

1. General information

1.1 Basic facts

The Central Province is located in the central hills of Sri Lanka and consists of the three districts Kandy, Matale and Nuwara Eliya. The land area of the Province is 5674 square kilometers which is 8.6% of the total land area of Sri Lanka. The Province lies on 6.6°-7.7° Northern latitude and between 80.5°-80.9° Eastern longitudes. The elevation in the province ranges from 600 feet to over 6000 feet above sea level in the central hills. The Province is bordered by the North Central Province from the North the Mahaweli river and Uma Oya from the east to the south from the mountain range of Adams peak, Kirigalpottha and Thotapala and the mountain ranges Dolosbage and Galagedera from the west .

The mean temperature ranges from 16°C - 28°C in the Province where lower temperatures are recorded in hills in the Nuwara Eliya District.

The Province is divided into three zones namely wet, dry and intermediate according to the rain fall. The south west monsoon provides most of the rainfall to the central hills where Watawala records the highest rainfall of 5024 mm annually while 80% of the Matale District shows a similar rainfall pattern of the dry zone gets its rainfall from the North east monsoon. The rainfall in Dambulla is reported as 1234 mm.

In the Central Province 52% of the land has been cultivated while another 6.3% has been identified as lands which can be cultivated. Of the lands cultivated more than 35% has been cultivated with tea while 14.8% has been cultivated with paddy. The percentage of lands cultivated with coconut and rubber is 4.8% and 2.3% respectively.

1.2 Administrative Divisions

For the purpose of administration the Central Province has 36 Divisional secretary areas in the 3 Districts. The number of GN areas, villages and local government bodies under each district is given in table.

Table 1.1 Administrative Divisions & Local Government Bodies

Administrative Areas. (District)	Divisional Secretary Areas.	Grama Niladari Divisions	Pradesiya Saba	Villages	Local Government Bodies	
					MC	UC
Kandy	20	1,188	17	2,987	1	4
Matale	11	545	11	1,355	1	-
Nuwara Eliya	05	491	05	1,421	1	2
Central Province	36	2,224	33	5,763	3	6

The Provincial administration is vested in the Central Provincial Council composed of elected representatives of the people, headed by a Governor who is appointed by His Excellency the President.

1.3 Population

According to the census data 2001 the total population of Central province was 2,318,100 and the estimated population and annual growth for the Central Province for 2006 was 2,549,917 and 0.9 % respectively.

District Population

- Kandy - 1,272,500 (Census 2001)
1,347,335 (Estimated population-2006)
- Matale - 442,000 (Census 2001)
471,180 (Estimated population-2006)
- Nuwara Eliya- 603,600 (Census 2001)
731,402 (Estimated population-2006)

1.3.1 Population Density – The population density for the Central Province was 457 persons per square kilometer. The density was higher than the national average in the Districts of Kandy and Nuwara Eliya while in the Matale District the population density was lower than the national density.

1.3.2 Urban Rural population- according to the 2001 census data 70.0%, 20.2% and 9.8% of the population were classified as rural, estate and Urban respectively.

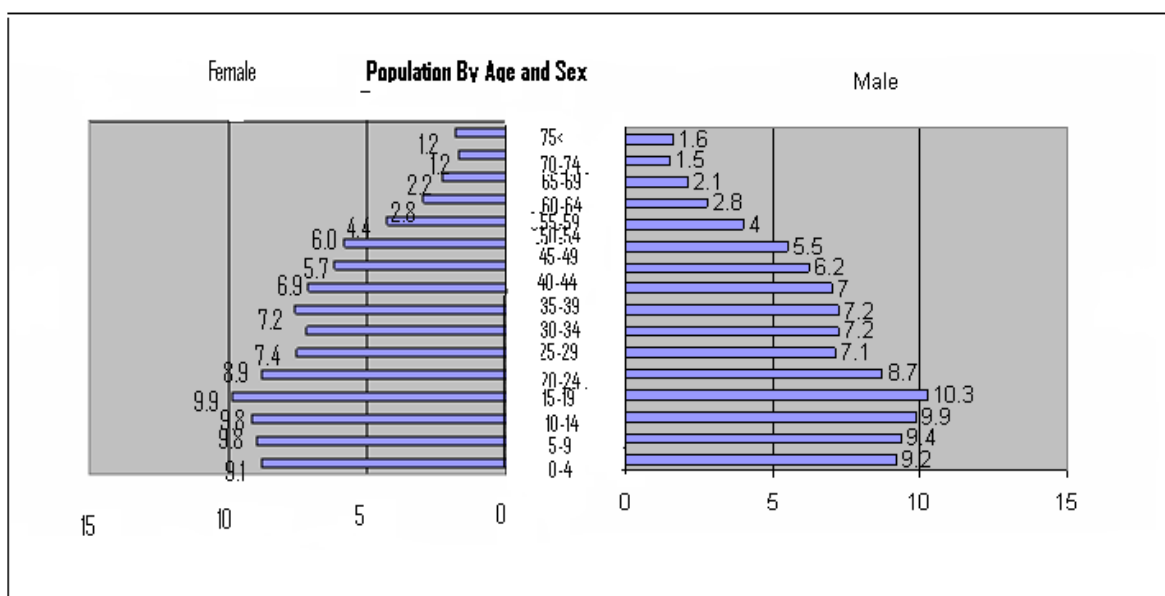
1.3.3 Age composition – The age distribution is given in fig.1.1 The visible feature of the age distribution is the increase of the proportion of the older age groups. A detailed age breakdown is given in table .

Table 1.2. Population of Central Province by Age & Sex .

Year	Kandy		Matale		N'Eliya		Central Province		
	Male	Female	Male	Female	Male	Female	Male	Female	Total
0-4	9.0	8.6	8.6	8.6	9.9	9.1	9.2	8.8	9.0
5-9	9.6	8.7	8.8	8.6	9.8	9.8	9.4	9.0	9.2
10-14	9.6	9.2	9.5	8.7	10.7	9.8	9.9	9.2	9.6
15-19	10.1	9.4	10.9	10.4	10.0	9.9	10.3	9.9	10.1
20-24	9.1	8.9	8.8	8.5	8.3	8.9	8.7	8.8	8.8
25-29	6.8	7.7	7.8	7.4	6.8	7.4	7.1	7.5	7.3
30-34	7.2	7.2	7.3	7.1	7.1	7.2	7.2	7.2	7.2
35-39	7.3	7.5	7.3	7.8	6.9	7.5	7.2	7.6	7.4
40-44	6.9	6.9	7.1	7.5	7.0	6.9	7.0	7.1	7.1
45-49	6.1	6.1	6.7	6.9	5.9	5.7	6.2	6.2	6.2
50-54	5.4	5.8	5.6	5.5	5.5	6.0	5.5	5.8	5.7
55-59	4.0	4.3	3.8	4.1	4.3	4.4	4.0	4.3	4.2
60-64	3.0	3.4	2.6	2.7	2.9	2.8	2.8	3.0	2.9
65-69	2.4	2.5	2.0	2.3	2.0	2.2	2.1	2.3	2.2
70-74	1.6	1.9	1.6	1.9	1.4	1.2	1.5	1.7	1.6
75<	1.7	2.1	1.7	2.0	1.3	1.2	1.6	1.8	1.7

Source: Department of Census and Statistics.

Fig. 1.1 Age composition



ANNUAL HEALTH BULLETIN-2006

General Information

- 1.3.4 Sex composition** – The 2001 census data reported the sex ratio as 97.9 for Sri Lanka while the figure for the Province is reported as 97.08
- 1.3.5 Population by ethnicity and religion** – The 2001 census data shows that 65.3% of the total population living in the CP are Sinhalese, while 20.2% are Indian Tamil, 9.3% Sri Lanka Muslim and 4.7% Sri Lanka Tamil. The detailed breakdown by District is given in table Y. The distribution of the population in the CP according to religion show that 64.5% are Buddhist, while 22.3% , 9.7% and 3.5% practice Hindu, Islam and Christianity respectively.

