyariar, Annamalai, Packiyanathan, Ramasamy, Kasthuriyar, Pararasasingam, oddahapulam and Nayanmarkattu.

During this period, even the Jaffna Tamils who were living in the south for employment and business purposes returned to Jaffna for their confinements and for treatment. The conflict has reversed this situation.

The conflict and its effect on health

Violent armed conflicts occur all over the world. "War" is classified as a form of collective violence, but since the legal definition of war is controversial, many international instruments such as the 1949 Geneva conventions, use the term "Armed conflict". Armed conflicts have a grave impact on the health of the combatants and the public.

In modern day war a majority of those affected are the civilians.

During the post-independence era, the ethnic conflict which commenced in the 1950s, transformed itself into an armed conflict in the late seventies. Subsequently it turned into an "open war". During this span of fifty years, the health status of the North kept on gradually deteriorating.

Some milestones in the escalation of the war are

- 1958 Ethnic Riots : "*Emergency 58*" Riots in Colombo and suburbs with Tamil refugees migrating to the North

- 1983 Attack on military convoy in Jaffna followed by ethnic violence in Colombo and suburbs, with refugees migrating to the North
- 1987 : Arrival of Indian Peace Keeping Force (IPKF)
- 1990 : Departure of IPKF, eruption of 2nd Eelam war
- 1990 : LTTE in control of Jaffna Peninsula (upto 1995) and A9 blocked at Elephant pass
- 1991: Operation Valampuri by Security Forces resulting in displacement of population from the Islands
- 1993: Operation Yarldevi by Security Forces
- 1995: Operation Leap forward and Riviresa by Security Forces and Mass migration from Valikamam & Vadamarachchi towards Thenmarachchi
- 1996 : Displaced returned to their places (Except High security Zones)
- 2002 : Peace accord signed and A9 road opened after 12 years
- 2006 : A9 closed

Conflicts can have an immediate impact on Health of the people and effect the Mortality, Morbidity and Disability in the affected population (Table 1). The WHO World report on Violence and Health³ enumerates the direct impact of conflict on health and the possible causes.

The morbidity and mortality data for Jaffna show clearly this effect. Whenever there was escalation of the war and operations by the warring factions, the maternal and infant mortality showed rise in trends.

Table 1: The Direct impact of conflict on Health

(Adapted from World report on Violence and Health p 222)

Health Impact	Causes
Increased Mortality	<ul style="list-style-type: none"> • <i>Deaths due to Physical Trauma</i> (e.g. bombs, landmines) • <i>Deaths due to Infectious diseases</i> (e.g. Diarrhoeal diseases, Respiratory tract infections) • <i>Deaths avoidable</i> through proper Health care (e.g. emergency intervention, preventive measures, medication).
Increased Morbidity	<ul style="list-style-type: none"> • <i>Injuries</i> due to physical trauma (e.g. weapons, burns, poisoning) • Injuries due to increased <i>societal violence</i>, including sexual violence • <i>Infectious diseases</i>: water-related, (e.g. cholera, typhoid), vector borne (e.g. Malaria), and other communicable diseases (e.g. TB,AIDS) • <i>Reproductive Health</i>: more stillbirths and premature births, more babies with low birth weight and more women with complicated deliveries. • <i>Nutrition</i>: Acute and chronic malnutrition and deficiency disorders. • <i>Mental Health</i>: Impact of psychosocial trauma on mental health (e.g. anxiety, depression, suicide)
Increased Disability	<ul style="list-style-type: none"> • Physical • Social • Psychological

The World Health Organization estimates that 310,000 people died from war related injuries in 2002. Rates have been calculated as 1 per 100,000 people in high income countries and 6.2 per 100,000 people in low and middle income countries³

In prolonged armed conflicts there can also be a delayed and indirect impact which can affect the health system and the health sustaining infrastructure (Table 2).

Table 2: The impact of conflict on the Health system and health-sustaining infrastructure, and its effects

(adapted from World report on Violence and Health p 227)³

Object of Impact	Manifestation of impact
Access to Health Services	<ul style="list-style-type: none"> • Reduced security • Financial exclusion (due to charges for services) • Geographical exclusion
Health Care activity	<ul style="list-style-type: none"> • Shift from primary care and preventive health care to specialist curative care • Reduction in rural and community-based services • Disrupted surveillance and health information systems • Damage to vehicles and equipment • Compromised public health programmes
Infrastructure	<ul style="list-style-type: none"> • Destruction of clinics • Disrupted referral systems • Damage to vehicles & equipment • Poor logistics & communication
Equipment & supplies	<ul style="list-style-type: none"> • Lack of drugs • Lack of maintenance • Inability to maintain cold chain for vaccines
Human Resources	<ul style="list-style-type: none"> • Insecurity pervades working environment • Low morale • Difficulty in retaining trained workers • Disrupted training and supervision
Essential Health sustaining infrastructure	<ul style="list-style-type: none"> • Water • Sanitation • Power • Food security
Relief & reconstruction activities	<ul style="list-style-type: none"> • Security limits access to certain areas • Increased cost of delivering services • Greater focus on single programmes with less integration between programmes • Less security for relief personnel • Weakened coordination & communication between agencies

The Demographic Health Survey⁴ carried out by the Department of Census and statistics in 2001 give health indicators which show that some of the indicators are poor for the North east compared to the rest of the country (Table 3)

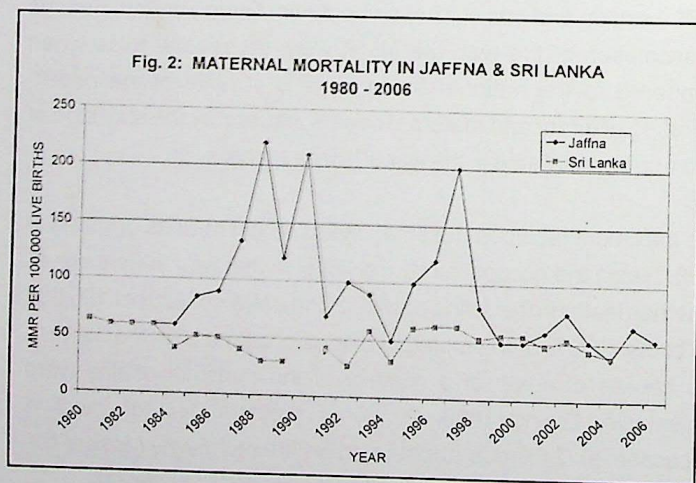
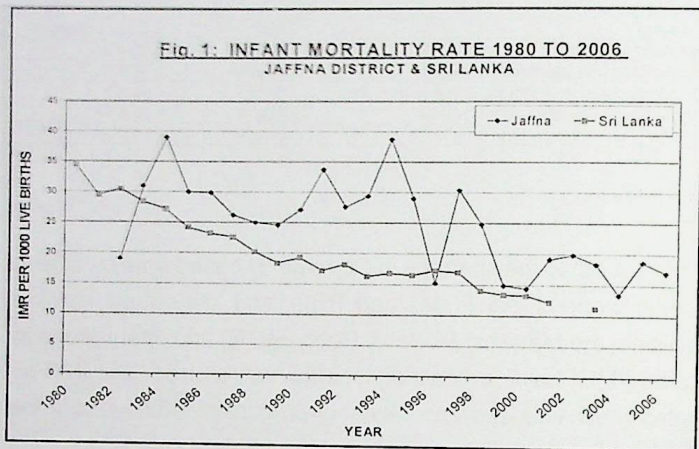
Table 3:. Selected Health Indicators for NEP compared to other Provinces

Indicator	NEP	Other Provinces
Households with Pipe borne water supply	8.9 %	23.4 %
Households with water seal latrines	48.2 %	72.6 %
Deliveries assisted by Doctor, Nurse or midwife	80.6 %	96.0 %
Under weight Children under 5 years	46.2 %	29.4 %
Children born with Low Birth weight	25.7 %	16.7 %

Mortality

Consequent to the shortage in Community based grass root level Health workers like PHMs and PHIs, and inadequate medical facilities, the Maternal Mortality Ratio (MMR) and Infant Mortality Rates (IMR) have increased since the war started. The IMR for Jaffna which was less than the national figure in 1982 overtook the National figure and still remains above the national figure even after 25 years. The MMR which was same as the national figure in 1982 went up and has still not come down. During certain periods of escalation of the war, the MMR went up several folds when compared to the national figure. This is in spite of the under-reporting of infant and maternal deaths, caused by the shortage of field and hospital staff in the war affected areas.

The maximum recorded maternal deaths in recent times occurred in 1988, during the occupation by the IPKF. In that year there were 42 maternal deaths in the Jaffna district, giving a MMR of 220 per 100,000 live births. 68.3% of the maternal deaths occurred after the delivery. The causes of death of a majority of the maternal deaths were preventable. During 1988, 29.3% of mothers died of infection (Septicaemia), 24% due to post partum haemorrhage. Most of the deaths were associated with difficulties in transport to a hospital.



Human Resource

One of the causes of the ethnic conflict was the introduction of "standardization" in education and district quota system in the late seventies and the consequent reduction of admission of Tamil students from the NEP to the Universities and other training institutes established in Southern Sri Lanka and involved in training Health Resource. With the retirement of older persons in the health service, and no one to replace them, the trained health manpower in the NEP started declining. Even the training institutes like the Nurses Training Schools which were in the North and East (which trained Nurses and Midwives) were not recruiting annually their full quota of nurses and midwives for training.⁵ As a result, the Paramedical manpower gradually decreased and reached a precarious level during the last two decades. There developed an acute shortage of paramedics such as Nurses, Public Health Nurses (PHN), Public Health Inspectors (PHI), Public Health Midwives (PHM), Radiographers and Physiotherapists. Action taken during the past few years has paved the way to fill some of the vacancies of paramedics such as Family Health Workers and Public Health Inspectors.