Table. 1.3 Population by Ethnic Groups-2001 (Percentage)

Districts	Sinhalese	Sri Lankan Tamil	Indian Tamil	Sri Lankan Moor	Burgher	Malay	Others
Kandy	74.0	3.9	8.4	13.3	0.2	0.2	0.1
Matale	80.2	5.4	5.3	8.8	0.1	0.1	0.1
Nuwara Eliya	40.0	5.9	51.3	2.5	0.1	0.1	0.0
Central Province	65.3	4.7	20.2	9.3	0.1	0.1	0.1

Table.1.4 Population of the Central Province by religion by Districts-2001 (Percentage)

Districts	Buddhist	Hindu	Islam	Roman Catholic	Others
Kandy	73.14	10.66	13.66	0.49	0.05
Matale	79.08	9.69	9.03	2.6	0.01
Nuwara Eliya	39.48	51.33	2.86	6.22	0.11
Central Province	64.47	22.28	9.68	3.51	0.06

1.4 Vital Statistics

Registration of births and deaths was made compulsory in 1867 with the enactment of the civil registration laws which conferred the legal sanction for the registration of events namely live births, deaths, still births and marriages. The compilation of vital statistics has a well organized system for the flow of necessary information from registration officers to the statistical branch where compilation of vital statistics is taken place.

ANNUAL HEALTH BULLETIN-2006

General Information

1.4.1 Crude Birth Rate (CBR)

The crude birth rate for the Central Province for the year 2006 is reported as 19.9 per 1000 population which was slightly higher than the CBR of Sri Lanka which is reported as 18.5 per 1000 population.

1.4.2 Crude Death Rate (CDR)

The crude death rate in the Central province for the year 2006 is reported as 6.0 per 1000 population which is slightly lower than the national CDR of 6.1 per 1000 population.

1.4.3 Maternal Mortality Rate (MMR)

Maternal deaths are reported to three different reporting agencies namely Registrar General's Department, Hospital statistics and Maternal Mortality active surveillance system coordinated by the Family Health Bureau of the Ministry of Healthcare and Nutrition. The most recent MMR released by the Registrar General's office for the year 2001 in the Central Province is 8 per 100,000 LB. According to Government hospital

statistics the figure for 2003 is reported The MMR for the Central Province through MMR active surveillance system is reported as 42.7 For 2006

1.4.4 Child Mortality Rate (CMR)

The Child Mortality Rate reported for the Central Province for the year 2006 is 7.7 per 1000 children in the same age group.

1.4.5 Infant Mortality Rate (IMR) and Neo natal Mortality Rate (NNMR)

The IMR and NNMR has declined over the last few decades and the figure for the Central Province for the year 2003 is 14.5 per 1000 LB much higher than the national figure of 11.2 per 1000 LB. The Neo natal Mortality Rate for the Central Province is 12.5 Per 1000LB.

1.4.6 Total Fertility Rate (TFR)

The level of fertility is measured by TFR is estimated as 1.9% for the Central Province for the period 1995 -2000. The estate sector shows a higher TFR of 2.4% during the period 1995-2000.

1.4.7 Life Expectancy

The life expectancy at birth is 71 Years. The rapid increase in the average life span together with widening gap between males and females longevity is due to the reduction of infant and child mortality and also the reduction of mortality of women of the child bearing age.

ANNUAL HEALTH BULLETIN-2006

General Information

1.5 Social Indicators

1.5.1 Literacy Rate- The literacy rate has increased over the last few decades while the census 2001 report the literacy rate of 90.9% for Sri Lanka while the rate for the Central Province is slightly lower and reported as 86.9%. The literacy rate continues to be lowest in the Nuwara Eliya District and was reported as 81.7%.

1.5.2 Level of Education – according to the recent DHS 2001, out of the population 5 years and above approximately 6 % had not been to school and another 22 % had not completed their primary education.

1.6 Water Supply and Sanitation

1.6.1 Source of water supply for drinking – According to data of the Central Province 41.3% families receive water for drinking purposes from main lines, while 27.4 % of families receive water from protected wells. Still around 21.6% families take water from unprotected wells or sources such as rivers, streams or tanks.

1.6.2 Toilet facilities – The number of houses without latrines is reported as 4.3% for Sri Lanka while the figure for the Central Province is reported as 5.4% with the Nuwara Eliya District having 11.6% of houses without latrines. Despite several sanitation projects being implemented since early 90s the need in the Nuwara Eliya District has not been met. This would lead to fecal contamination of water sources and lead to several health problems including water borne diseases in the Province.

1.7 Nutritional status of children

The DHS surveys conducted in 1993 and 2000 have identified that although the nutrition status has improved over the years the rate of decline is unacceptably slow. The nutrition indicators in the central Province is much lower than the national average. Special attention is required to improve the nutrition status of children in the Central Province.

Table. 1.5 Nutritional status of children

	Sri Lanka		Central Province	
	1993	2000	1993	2000
Percent of children ever breastfed	98.0	98.0	-	98.0
Percent of children received colostrum	54.9	76.8	-	75.1
Percent of children who are exclusively breastfed			-	-

Age (0-1) months	34.5	83.9		
Age (2-3) months	17.4	65.0		
Age (0-4) months	-	57.6		
Mean duration of exclusive breastfeeding (Months)	1.2	3.7	-	4.1
Percent of children who received vaccinations				
BCG				
DPT (3/4)	100.0	99.6	100.0	100.0
Polio (3/4)	86.6	87.9	99.1	99.0
Measles	86.3	87.7	99.1	95.3
Full Coverage	79.9	81.2	93.6	90.6
	79.0	80.7	93.1	86.8
Percent of under 5 children with diarrhea in the past 2 weeks (prior to interview)	5.0	6.7	4.1	5.0
Mean birth Weight (Kg)	2.8	2.9	-	2.8
Percent low birth Weight (<2.5 Kg)	18.7	16.7	-	22.2
Percent of children (below 5yrs) chronically undernourished (Stunted)	23.8	13.5	32.21	19.0
Percent of children (below 5yrs) acutely undernourished (Wasted)	15.5	14.0	12.6	13.1
Percent of children (below 5yrs) underweight	37.7	29.4	43.7	37.8

Source: Demographic and Health Survey 2000

2. ORGANIZATION OF HEALTH SERVICES

2.1 Introduction

As in other parts of the country, both public and private sectors provide health care to the people in Central Province . However, public sector plays the major role in providing health

care for the people in this Province. The private sector and estates organizations also provide health care to a lesser extent. The Department of Health Services of Central Government and provincial government cover the entire range of preventive, curative, rehabilitative and promotive health care services in the Province.

The private sector provides mainly the curative care through outpatient services. This includes few private hospitals with indoor facilities, full-time general practitioners, government doctors who are engaged in part-time private practice outside their duty hours and other private facilities like laboratories and pharmacies. Recently, few of non-government organizations came forward to assist the government to strengthen preventive care services. Nearly 98% of inpatient care is provided by the government institutions. Preventive, promotive and rehabilitative care is also provided through public sector.

Western (allopathic), Ayurvedic, Unani, Siddha, and Homeopathy systems of medicine are practiced in Central Province. Of these, Western (allopathic) medicine is the main sector catering for the need of the vast majority of the people. In the Central Province, the Department of Health Services is mainly concerned about western medicine. The Department of Ayurveda also provides health care for a significant number of people in the province.

Central Province is equipped with an extensive network of health care institutions. Primary and secondary health care institutions in the curative sector as well as preventive and rehabilitative care institutions are mainly managed by the Provincial Health Department and tertiary care health institutions are managed by the line ministry.

2.2 Provincial Health Policy

Vision: - Leading the Central Province prosperity making its people healthy; physically, mentally, socially and spiritually.

Mission: - To achieve the highest attainable health status by responding to people's needs, working in partnership and ensuring comprehensive high quality, equitable, cost effective and sustainable health service in the central province.