With the rise of militancy and the consequent military presence, in the early 1980s, a sense of insecurity developed among those in the Tamil speaking areas of the North-east. Professionals who could find employment outside the conflict area started moving out. Among the first to move out were the doctors. During the conflict in the North-east, a majority of Health staff (Doctors, Nurses and Technicians) left the area. In addition, training of paramedics was hampered due to variety of reasons.

The emigration of trained health resource is not unique to Sri Lanka. In Cambodia during the uprising, out of the 487 doctors reportedly working in 1975, only 43 remained by 1979.

Presently there is an acute shortage of almost every category of Health Staff in the North-east. Table. 4, gives the Human resource requirement for the State health sector in the Jaffna District. The status in the districts like Kilinochchi, Mullaitivu and parts of Mannar and Vavuniya are worse. The human resource is based on the approved cadre and this cadre itself has not been revised for several years.

Table 4: Requirement and availability of Human Resource in the Jaffna District as at 2006.

Item	Category of Staff	Approved cadre		Number available		Vacancies	
		# JTH	Outside JTH	JTH	Outside JTH	JTH	Outside JTH
1	Consultants	32	17	13	0	19 (59%)	13 (100%)
2	General MO	179	88	114	6	65 (36%)	82 (93%)
3	AMO / RMO	-	58	-	17	-	41 (71%)
4	Nursing officers	532	308	338	39	194 (37%)	269 (87%)
5	MLT	20	18	9	1	11 (55%)	17(94%)
6	Physiotherapists	14	3	5	0	9 (46%)	3 (100%)
7	MOH	-	11	-	1	-	10 (91%)
8	PHNS	-	15	-	1	-	14 (93%)
9	PHI	-	100	-	61	-	39 (39%)
10	PHM	-	351	-	84	-	267 (76%)

Abbreviations:

AMO / RMO - Assistant Medical Officer / Registered Medical officer

JTH - Jaffna Teaching Hospital

MO - Medical Officer

MLT - Medical laboratory Technologist

MOH - Medical Officer of Health

PHNS - Public Health Nursing Sister

PHI - Public Health Inspector

PHM - Public Health Midwife (Family Health Officer)

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Source:

- Director Jaffna Teaching Hospital, Personal communication 19.01.2007

@ - Deputy Provincial Director of Health Services, Jaffna. Annual District Health Plan 2007 Jaffna District. Planning Unit DPDHS Office Jaffna. 2006. pp 57-8

Health Institutions and access to Health care

The Jaffna District has a fairly equitable distribution of the 42 medical institutions. But the service provided is limited, due to inadequate resources. 12% of the medical institutions are closed down and 14% are partially functioning. Even the balance that is functioning is doing so with limited resources.

Several Health Institutions were completely destroyed during the war. Some institutions are within the High security Zones and not accessible to the people. The Tellippalai District hospital which houses the Cancer treatment centre is within the High security Zone with limited access to patients and staff. No patient or staff could stay overnight at this hospital and all patients who need radiotherapy have to be transported daily going through rigorous security checks.

Military camps have been established adjoining several hospitals, especially the two major hospitals Jaffna Teaching Hospital and Point Pedro Base Hospital causing delays and hardships to patients in accessing health care. In the East some hospitals have been completely taken over by the military.

The major hospital in the Jaffna District is the Jaffna Teaching hospital (JTH). This hospital was shifted to Manipay Green Memorial hospital for about five months in 1990 (from June 20th to November 8th).

A study ⁶ done in the latter half of 1990, showed that out of 224 infants who died, 119 (53.1%) died due to delay in treatment as a result of a combination of several factors such as lack of transport, curfews, aerial attacks, and non-functioning of the closest hospital.

The JTH has 1200 beds now. There are 13 consultants and 114 doctors working in this hospital whereas the cadre is 32 and 179 respectively.⁷ Although the approved cadre for doctors fixed several years ago is 179, the required cadre is 341.

The peripheral hospitals in the Jaffna District have 960 beds for patients to be admitted. At present there are only 6 doctors to serve in these hospitals.⁸ The Health Ministry's approved cadre of doctors needed for the peripheral hospitals is 88. Due to scarcity of Medical personal, in several instances two hospitals are looked after by one Registered Medical Officer.

The hospitals in the periphery are underutilized due to lack of human resource, resulting in overloading of the Teaching Hospital.

The Jaffna District which should have 11 Medical Officers of Health has only one retired medical officer. Most Health Units are "looked after" by Senior Public Health Inspectors, with medical officers working elsewhere "covering up".

Nutrition

According to the Sri Lanka⁹ Demographic survey of 1976, the Nutritional level of our children was better than that of most of the other districts of Sri Lanka. But the Demographic and Health Survey of 2001 conducted by the Department of Census and Statistics, indicates a very serious situation.¹⁰ It indicates that 46.2% of children 3 -59 months living in the North East Province are underweight compared to 29.4% of children in the similar age group in the rest of Sri Lanka. Several other studies carried out locally have also corroborated this finding.^{11,12,13}

Not only children, women too have been found to be affected by poor nutrition. A study¹⁴ carried out by the World Food Programme in 2001 in Welfare Centres showed that 61% of pregnant women and 56.2% of the adolescent girls were anaemic.

Malaria

Malaria had been a major communicable disease in Sri Lanka during the first half of the last century. Its resurgence during the late 1960s prompted the Ministry of Health to institute intensive control measures. In spite of the control measures, malaria remained endemic in the war torn North.

In the nineties there was high incidence of malaria in the Jaffna district. In 1998, Jaffna District had 47,802 cases of malaria giving an incidence rate of 97.9 per 1000 population. In that year, among the causes for admission to hospitals in Jaffna, malaria ranked Number one.¹⁵ During the same year a high incidence of malaria was also recorded in Kilinochchi and Mullaitivu districts.

During 1998, 105 persons died of malaria in Sri Lanka. One hundred and two of them (97%) were from the North East province. By 2002 the incidence of malaria had dropped to negligible levels and in 2006 there were only two cases of malaria in the entire Jaffna district.

The Demographic Shift

The population of Jaffna District which was 234,497 during the first census in 1871 increased three fold to 738,791 in 1981. During the same period the Sri Lankan population increased by 7 times.¹⁶ At the same time, taking the Jaffna District population as a percentage of the Sri Lankan population it showed a gradual decline. In 1871 the Jaffna district's population was 9.7% of the Sri Lankan Population. At the 1981 census it had dropped to 4.9% (Figure 3).

Within the next 25 years, the population decreased by a further 200,000 to the present population of 653,735 as at 31st December 2006.¹⁷ Today the Jaffna District population is 3.4% of the Sri Lankan population

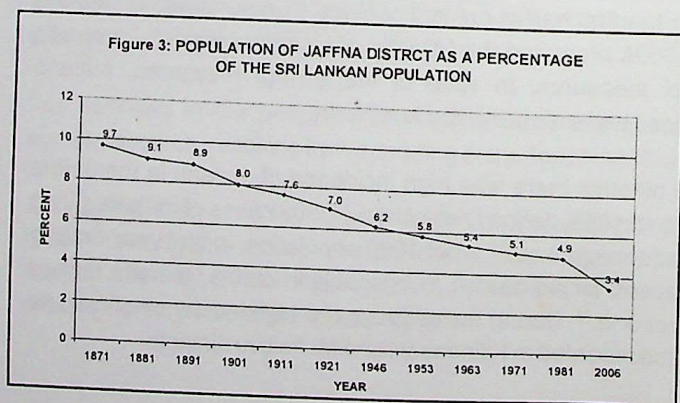


Table 5: Population of Jaffna District as at 31.12.2006

Category	Families	Persons
Displaced before 11.08.2006	32,803	109,815
Displaced after 11.08.2006	10,480	33,944
Fishing	8,026	27,082
Vulnerable	34,297	101,959
Samurdhi	53,615	212,229
Total Relief	139,221	485,029
Above Poverty line	49,045	168,706
Total	188,266	653,735

Source: District Secretariat, Jaffna

According to the Government Agent Jaffna, 143,759 persons, (21.9%) of those living in the Jaffna District are displaced (Table 5). Most of those displaced are living with friends and relations and in 90 welfare centres. Some of them have been displaced for over 15 years. Only 168,706 (25.8%) people in the Jaffna District have an income above the poverty level.

Amidst the war and deprivation, controls, military sanctions, restrictions on food, economic blockades, food scarcities, the population of Jaffna district and the North survived. Although the health infrastructure was severely damaged and the services were deprived of human resource, the health indicators although lower than the rest of the country is not very bad compared to countries which are at war for decades.

Although there had been several displacements and hundreds of refugee camps at different times, no major epidemics broke out among the refugee population.

How did the population survive the effects of the war?

Culture

The population of the North had always been Health conscious. Our culture and religion encouraged health habits

Health has been an important concern of most communities and health practices have been ingrained into the culture and religion. The Tamils in the North have not been an exception. As a result, health habits and concerns have been incorporated into several religious and cultural observances and practices.