Goal: - To protect and promote the health of people in the Central Province.

2.3 Provincial Health Administration :-

The Health services of Sri Lanka functions under a Cabinet minister. With the implementation of Provincial Council Act in 1989, the health services were devolved, resulting in the Ministry of Health at the national level and separate Ministries of Health in the nine provinces.

The Central Ministry of Health plays a major role in provision of health services for the people in the country. Its key functions are development of health policies and guidelines, training of medical and Para- medical staff, management of teaching hospitals and specialized medical institutions and bulk purchase of medical requisites. The Provincial Health Department is totally responsible for management and effective implementation of health services within the province.

In the Central Province, the Department of Provincial Health Services is under the Ministry of Health, Indigenous Medicine, Social Welfare, Probation & Child care Services. There is a Minister and Secretary to the Ministry.

The Provincial Director is the head of the Provincial Department of Health Services. There are 3 Regional Directors of Health Services for each District for administrative assistance. Each RDHS area is geographically similar to the administrative units of district secretariats. The Medical officers of Health (MOH) are mainly responsible for the preventive care of the respective divisional secretary areas and the medical officers in charge of the hospitals are responsible for provision of curative care through their institutions.

2.4 Health facilities in Central Province

2.4.1 Curative health facilities

The network of curative care institutions ranges from sophisticated teaching hospitals with specialized consultative services to small central dispensaries, which provide only out patient services. The distinction between hospitals is basically made on the size and the range of facilities. There are three levels of curative care institutions.

a) Primary Care Institutions

- ★ District Hospitals
 - ★ Peripheral Hospitals
 - ★ Rural Hospitals
 - ★ Central Dispensaries and Maternity Wards – categorized as **Primary Medical Care Units (PMCU)** in the current classification
- } Categorized as **Divisional Hospitals (DH)** in the current Classification.

b) Secondary Care Institutions

- a. District General Hospitals (DGH)
- b. District Base Hospitals (DBH)

c) Tertiary Care Institutions

- Teaching Hospitals (TH)
- Provincial Hospitals (PH)

2.4.2 Preventive health facilities

Preventive care is provided through a well organized system of MOH offices as described earlier.

Summary of health care institutions and field areas in the three districts in the province is given in table 2.1. The details of this table and the names of the curative care institutions are given in annexure 2.

Table 2.1 - Summary of health care institutions and field areas in Kandy, Matale and Nuwaraeliya districts in Central province in 2006

	MOH areas	PHI areas	PHM areas	TH	DGH and DBH	DH	PMCU	Specialized units
Kandy	20	69	427	02	02	48	27	10
Matale	10	26	138	-	02	17	15	05
Nuwaraeliya	07	33	234	-	01	24	22	03
Total	37	128	799	02	05	89	64	18

- Kandy Municipal area comes under local government Teaching hospitals Kandy and Peradeniya, DGH Nuwaraeliya and DBH Gampola come under line ministry.
- DH Dickoya, DH Rikillagaskada, DH Teldeniya and DH Hettipola are proposed to be upgraded as DBH. They are included in this table as divisional hospitals as these hospitals have not provided any secondary care during 2006.

As shown in table 2.1, there are 37 MOH areas providing preventive care services, 2 teaching hospitals providing tertiary care services, 5 district general and district base hospitals providing secondary care services, 89 divisional hospitals and 64 PMCUs providing primary care services and 18 specialized units providing specialized care encompass the full strength of health service provision for the people in central province. Out of these, 2 teaching hospitals, one DGH and one DBH belong to line ministry and all other institutions come under provincial department.

Summary of available number of wards and bed strength in these institutions are given in table 2.2 and 2.3. The details of these facilities regarding each institution are given in tables 3.1,3.2,3.3 under chapter 3 on curative care services. Summary of available number of wards and bed strength in institutions under line ministry in 2006 is given in annexure 1.

Table 2.2 - summary of available number of wards and bed strength in institutions under Central provincial health department

		No. of institutions			No. of wards			No. of beds		
		2002	2006	% change	2002	2006	% change	2002	2006	% change
Secondary care institutions	Kandy	01	01	0.0%	15	18	20.0 %	407	439	7.9 %
	Matale	02	02	0.0%	26	29	11.5 %	742	875	17.9 %
Primary care institutions	Kandy	72	74	2.8 %	177	178	0.6 %	2065	2069	0.2 %
	Matale	31	33	6.5 %	55	54	-1.8 %	648	600	-7.4 %
	Nuwaraeliya	45	46	2.2 %	104	106	1.9 %	1362	1346	-1.2 %
Total		151	156	3.3 %	377	385	2.1 %	5224	5329	2.0

Total number of institutions, wards and beds available for the central provincial health department had an increase of 3.3 %, 2.1 % and 2.0 % respectively from 2002 to 2006.

Table 2.3 – Total number of wards, beds and beds per 1000 population in all health institutions (including line ministry institutions) in 3 districts in Central Province - 2006.

	No. of wards	No of beds	No. of beds per 1000 population
Kandy	307	5,972	05
Matale	84	1,475	03
Nuwaraeliya	119	2,127	03
Total	510	9,574	04

According to these data it is clearly evident that about 0.38% of the bed strength of the province is with the 4 line ministry institutions.

2.5 Health Manpower

During the year of 2006, 137 new medical officers, and 40 new nursing officers were recruited to the provincial health department. Details of all the new appointments given in 2006 are shown in table 2.4

Table 2.4 – Flow of selected staff categories of the Central Provincial health department during 2006

Category	No. recruited during 2006		Retirements, transfers out from province etc
	New appointments	Transfers to province	
Specialists	-	10	09
Medical officers	137	50	98
Dental surgeons	07	03	11
Nursing officers	40	36	65
Public Health Midwives	58	13	14
Public Health Inspectors	10	19	01
Dispensers	-	-	01
Physiotherapists	-	01	01
ECG Recordists	02	01	-
Dental therapists	-	01	02
Hospital attendants	-	03	27
Laborers	-	01	20

With all these recruitments, there were 29 specialists, 467 medical officers, and 833 nursing officers were available for the provincial health staff at the end of year 2006. It shows an increase of 16 %, % , 25.5 % and 21.8 % for the three categories respectively compared to year 2002. The details of selected categories of health staff in Central province are given in table 2.6 and 2.7. The total numbers of all the categories of staff at the end of year 2006 in central provincial health department is given in annexure 1.

Table 2.5 The numbers of selected categories of health staff in Central provincial health department in 2002 and 2006

Category	No. in 2002	No. in 2006	% change
Specialists	25	29	16.0%
Medical officers	372	467	25.5%
Dental surgeons	55	64	16.4%
Nursing officers	684	833	21.8%
Public Health Midwives	934	922	-1.3%
Public Health Inspectors	119	139	16.8%
Pharmacists	26	35	34.6%
Dispensers	128	129	0.8%
Medical Laboratory Technologists	29	25	-13.8%
Radiographers	07	06	-14.3%
Physiotherapists	02	04	100%
ECG Recordists	03	05	66.7%

Dental therapists	65	57	-12.3%
Hospital attendants	495	616	24.4%
Laborers	1,417	1,433	1.1%

ANNUAL HEALTH BULLETIN-2006

Organization of Health Services

Table 2.6 The numbers of selected categories of health staff in Central province (including institutions come under line ministry) - 2006

Category	Central Provincial health department	Line ministry institutions in Central province	Total
Specialists	29	93	122
Medical officers	467	986	1,453
Dental surgeons	64	69	133
Nursing officers	833	2,148	2,981
Pharmacists	35	73	108
Medical Laboratory Technologists	25	65	90
Radiographers	06	44	50
Physiotherapists	04	19	23
ECG Recordist	05	20	25
Hospital attendants	616	349	965
Laborers	1,433	1,541	2,974

According to these data, at the end of year 2006, Central Province had 58 medical officers and 118 nursing officers per 100,000 populations in the province. It is also evident that the higher number of most of the staff categories are occupied at four line ministry institutions in Central Province.