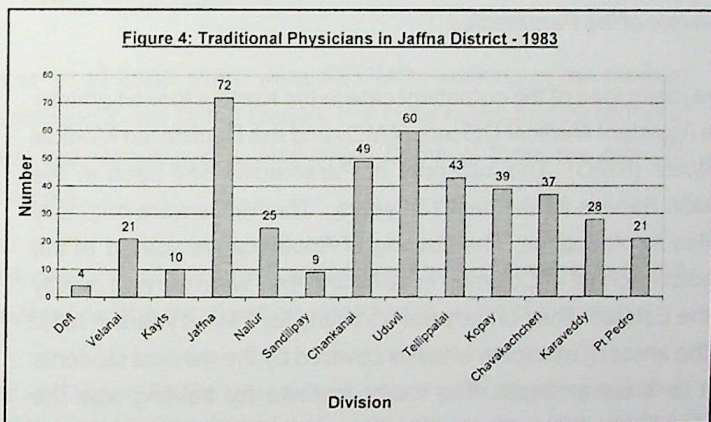
Simple cultural practices such as bathing after attending a funeral, not taking food for 31 days from homes where death has occurred help in preventing the spread of infections, in cases where the deaths had occurred as a result of infectious diseases. Water is an important source for the spread of bowel diseases. Common water sources are likely to be contaminated easily. Unlike in the south of Sri Lanka common water sources such as common wells, rivers, lakes are uncommon in the Jaffna district and most of the households in the Jaffna District have their own wells. Sharing of water outside the family circle is limited. This may be one of the reasons for the absence of major water borne epidemics in spite of the massive displacements.

Preventive Public Health concerns such as hanging margosa leaves at the entrance to houses where infectious diseases (such as measles, chickenpox) are present, warns visitors of an infectious disease in the household and thus prevents the spread of diseases.

Human Resource for Health

A majority of the people of Jaffna resort to allopathic medicine. A sizable proportion of the people, especially in the rural areas, resort to Traditional medicine. Most of these Traditional Practitioners use allopathic drugs as well.

In addition to the Western system of medicine the indigenous system of medicine (referred to as Siddha and Ayurveda) is incorporated into the state system. The North-Eastern Provincial council (NEPC) has 16 Ayurvedic Central Dispensaries and 45 Free Ayurvedic Dispensaries



A survey carried out by Jayanthi Jegatheesan¹⁸ of the Department of Community Medicine, University of Jaffna, during the early 1980s found there were in Jaffna during the year 1983, 418 Physicians practising Traditional Medicine, which amounts to about one Traditional physician for 2000 population. The distribution of these physicians in the Jaffna District is given in Figure 4.

Did these traditional physicians play a part in maintaining the health of the people? Did their use of allopathic medicine together with traditional medicine, help in the prevention of the deterioration of the health of the people?

Prof. Sivagnanasundram,¹⁹ way back in 1979, suggested liaison with Ayurvedic Physicians at basic Health care level to supplement the health manpower for community health work. Data on their contribution to health care is lacking and needs investigation.

The role of the Paramedics

The major load of the outpatient care in the North is looked after by the Assistant Medical Officers (AMO) and the Registered Medical Officers (RMO). This category of Paramedics has been in the Health Service for the past 134 years. The AMOs were originally called Apothecaries. The training of Apothecaries started at the Medical School in Colombo in 1873 and they were serving mostly in the Estates. They underwent a training for 2 ½ - 3 years in most of the areas of medicine which is covered by the medical students but to a lesser depth. The major institute for training was the National Institute of Health Sciences (NIHS) in Kalutara. Subsequently the training was carried out at the Faculties of medicine in the Universities of Colombo, Peradeniya and Jaffna. The training in the medical faculties was stopped and the training was conducted only at the NIHS. On an average 60-70 were trained annually.²⁰ The last batch started training in 1996 and completed ten years later

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The original designation of "Apothecary", which was later changed to "Assistant Medical Practitioner" (AMP) is now known as "Assistant Medical Officer" (AMO). After serving in the Health Ministry for 8 years they are designated as "Registered Medical Officer" (RMO).

The Jaffna Medical Faculty started training of AMOs in 1979. This programme in Jaffna was initially coordinated by the late Prof. C Sivagnanasundram. The training programmes continued until 1990. During this period, the Jaffna Medical Faculty trained a total of 175 AMOs in six batches.

As at 31.12.2006, there were 48 RMOs working in the medical institutions in the Jaffna District. It is to be noted that 29 (60%) of them are retired and re-employed. Some of them are over 70 years old.

This category of Paramedics has contributed immensely to the prevention of the deterioration of the health status of the people.

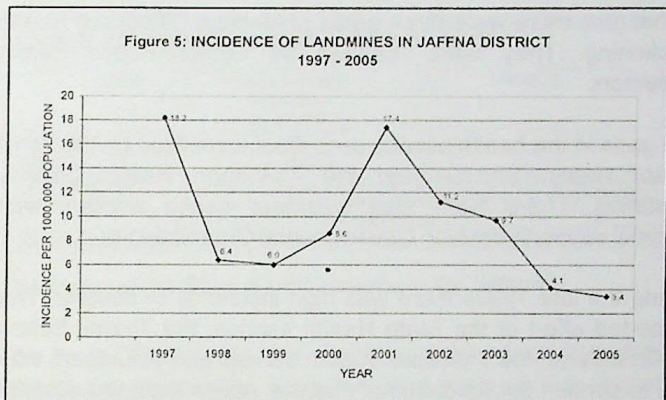
The AMOs and RMOs have been and are even now very suitable for working in small institutions with minimum facilities. The discontinuation of this training programme in the Jaffna University is unfortunate and ill-timed, especially when there is a great human resource shortage in this part of the country. Restarting the training of this category of paramedical staff could be an alternative to the problem of Human resource shortage.