3. Curative care services

Curative care is provided to the people in Central province through a network of different type of institutions as described in chapter 2. Those include two tertiary care institutions, 5 secondary care institutions 153 primary care institutions and 17 specialized institutions. Out of those 3 secondary care institutions, all primary care institutions and all specialized institutions come under Central provincial health department.

3.1 Primary care services

Primary care services to the people in Central Province are delivered through divisional hospitals and primary care units. The summary of services delivered by these institutions is shown in table 3.1 and trends of service provision in these hospitals are shown in table 3.2. The details of the above information are given in annexure 3.

According to these data it is clearly evident that the bed occupancy rate of primary care hospitals are below 50%.

Table 3.1 – Summary of hospital basic information and services delivered by primary care institutions in Central province in 2006

	Kandy	Matale	Nuwara Eliya	Total
No. of Institutions	74	33	46	153
No. of beds	2,069	600	1,346	4,015
No. of wards	178	54	106	338
Bed occupancy rate (%)	42.03	39.80	42.83	41.96
No. of Admissions	134,110	37,720	79,239	251,069
OPD Attendance	1,853,377	544,381	672,151	3,069,909
Total inpatient days	317,383	87,157	210,441	614,981

per year				
No.of clinics held	7,543	2,174	2,921	12,638
Clinics Attendance	471,630	90,329	157,961	719,920
No.of Deaths	275	87	263	625
No.of Deliveries	2,628	777	5,138	8,543
No.of patients transferred out	16,680	3,523	12,855	33,058

ANNUAL HEALTH BULLETIN-2006

Curative care Services

Table 3.2 – Trends in services provided by primary care institutions in Central Province

		OPD attendance	Indoor admissions	Clinic attendance	Deliveries
Kandy	2002	1,229,074	74,877	122,910	2,793
	2006	1,853,377	134,110	471,630	2,628
	% change	50.8 %	79.0 %	283.7%	- 5.9 %
Matale	2002	864,140	39,880	143,110	907
	2006	544,381	37,720	90,329	777
	% Change	-37.0 %	-5.4 %	-36.9%	-14.3%
Nuwaraeliya	2002	1,008,302	66,724	94,858	4,476
	2006	672,151	79,239	157,961	5,138
	% change	-33.3 %	18.8 %	66.5	14.8%
Total	2002	3,101,516	181,481	360,878	8,176
	2006	3,069,909	251,069	719,920	8,543
	% change	-1.0 %	38.3 %	99.5%	4.5%

There is an increase of OPD attendance, indoor admissions and clinic attendance in primary care institutions in kandy district. However in Matale district, all these parameters are decreased in 2006 compared to 2002. Rapid development of DGH Matale and DBH Dambulla and private sector in Matale district have caused influx of most of the patients from rural areas to these institutions.

3.2 Secondary Care services-2006

Five secondary care institutions established in Central province provide specialized services to the people in the province. Out of these, three hospitals (DGH Matale, DGH Nawalapitiya and DBH Dambulla) are managed by the Central provincial health department and other two (DGH Nuwaraeliya and DBH Gampola) are managed by line ministry. Apart from those hospitals, four other hospitals (DH Dickoya, DH Rikillagaskada, DH Teldeniya and DH Hettipola) are already proposed to be upgraded as District Base Hospitals. However, these hospitals were considered as divisional hospitals during year 2006 as there was no secondary care available in these hospitals.

The summary of the basic information and services provided by these hospitals are shown in table 3.3

ANNUAL HEALTH BULLETIN-2006

Curative care Services

Table 3.3 - summary of the basic information and services provided by secondary care institutions in Central Province (including line ministry institutions)

	No. of wards	No. of beds	Bed occupancy rate (%)	Total inpatient days per year	No. of admissions	OPD attendance	No. of deliveries
DGH Matale	21	679	80.48	199,470	52,540	274,180	5,490
DGH Nawalapitiya	18	439	81.32	130,309	38,728	189,756	4,112
DGH Nuwaraeliya	10	293	104.69	111,956	37,253	125,902	5,270
DBH Dambulla	09	196	97.51	69,759	33,845	131,672	2,988
DBH Gampola	08	311	100.17	113,708	34,504	228,318	3,917
Total	66	1918	89.31	625,202	196,870	949,828	21,777

3.2.1 – Services provided by secondary care institutions under Central provincial health department

As described earlier, three secondary care institutions are managed by Central provincial health department. Detailed summary of wards and beds of secondary care institutions under Central provincial Health department and other services are given in annexure 3.

Trends of the services provided by these three institutions are given in table 3.4.

ANNUAL HEALTH BULLETIN-2006

Curative care Services

Table 3.4 - Trends of the services provided by secondary care institutions under Central provincial Health department.

		DGH Matale	DGH Nawalapitiya	DBH Dambulla
No. of wards	2002	17	15	09
	2006	21	18	09
	% change	23.5 %	20.0	0.0
No. of beds	2002	565	407	177
	2006	679	439	196
	% change	20.2 %	7.9	10.7
OPD attendance	2002	227,753	221,516	127,084
	2006	274,180	189,756	131,672
	% change	20.4 %	-14.3	3.6
Admissions	2002	43,501	32,486	30,776
	2006	52,540	38,728	33,845
	% change	20.8 %	19.2	10.0
Bed occupancy rate	2002	101.72	122.5	104.32
	2006	80.48	81.32	97.51
	% change	-20.9%	-33.6%	-6.5%
Clinic attendance	2002	113,673	53,026	56,278
	2006	111,819	135,284	48,299
	% change	1.6 %	155.1 %	-14.2
Deliveries	2002	7,136	4,703	3,218
	2006	5,490	4,112	2,988
	% change	-23.1 %	-12.6 %	-7.2

Major surgeries	2002	2,546	1523	1,002
	2006	3,725	2,936	2,174
	% change	46.3%	92.8%	117.0%
X rays	2002	25,378	13,800	8,183
	2006	41,438	32,036	16,400
	% change	63.3%	132.1%	100.4%
No. of blood issued	2002	909	1,349	325
	2006	2,108	1,713	917
	% change	131.9 %	27.0 %	182.2
No.of Deaths	2002	361	337	185
	2006	161	406	74
	% change	-55.4%	20.5%	-60.0%
No.of patients transferred out	2002	665	869	1,380
	2006	1,325	1,331	1,389
	% change	99.3%	53.2%	0.7%

ANNUAL HEALTH BULLETIN-2006**Curative care Services****Table 3.5:- Maternity Statistics of secondary care institutions under Central provincial Health department.-2006**

	DGH Matale	DGH Dambulla	DGH Nawalapitiya
Total No. of Admissions	7,077	4,198	5,675
Total No. of Deliveries	5,490	2,988	4,112
➤ Single	5,429	2,962	4,081
➤ Twin	61	26	31
➤ Triplet	00	00	00
Still Births	47	32	64
Total No. of live Births	5,504	2,982	4,071
➤ Birth weight < 2500g	1,053	615	1,023
➤ Birth weight > 2500g	4,451	2,367	3,048
Total No. of Normal Deliveries	3,795	2,294	3,003
Total No. of Caesarian Sections Performed	1,695	619	963
Total No. of Abortions	531	615	340
Total No. of Maternal Deaths	03	00	03

3.3 - Tertiary care services -2006

In Central province there are two tertiary care institutions (TH Kandy and TH Peradeniya) providing specialized tertiary care services to the people in the province. Both the institutions are managed by the line ministry. The bed strength and the services provided by those two institutions during 2006 are given in table 3.5.

Table 3.6. - The bed strength and the services provided by tertiary care institutions in Central province during 2006

	TH Kandy	TH Peradeniya
No. of wards	78	21
No. of beds	2,248	835
OPD attendance	1,067,318	262,612
Admissions	164,843	63,221
Bed occupancy rate	83.19	87.31
Deliveries	11,455	7,488

Clinic room at -DBH Dambulla



Scene of OPD Que at DGH Nawalapitiya



Inside view at ward at Digana Rehabilitation Hospital



ANNUAL HEALTH BULLETIN-2006

Morbidity and Mortality

4 Morbidity and Mortality

Even though Sri Lanka has a good field surveillance system for communicable diseases, there is no proper field data collection method for other diseases such as non communicable diseases. However, morbidity data is available for the patients taking treatment as inpatients from government hospitals. The data on outpatient attendance is not routinely collected except for the special surveys. Apart from these, both inpatient and outpatient data on patients seeking treatment from private institutions are also not available. In government health system, indoor morbidity and mortality register (IMMR) has become the major source of information on these aspects.

4.1 – Inpatient mortality and morbidity

As described earlier, information on inpatient morbidity and mortality of government health institutions are gathered through IMMR. The summary of provincial and district data on leading causes of hospitalizations and hospital deaths (including line ministry institutions)

during year 2005 are shown in tables 4.1 and 4.2. The details of ten leading causes of hospitalizations and hospital deaths (including line ministry institutions) during year 2005 of three districts of Central province are given in annexure 4. These data are available only for the year 2005 at the moment.

In Nuwaraeliya district, Slow fetal growth, fetal malnutrition and disorders related to short gestation and low birth weight (P05-P07) has ranked as the number 1 cause of hospital deaths (annexure 4). However it is included in ten leading causes of mortality for the province. It shows the importance of maternal and fetal care specifically in this district.

ANNUAL HEALTH BULLETIN-2006

Morbidity and Mortality

Table 4.1 Leading causes of live discharges (including line ministry institutions) for the year 2005 in Central province and Kandy, Matale and Nuwaraeliya districts

Disease code (IMMR code)	Disease and ICD code	Central Province		Kandy		Matale		Nuwaraeliya	
		No.	Rank	No.	Rank	No.	Rank	No.	Rank
245	Undiagnosed / Uncoded	34610	1	22945	1	5608	3	6055	1
195	Single spontaneous delivery (O 80)	27584	2	15493	3	6340	1	5751	2
150	Asthma (J45, J46)	19148	3	12471	4	3538	4	3139	5
042	Other viral diseases (includes viral fever) (A81,A88,A89,B00,B03,B04,B07-B09,B25,B27-B34)	17704	4	11346	5	3174	6	3184	4

243	Persons encountering health services for examination, investigation and for specific procedures of health care (Z00-Z13,Z40-Z54)	16099	5	16099	2	-	-	-	-
227	Open wounds and injuries to blood vessels (S01,S11,S15,S21,S25,S31,S35,S41,S45, S51,S55, S61,S65,S71,S75,S81,S85,S91,S95,T01.T06.3,T09.1, T11.1,T11.4,T13.1,T13.4,T14.1,T14.5)	15991	6	7312	9	5827	2	2852	6
196	Other complications of pregnancy and delivery (O20-O29,O60-O63,O67-O71,O73-O75,O81-O84) (Includes still births)	13432	7	8116	7	3128	7	2188	9
220	Superficial injury (S00,S10,S20,S30,S40,S50, S60,S70,S80,S90, T00,T09.0,T11.0,T13.0,T14.0)	12935	8	6481	10	1940	10	4514	3
006	Diarrhea and gastroenteritis of presumed infectious origin (A09)	11929	9	8107	8	-	-	2569	8
217	Other signs and symptoms and abnormal clinical findings (R25-R49,R52,R53,R55,R57-R69)	9368	10	9368	6	-	-	-	-

Source – Medical statistical unit, Colombo

ANNUAL HEALTH BULLETIN-2006

Morbidity and Mortality

Table 4.2 Leading causes of hospital deaths (including line ministry institutions) for the year 2005 in Central province and Kandy, Matale and Nuwaraeliya districts

Disease code (IMMR code)	Disease and ICD code	Central Province		Kandy		Matale		Nuwaraeliya	
		No.	Rank	No.	Rank	No.	Rank	No.	Rank
128	Acute myocardial infarction (I 21, I 22)	329	1	230	2	43	3	56	2
245	Undiagnosed / uncoded	317	2	285	1	32	4	-	-
134	Cerebrovascular disease	285	3	195	3	63	1	27	5

	(I60-I69)								
219	Ill-defined and unknown causes of mortality (R95-R99)	171	4	171	4	-	-	-	-
145	Pneumonia (J12-J18)	138	5	113	6	25	7	-	-
235	Toxic effects of organophosphate and carbamate insecticides (T60.0)	125	6	53	10	30	6	42	3
132	Heart failure (I50)	123	7	-	-	48	2	33	4
129	Other ischaemic heart disease (I20,I23-I25)	122	8	122	5	-	-	-	-
133	Other heart diseases (I27.0-I27.8, I28-I49,I51)	107	9	83	8	-	-	18	10
149	Bronchitis, emphysema and other chronic obstructive pulmonary disease (J40-J44)	106	10	84	7	22	8	-	-

Source – Medical statistical unit, Colombo

According to table 4.1, it is clearly evident that undiagnosed / uncoded live discharges ranked as no 1 in hospital inpatient morbidity in Central province. It emphasizes the need of increasing awareness among medical officers on proper diagnoses writing. As also evident in national figures, acute myocardial infarctions and cerebrovascular diseases have ranked top in the hospital mortality in this province too.

5. Preventive Health

5.1. Maternal and Child Health

This chapter contains information on family health activities conducted by public health staff in the field and at clinics conducted both in the field and divisional hospitals.

Table 5.1 The population statistics, number clinics and estimates for 2006

	2005	2006
Population	2,460,855	2,526,901
Estimated eligible families	369,128	379,035
Estimated number of births	49,709	48,516
Estimated infant deaths	721	703
Estimated maternal deaths	19	18
Number Ante natal clinics (single+combined) clinics	120	100
Number child welfare clinics (single+combined)	76	120
Number poly clinic	401	490
Number field weighing posts	3,342	4,490
Number FP clinics	89	93

In 2006 maternal and child health services had been provided through 100 antenatal clinics , 120 child welfare clinics and 490 poly clinics.

Mothers waiting for Consultation at an Antenatal clinic.



ANNUAL HEALTH BULLETIN-2006

Preventive Health

Table. 5.2 Maternal Care Services Provided by in the Central Province

Indicator	2005		2 006	
	Number	percentage	Number	percentage

Eligible families under care	403,524	109.3	410,609	108.3
Pregnant mothers registered by PHMM	49,099	102.8	49,921	102
Pregnant mothers registered at home (est. preg. Mothers)	45,100	94.1	45,410	91.0
Pregnant mothers registered at home before 12 weeks POA	37,774	85.8	39,056	86.0
Pregnant mothers registered at home after 20 weeks POA	1,142	2.5	900	2.0
Registered at clinic	3,999	8.1	4,511	9.0
Pregnant mothers under care	25,301		26,849	
Primi under care	9,328	36.9	9,104	33.9
Pregnant mothers tested for VDRL	18,524	73.2	19,626	73.1
Pregnant mothers grouping done	20,562	81.3	21,592	80.4
Pregnant mothers protected with Rubella	23,402	92.5	24,357	90.7
Teenage pregnancies under care	1,178	4.7	1,657	6.2
Pregnant mothers with BMI < 18.5 kg/m ²	10,424	23.4	9,951	23.0
Pregnant mothers with BMI < 25.0 kg/m ²	5,244	11.8	4,790	11.1