Health Care during the "mass displacement" from Jaffna

The Jaffna population experienced a mass internal migration during 1995. On the 30th of October 1995 an estimated 250,000 people from Valikamam and Vadamarachchi moved out in one night, in the midst of pouring rain, from the Northern to the southern part of the Jaffna District. Another 250,000 moved out during the following two days. Although there was high morbidity and mortality, associated with this migration, especially among children, elderly and the handicapped, most of these deaths were unrecorded

The displaced people remained in Thenmarachchi (southern part of the Jaffna District) and by April 1996 a sizable proportion moved into the Wannai mainland. The balance moved back into Valikamam and Vadamarachchi where they had been living earlier.

When they returned to their homes, in the Jaffna District, there were landmines and unexploded devices in and around their houses. Nearly 500 people in the Jaffna District were killed or maimed by these landmines and other unexploded devices. In the year 1997 alone there were 91 persons affected by landmines and unexploded ordnances giving an incidence rate of 18.2 per 100,000 population and again 17.4 per 100,000 in 2001 following the Elephant pass war. In 2001, most of the casualties were from Thenmarachchi (Fig. 5).



The refugees who moved into the Wanni were badly affected. As they moved in to the Wanni, they were displaced from Kilinochchi and ended up in Puthukudiyiruppu, Mallawi, Mulangavil and Akkarayankulam. The 128-bedded hospital at Kilinochchi was completely destroyed. The entire staff working at Kilinochchi hospital moved to Mallawi and Akkarayankulam.

At that time there were only 5 doctors with an MBBS qualification and 10 RMOs to look after a population of around 400,000. The local doctors were in the Mallawi hospital (1), Mulangavil (1), Akkarayankulam Peripheral Unit (2) and Puthukudiyirupu (1). In addition there were 3 expatriate doctors from the Medicins Sans Frontiers (consisting of a Surgeon, Obstetrician and a Paediatrician) who were displaced from Kilinochchi and continued to provide their services from Mallawi. The doctors from Mullaitivu hospital were already displaced to Puthukudiyiruppu Peripheral Unit.

At that time there were three areas of Medical Officers of Health functioning. They were manned by Senior Public Health Inspectors.

The gaps in the health service personnel were filled by the Tamil Eelam Health Service and the Thileepan Health Service personnel. There were also volunteer health workers with financial support from Non Governmental Organizations

During the late 1990s there was high incidence of malaria. The concerted effort of the State Health service, the Tamil Eelam Health service, the Thileepan Health service and volunteers was able to contain the epidemic of malaria. Action included a multi-pronged attack including, adult control, larval control, personal prevention, early and complete treatment (Figure 6).

During the first half of 2005, there were 16 cases of malaria in Kilinochchi and all of them were imported cases among construction workers from Batticaloa district. Prompt intense preventive action taken by the Kilinochchi Health staff averted a calamity and local spread.

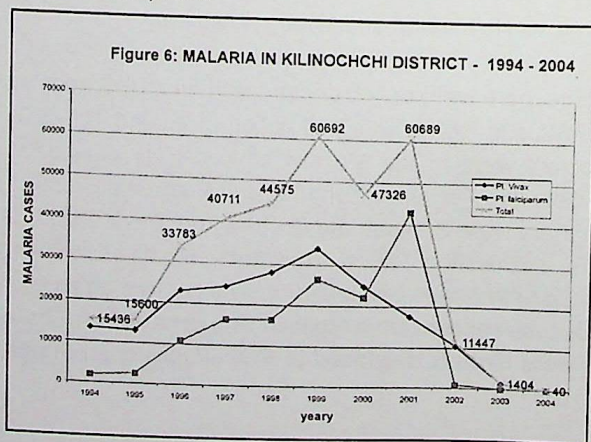


Table 6: Composition of the “Wanni” area

<i>District</i>	<i>Approximate Population as at 2004</i>	<i>Remarks</i>
Kilinochchi	140 000	
Mullaitivu	130 000	
Vavuniya (Part)	13 276	Area of MOH Vavuniya North (Un-cleared area)
Mannar (Part)	28 000	Area of MOH Adampan and part of Madhu (Un-cleared area)
Total Population served	311 276	

The status of the State Health Service in the “Wanni”.

The term “Wanni” denotes the land area which includes the Districts of Kilinochchi, Mullaitivu and parts of the districts of Vavuniya and Mannar (Table 6).

In the Wanni, a parallel Health service exists with the State Health service. The Resource availability (Human, Financial and material) in the state sector of the Health service is poor as in other parts of the NEP. This parallel Health Service complements the services of the state health service and had been partly responsible for the prevention of deterioration of the health status of the people of the Wanni.