ANNUAL HEALTH BULLETIN-2006

Preventive Health

The reported data in 2006 indicate that 108.3% of the eligible families were under care of the Public Health Midwives. Public health midwives have registered 49,921 pregnant mothers during 2006 which is 102% of the estimated figure. The percentages of pregnant

mothers registered at clinics have increase by 512. This is mainly due to the 72 vacancies of PHMM in the field. Of the mothers registered 86.0% were registered before 12 weeks of pregnancy, while 2.0% have been registered after 20 weeks. Of the pregnant mothers under care 6.2% were teenage mothers while 33.9% were primi gravida. Service indicators such as VDRL coverage, Rubella were reported as 73.1% and 90.7% respectively. The nutrition status of pregnant mothers showed that 23.0% did not have adequate Body Mass Index (BMI < 18.5 kg/m²)

Table 5.3. Maternal Care Services

Indicator	2005		2006	
	Number	percentage	Number	percentage
Deliveries reported by PHM (hospital and field)	37,766	79.3	39,222	79.8
Home deliveries	216	0.6	207	0.5
Home deliveries receiving untrained assistance	136	63.0	117	56.5
Live births reported	38,151	80.1	39,355	80.1
Multiple births	501	1.3	462	1.2
Still Births reported	407	* 10.7	413	* 10.5
Abortions reported	2,237	* 58.6	2,391	* 60.8
Low birth weight	4,958	13.2	5,429	14.0

* per 1000 LB

PHMM reported a total number of 39,222 deliveries during 2006 which is 79.8% of the estimated number 49,149. The numbers of home deliveries have reduced slightly to 207 in 2006 as compared to 216 in 2005. Further efforts should be made to discourage all home deliveries while investigating the causes for home deliveries in the Central Province to take preventive measures. Of the single live births 14.0% were low birth weight (LBW, birth weight less than 2500gr). The LBW reported from hospitals in the CP was % which means that the reporting is low. All efforts need to be made to make sure that infant registration and post partum visits are done to compile accurate data on the new born. The still birth ratio reported for central Province was 10.5 per 1000LB. 2391 abortions were reported from the central province, which gives a abortion ratio of 60.8 per 1000 LB.

Table. 5.4 Post partum care provided by the Public health midwives

Indicator	2005		2006	
	Number	percentage	Number	percentage
At least 1 visit during first 10 days (of reported deliveries)	33,993	88.4	35,097	89.5
At least 1 visit during first 10 days (of estimated deliveries)	33,993	71.3	35,097	71.4
Post natal care around 42 day	23,946	63.4	27,005	68.9
Mothers with complications	1,575	4.1	2,210	5.6

In 2006 the number of post partum visits were conducted for 89.5% of the reported deliveries during the first 10 days. The over all post partum coverage is only 71.4% which indicates that post partum care should be emphasized by all health managers. The post natal care reported around the 42nd day was reported as 68.9%. The reporting of mothers with complications has increased during 2006 as compared to 2005.

Table. 5.5 Post partum maternal mortality

Indicator	2005		2006	
	Number	percentage	Number	percentage
Fever	366	22.1	482	20.1
Offensive discharge	215	13.0	279	11.6
Excessive bleeding	105	6.3	155	6.5
Dysuria	168	10.2	247	10.3
Infected Episiotomy	322	19.4	577	24.0
Other complications	480	29.0	661	27.5
Total	1,656		2,401	

Table. 5.6 Infant care provided by Public Health Midwives.

Indicator	2005		2006	
	Number	percentage	Number	percentage
Infants registered by PHMM	39,053	78.6	40,720	83.9
Infant deaths reported by PHMM	390	*10.2	407	*10.3
Infant deaths investigated by PH staff	336	86.2	317	77.9
Neonatal Deaths reported	298	*7.8	310	*7.9
Post neonatal deaths reported	92	*2.4	97	*2.5
Perinatal deaths reported	637	*16.7	647	*16.4
Child deaths reported	52	**0.27	74	**0.38
Still Birth	407	* 10.7	413	* 10.5

* per 1000 LB

** per 1000children 13-60 month.

The data show that in 2006 PHMM have registered 83.9% of the estimated infants for routine care as compared to 78.6% in 2005. Out of the 703 estimated infant deaths only 407 (57.9%) has been reported. Out of the infant deaths reported only 77.9% has been investigated. 76.2% of the infant deaths are reported to have occurred during the neonatal period. The Perinatal Mortality Rate reported from the field is 16.4 per 1000LB. This shows that adequate attention is not paid by PHMM for infant care in the field.

On average 85.3% infant ,s have been weighed monthly at 610 clinics and 4490 field weighing centers. Out of the infants weighed 6.9% were under weight (<-2Sd). The weighing of infants show a gradual improvement in 2006 as compared to 2005.

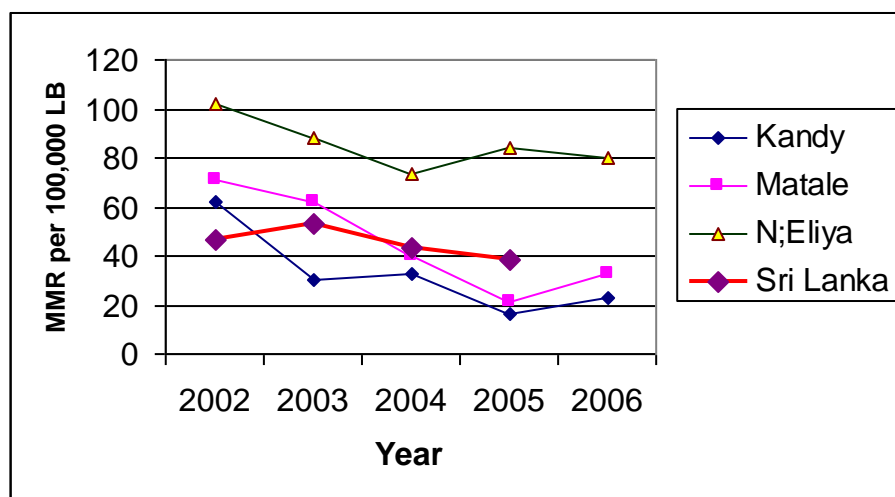
Table. 5.7 Growth Weighing of Children under 5 years by Public Health Midwives.

Indicator	2005		2006	
	Number	percentage	Number	percentage
Average number of infants weighed monthly	34,701	80.8	37,411	85.3
Infants weighing below – 2Sd	2,282	6.6	2,574	6.9
Quarterly average of children 1-3 yrs weighed	156,168	90.1	162,907	93.3
Average number of children 1-3 yrs weighing below -2Sd monthly	10,305	19.8	10,994	20.2
Quarterly average of children 4-5 yrs weighed	133,707	77.2	138,452	79.3
Average number of children 4-5 yrs weighing below -2Sd monthly	9,318	20.9	9,574	20.7

The weighing of children 1-3yrs and 3-5yrs at least once in 3 months need to be interpreted with caution as the reporting system gets only the number of children weighed monthly, hence the calculation is based on an assumption that children are weighed only once in three months. The underweight reported in the Nuwara Eliya is much lower than the other two Districts despite all national surveys including DHS showing a high percentage of underweight in the Nuwara Eliya District. Under reporting and incorrect recording needs to be addressed in 2007. The weighing needs to be increased to make any meaningful interpretation on underweight for these age groups. The knowledge and practices on infant young child feeding need to be strengthened if the key challenge on child nutrition is to be addressed.

During 2006, 34 maternal deaths were reported by the health staff of which 21 deaths were confirmed at the national reviews which gave a Provincial MMR of 42.7 per 100,000LB. Out of the maternal deaths 12 were classified as Direct maternal deaths while another 8 were classified as indirect maternal deaths and one death classified as inconclusive. The District MMR for the Districts of Matale and Nuwara Eliya reported much lower MMR as compared to the national MMR but Nuwara Eliya District despite the reduction still report an MMR twice the national ratio.

Fig. 5.1 Trends of Maternal Mortality Ratio by District of Central Province 2002-2006



5.2. School Health

The concept of “Kandurata Suwa Kekulu” Health promoting school concept continues to be advocated at Provincial and Zonal level and is done in partnership with the Ministry of Education. At present majority of school in the Central Province adhere to health promoting school concept in various degrees. Provincial Health and Education departments work together to strengthen this Concept and Several review meeting Were held with officials from both Departments. In May 2006 a special review meeting chaired by the Chief Minister Central Province and best performed school were given certificate and prizes with the support of the Ministry of Health care and Nutrition Colombo.

School Health includes the areas of Healthful school environment, School medical inspection and follow up, prevention of communicable diseases, Nutritional services, First aid and emergency care, mental health, dental health, eye health, health promotion and use of school health records.

School medical services include medical inspection of children, detection of and correction of health problems, providing immunization , worm treatment, provision of micronutrients to needy children and advice on health issues. The public Health inspectors conduct an annual sanitation survey in the schools in their respective areas. In 2006 sanitation survey has been completed in 1029 (70.6%) schools which is lower than the coverage in 2005. The number of schools where there are adequate water and sanitation facilities were reported as 775 (75.3%) and 715 (69.5%). The SMI coverage in the Central Province was 79.6%. This area needs to be closely monitored in 2007. Out of the children examined the commonest health problems identified were dental caries, visual defects, heart diseases.

School Medical Infection Activity.**Table. 5.8 School Health Activities in the Central Province.**

Indicator	2005		2006	
	Number	percentage	Number	percentage
Total Number of schools	1,481	-	1,457	-
Total number of schools sanitation survey completed	1,321	89.2	1,029	70.6
Total number of schools with adequate drinking water facilities	807	61.1	775	75.3
Total number of schools with adequate sanitation facilities	830	62.8	715	69.5
Total number of schools SMI completed	1,320	89.1	1,160	79.6
Number of children examined in year 1,4,7	114,732	-	116,626	-
Stunted	5,844	5.1	5,480	4.7
Wasted	10,478	9.1	12,447	10.7
Over weight	1,477	1.3	1,180	1.0
Total number of defects identified during SMI	56,161	-	57,215	-

Total number of defects corrected	27,410	48.8	23,542	41.1
Number of children referred	6,411	8.7	3,358	2.9
No. school health clubs functioning	220	14.9	179	12.3
Number of Health promoting schools	141	9.5	159	10.9

ANNUAL HEALTH BULLETIN-2006**Preventive Health****5.3. Well Woman clinic services**

The concept of well woman clinics was introduced in 1996 to screen women for reproductive organ malignancies as part of the reproductive health programme. Ten years after initiation not only in the Central Province but also at national level the progress of programme has been extremely slow. In the Central province 68 WWCs were functioning at the end of 2006. The performance reported at WWCs during 2006 is given in the table below.

Table. 5.9 Performance in well woman clinics in the Central Province.

Indicator	2005		2006	
	Number	Percentage/ incidence*	Number	Percentage/ incidence*
Total clinic sessions held	673		829	
First visits to clinic age under 40 yrs	2,449	32.9	4,251	43.3
First visits to clinic age under 40 – 60 yrs	4,564	61.3	5,166	52.6
First visits to clinic age over 60 yrs	430	5.8	410	4.2
No. of women subjected to breast examination	7,333	98.5	9,684	98.5
Breast abnormalities detected	206	*2.8	182	*1.9
Number of women subjected to cervical visualization	6,109	82.1	8,195	83.4
Number Pap smear taken	5,322	71.5	7,646	77.8

Number reports received	2,573	48.3	4,509	59.0
Cervical smears reported as CIN positive				
Diabetes mellitus detected	224	*3.0	158	*1.6
Hypertension detected	501	*6.7	482	*4.9

* Incidence per 100 women

ANNUAL HEALTH BULLETIN-2006

Preventive Health

The above data show a gradual increase in the number of clinics conducted but the take up of these services are extremely low. Every effort should be taken in 2007 to make sure that at least one cohort of women aged 35 years are all examined in the WWCs through active out reach services.

5.4. Family Planning

During 2006 a total of 27,473 new acceptors were recruited which is slightly lower than the 27,636 new acceptors recorded in 2005. Temporary methods accounted for 97.5% while the balance were permanent method. The distribution and pattern of new acceptors are given in the table below.

Table. 5.10 Family Planning new acceptors

	New acceptors for IUCD	New acceptors for injectables	New acceptors for oral pills	New acceptors for Tubectomy	Total New acceptors
2005	4,825	16,873	5,754	184	27,636
2006	5,169	15,973	5,634	697	27,473

Of the eligible families under care 243,137 were reported to be using a modern family planning method thus computing a current user rate of 59.2% in 2006. This rate is similar to the rate calculated for 2005. The public health staff have distributed 292,018 packets of pills and 884,981 condoms during the year 2006.

5.5. Epidemiological surveillance

Surveillance of notifiable diseases is a major routine activity carried out through the public health system, where all Medical Officers of Health send the weekly return on

communicable diseases. In 2006 the % of MOHs sending the return was X%, while Y% sent the return on time. Of the returns sent Y% were nil returns. It is important that all MOHs should ensure that the weekly return is sent on time while also visiting each of the hospitals in the area and all private practitioners to assist in notifying any notifiable disease. The number of cases notified in 2006 for selected notifiable diseases in the CP is given below. Out of the notifications majority of the cases reported were Dengue and water borne disease. This reflects that a strategic approach is required to control dengue and water borne diseases in the Central Province, while also strengthening the notification system.

ANNUAL HEALTH BULLETIN-2006

Preventive Health

Table. 5.11 Selected notifiable diseases reported in the Central Province

	2005		2006	
	Number	Incidence per 100,000 pop	Number	Incidence per 100,000 pop
Dengue fever/DHF	585	23.8	1,906	75.4
Dysentery	1,306	53.1	1,143	45.2
Encephalitis	07	0.3	16	0.6
Enteric Fever	375	15.2	326	12.9
Food Poisoning	358	14.5	75	3.0
Leptospirosis	120	4.9	141	5.6
Typhus Fever	106	4.3	148	5.9
Viral Hepatitis	151	6.1	446	17.7

5.6 Surveillance of Dengue Fever/Dengue hemorrhagic fever

Dengue fever is endemic in the Central Province and epidemics have been occurring with increased magnitudes periodically since 2002. The worst epidemic was reported in 2004 with 15467 suspected cases and 88 deaths reported in Sri Lanka, while the figure in the CP was 2697 and 10 respectively. The incidence rate and Case fatality rate for the CP is given in the table below. The seasonal increase in the incidence which occurs in relation to the monsoon rains is given below.

ANNUAL HEALTH BULLETIN-2006

Preventive Health

Table. 5.12 Deaths due to DH/DHF From 1999-2006 in Central Province

Year	No of Cases	No.Death	CFR %
1999	53	0	0%
2000	328	2	0.60%
2001	716	4	0.55%
2002	950	8	0.84%
2003	730	4	0.54%
2004	2697	10	0.37%
2005	585	3	0.51%
2006	1906	9	0.47%