It is possible to see in the Wanni how Health acts as a bridge between two opposing parties. One could see the concept of “Health as a Bridge for Peace” in force in the Wanni. The different sectors coordinate in maintaining and running the health service.

The State Health service

This is organized as in the rest of the country. But the resources are limited. The two districts (Kilinochchi and Mullaitivu) are included in the Wanni. The Division of Vadamarachchi East (which

is part of the Jaffna District), Division of Vavuniya North (which is part of Vavuniya District) and the divisions of Manthai and Vidathalthivu (which are part of Mannar District) form the "Wanni". This land area is under the control of the LTTE and named as "Uncleared area" by the Government of Sri Lanka.

The Wanni has an approximate land area of 4400 sq. km and an estimated population of 311,276

The Tamil Eelam Health Service (TEHS)

This is the main structure that controls the Health Services. A medic is the Director. He has undergone training locally, somewhat equivalent to an MBBS course, but of a longer duration. The course curriculum included in addition to most of the sections taught in a normal medical school plus war surgery. All of them have carried out war surgery and medical care before they completed their course. Under him are 8 District Directors one for each district of the NEP. They control and coordinate the Health activities in the districts.

Under the Director are also the following sections which cross cut all districts. The District Directors coordinate and facilitate these sections. The sections are

- Dental Services
- Indigenous Medicine
- Special Programmes
- Entomological Unit
- Environmental Unit
- Mobile Medical service, which deals with screening for diseases
- Epidemiological investigation Unit, which investigates and takes corrective measures to prevent the spread of diseases.

The annual expenditure for this service is around 5.5 million Sri Lankan Rupees. Two thirds of the funds are provided by the LTTE and the balance is collected from taxation of food handling establishments. The tax varies from Rs: 1000.00 to 500.00 per year. In return for the contribution from food handling establishments, the TEHS provides free medical examination and issue of certificates, which is a requirement to work in food handling establishments. It also provides free treatment for any infections which they could spread.

Thileepan Health Service

This is an independent wing which deals mainly with curative work. It is presently under a doctor with over 20-years experience and trained in a recognized medical school. Its services are spread out in the remote areas of the NEP. The Thileepan Health Centres are in 16 locations in the North east of Sri Lanka:

Initially they were started as First Aid centres and later for emergency delivery. Its service was extended and today its services include curative work. Treatment for minor ailments is provided at these centres. Some of the centres have indoor facilities, where patients are admitted. Most of the centres are with labour room facilities to conduct deliveries.

The staff of the Thileepan Health service complements the work in some of the state Hospitals. Some of the Antenatal, Child Welfare Clinics of the state health sector are conducted by the staff of the Thileepan Health service as there is a shortage of doctors in the state health service.

The Tsunami

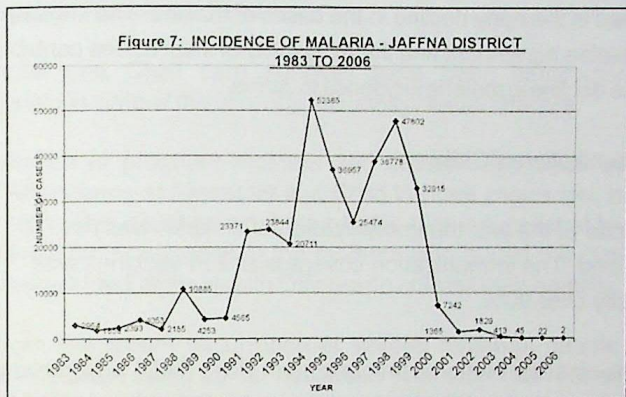
More recently Tsunami struck Sri Lanka. Initially, 547,509 people were displaced and 23,059 were injured. In this calamity 35,322 people were killed or were missing and 98,000 homes were destroyed.²¹ The coastal region of the North-east was the hardest hit region. 35% of the coastal population of Kilinochchi, 80% in Mullaitivu & 78% in Ampara districts were hit, whereas less than 20% of the coastal population in Galle Matara and Hambantota districts were affected.²² Tsunami had a devastating effect on the people of Jaffna District. In this district 2640 people died, 1647 were injured, 1240 reported missing and 41,000 were initially displaced.

The civil society and administration rose up to the occasion and within 8 hours of the disaster a majority of the survivors in the Jaffna, Kilinochchi and Mullaitivu districts were in temporary accommodations. Probably their experience with man-made disasters during the past two decades had given them the experience to cope with the natural disaster.

A coordinating committee was organized with support from all sectors including the LTTE, and the Tsunami survivors were adequately looked after. This is one disaster situation where there was coordination between the warring parties.

Malaria Control

Although Kilinochchi district was known to be an endemic region for malaria, local transmission within the Jaffna peninsula was not common before the war. Most cases in Jaffna were imported from Kilinochchi or Vavuniya. Elephant pass was closed for traffic to



and from Colombo in the early nineties. People started taking alternate routes such as crossing the lagoon initially through Uriyan and Kombadi (East of Elephant pass) and later through Kilai (West of Elephant pass). Travel along these routes necessitated overnight stay in the mainland. The anopheles mosquito being a night biter infected the travellers while in the Wannai, who brought the infection to Jaffna. Gradually, local spread increased and coupled with the embargo on insecticides, and disruption of spraying and entomological surveillance work, led to a massive increase in the incidence of malaria.

The incidence of malaria rose to such high levels that the incidence in 1998 in the Jaffna district was 97 per 1000 population. (Figure 7).

In order to control this epidemic 15 persons were trained for one month in the microscopic identification of the malarial parasite. Since they could not be recruited as microscopists, they were designated "Trainee microscopists" and posted to remote Health outposts. Their appointment resulted in early diagnosis and prompt treatment. This

helped in the early decline in the cases of malaria. The subsequent Ceasefire agreement and the availability of insecticides contributed to the decline in malaria incidence in Jaffna

Immunization of Children

In spite of the war the immunization of children was not affected. The immunization coverage of EP! vaccines was mostly over 90%.

In the nineties, National Immunization Days (NID) was introduced claiming children as "zones of Peace" with a view to eradicate Polio. The 5th & 6th of September and 10th & 11th of October, 1997 were observed as "days of tranquillity" and fighting between the Security Forces and LTTE was suspended²³ on these days to enable the Polio immunization of children to be carried out without interruption. Both parties to the conflict respected this arrangement.

The coverage on the NID in 1995 for the Northern Province was 73.7% for the first dose and 62.2% for the second dose. Subsequently, in spite of the war and displacement the immunization coverage increased.

Even though there were periods when electricity was not available, alternative methods were put into operation to maintain the cold chain. In Maruthankerny, the state institution (a rural Hospital) did not have electricity. The health centre of the nearest Thileepan Health Service had a Kerosine operated refrigerator in which vaccines of the Health Ministry was stored. In immunization there was understanding between the health sector and the LTTE.

Maternal and Child care Services

Antenatal and Child care services have been satisfactorily functioning in spite of the shortage of Family Health Officers.

Registration of pregnant mothers and children has been over 90%. Attendance at Antenatal and Child Welfare clinics too, has been high. This could be attributed to the high educational level and health consciousness of the mothers who attend the clinics even though the Family Health Officers do not visit their homes.

However, the recent occurrence of several maternal deaths in Jaffna indicates that all is not well. The war has certainly contributed in no small way towards the death of these mothers

Mental Health Services

The armed conflict in Sri Lanka which is over two decades has had devastating effects on the individuals, families and community at large. Children and adolescents have been affected disproportionately. The population has been rendered homeless, displaced several times, have had their education disrupted; their parents separated or snatched away from them and have experienced and witnessed brutality and violence. Most of the adolescents today have been born and reared amidst this war. All these have affected their mental well being and resulted in a society which is aggressive and violent.

Several studies ²⁴ have shown that this war and disaster has affected the fundamental family and community dynamics resulting in changes at a collective level.

The implementation of several programmes by the Health Ministry and the Non-Government and UN Agencies is probably having an effect of slowing down the deterioration of the condition. The reversal will probably take more time.

Conclusion

A single reason cannot be attributed as to why our health indices especially the mortality figures remain within "reasonable" limits in spite of the long drawn out war.

Could it be due to an inherent resilience of the local community?

The health service personnel who have been in the state sector have always been conscious of their obligation to the people in the delivery of their services.

There was understanding and cooperation between the warring factions and Health Ministry staff especially in the Wannai, in implementing several Public Health Programmes at times of war and natural calamities. In the Wannai, they coordinated with staff of the Health Ministry in the implementation of Public Health programmes such as malaria control, disease surveillance and disease control. They also assisted with human resource wherever there were gaps.

The Local and International Organizations assisted in many ways. Health was on the agenda of most NGOs. Several NGOs supported the training and maintenance of grass root level workers and also in transport of drugs, equipment and nutrition supplements.

Every time calamity struck the members of the Health profession rose up to the occasion and gave a helping hand to the affected. Because of the combined efforts of every body the people were able to survive.

Dr.N.Sivarajah

Although there were bombing, shelling, displacement, restrictions and embargoes on food medicines and health equipment it should be appreciated that the population survived

I keep always reminded of a plaque on the table of the Director, Jaffna Teaching Hospital which says:

விழாமல் இருப்பதில் எம் மகத்துவம் இருக்கவில்லை,
விழுகின்ற ஒவ்வொரு தடவையும் மீண்டும் எழுந்திருப்பதில் தான் உள்ளது.

“Our greatness lies not in never falling down;
but in rising up every time we fall”

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I wish to thank you all for your kind presence today and patient hearing.

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He has also attended and presented papers at several National and International conferences, seminars and workshops.

There are several publications to his credit in National and International Journals. He has authored several books in English and Tamil.

Dr. Sivarajah is an active social worker and has served in several Professional and Service Organizations.