Fig. 5.2 Dengue Cases in Central Province 1999-2006

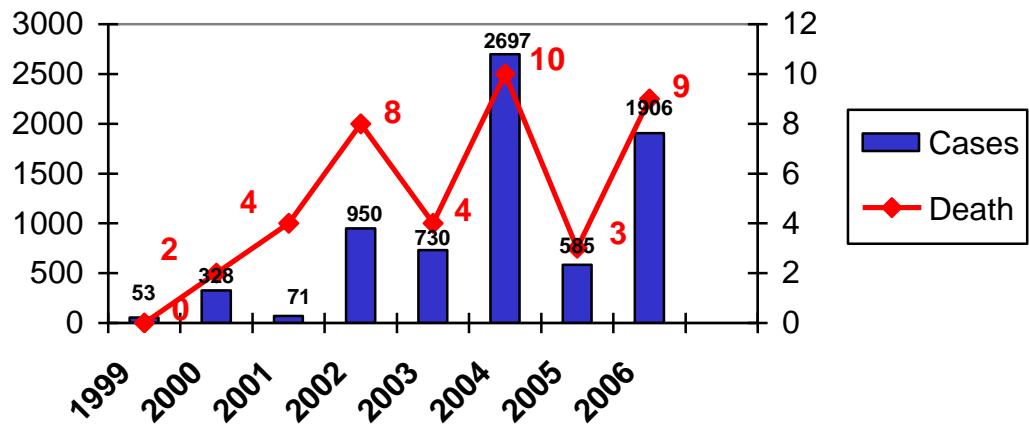
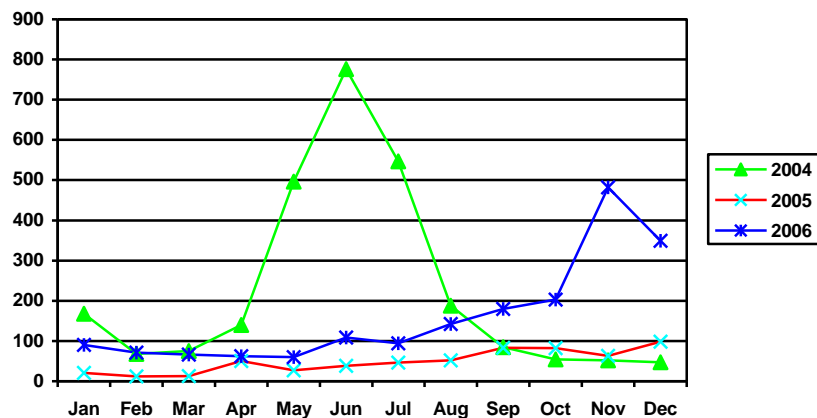


Fig. 5.3 Distribution of Dengue cases by Month in Central Province - 2004 - 2006



The MOH divisions which reports a high case load are Kandy Municipal Council, Yatinuwara, Udunuwara, Gangawata Korale, Kundasle, Pathadumbara and Harispattuwa in the Kandy District , Ukuwela, Matale, MC Matale and Rattota in the Matale District and Rikillagaskada in the Nuwara Eliya District.

During the year 2006, a total 1906 DF/DHF cases were reported from government health institutions and 9 deaths reported. The incidence rate calculated for the high risk MOH areas was 1.84 per 1000 population. Special Campaign Aedes vector surveillance was

initiated in 2000 more stringent action should be done with the support of all local governments to ensure that communities are mobilized to reduce the breeding of the vector.

Quarterly report on environmental Health reported that 99.9% of the notification were investigated by PHII and 46.2% confirmed . 236 number of cases notified could not be traced due to inadequate details in the address or wrong address. This needs to be addressed as a key area in 2007.

5.7. Expanded programme on immunization

The national immunization programme is a success, according the routine information system virtually all eligible children and women through out are receiving all the scheduled vaccines. Periodical surveys have verified this high coverage. The high immunization coverage has resulted in the decline in the targeted diseases has been reported. EPI coverage data based on the EPI quarterly returns show a high coverage for all vaccines given during infancy and childhood. However the coverage for antigens administered during school is yet to reach the desired levels.

ANNUAL HEALTH BULLETIN-2006

Preventive Health

Table. 5.13 Trends on selected vaccine preventable diseases

Year	Tetanus			Whooping Cough			Measles		Encephalitis			Viral Hepatitis	
	Central Province	Total lanka	Sri Lanka	Central Province	Total lanka	Sri Lanka	Central Province	Total Sri lanka	Central Province	Total lanka	Sri Lanka	Central Province	Total Sri lanka
1990	5	58		21	281		88	1315	8	310		644	2768
1992	5	77		10	33		11	303	10	195		1676	6895
1996	5	67		2	27		2	55	3	295		662	3690
1997	4	42		29	405		84	147	14	109		1090	3830
1998	7	61		14	152		32	65	15	93		409	2814
1999	3	46		7	85		128	1861	2	89		118	1589
2000	5	45		10	134		661	13216	4	122		167	1486
2001	8	72		3	43		24	267	1	59		396	2034
2002	0	34		1	14		11	139	0	68		810	2936
2003	6	40		5	118		22	114	10	165		725	2984
2004	4	44		9	50		13	86	2	111		324	2220
2005	7	37		1	114		10	48	7	60		131	2294
2006	3	45		2	71		7	36	16	130		462	2765

Table. 5.14 Immunization coverage in the Central Province

Antigen/Dose	2005			2006		
	Number	% Coverage estimated births	% Coverage DPT 1	Number	% Coverage estimated births	% Coverage DPT 1
DPT 1	45,359	89.6	100.0	45,757	89.0	100.0
DPT 2	45,074	89.1	99.4	45,016	87.6	98.4
DPT 3	44,246	87.4	97.5	44,153	85.9	96.5
OPV 1	44,624	88.2	98.4	45,823	89.1	100.1
OPV 2	44,361	87.7	97.8	45,094	87.7	98.6
OPV 3	43,585	86.1	96.1	45,241	88.0	98.9
Measles	45,292	89.5	99.9	44,834	87.2	98.0
MR	44,879	88.7	98.9	44,402	86.4	97.0

The reporting of adverse events following immunization (AEFI) has shown a gradual increase. The AEFI reporting in all 3 district have improved in 2006 as compared to 2005 but the reporting in the Nuwara Eliya District is relatively low. The reporting of AEFI and the timeliness of the reports needs to be strengthened in 2007.

ANNUAL HEALTH BULLETIN-2006

Preventive Health

Vaccination of a child at an immunization clinic.



Table. 5.15 Reporting of Adverse Events Following Immunization in Central Province

	2005			2006		
	Number	Percentage	Sri Lanka percentage	Number	Percentage	Sri Lanka percentage

Completeness	412	83.74	82	454	92.3	91.3
Timeliness	DNA	DNA	DNA	140	30.8	30.6
Nil Returns	243	49.39	50.1	243	53.5	58.5
AEFI	431	* 51.2	* 46.7	599	*70.2	* 61.5

* Rate per 100,000 doses

ANNUAL HEALTH BULLETIN-2006

Preventive Health

5.8. Environment Health

The Ministry of Health is not directly responsible for the provision of water. However through the primary healthcare workers health education is carried out to motivate people to consume water which is safe. Inadequate latrine facilities are still a problem in the Central Province being more acute in the Nuwara Eliya District. The monitoring of Environmental Health activities are through the quarterly return on Environment Health. It is noted that the District Health managers do not give adequate attention to the timely collection and collation of this return. This needs to be addressed as a priority in 2007. Water and sanitation coverage reported for the Province for 2006 was % and % respectively. During the year X latrines were constructed in the province. The central provincial council needs to identify the necessary funds to provide financial assistance of Rs. 6000/= to families with an income of less than Rs. 2500/= to promote the construction of latrine.

Table. 5.16 Water & Sanitation activities provided by Public Health Inspector

Indicator	2005	2006
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	Number	Percentage	Number	Percentage
Number of Houses in the sanitation Register	515,201	-	520,731	-
Number of houses with sanitary latrines	452,617	87.9	475,140	91.2
Number of houses without latrines	58,090	11.3	41,910	8.0
Number of latrines constructed during the year	4,494	-	3,681	-
Number of houses with pipe borne water connection	245,542	47.7	245,013	47.1
Number of houses using water from protected and deep wells	163,027	31.6	164,810	31.6
Number of houses using water from unprotected and other sources	106,632	20.7	110,908	21.3
Number of public water supplies sampled	409	-	430	-
Number of private water supplies sampled	102	-	96	-
Number of wells chlorinated	3,219	-	3,511	-

ANNUAL HEALTH BULLETIN-2006

Preventive Health

Food safety and hygiene activities reported during 2006 show that a gradual improvement in the rating is seen in the Province. Closer monitoring using the H 800 is required in 2007. Inspection of food handling establishments have increased in 2006 as compared to 2005. Details of Food safety and hygiene activities are given in the table below. A total of 445 formal samples were sent by authorized officers in the Central Province of which 228 were found to be unsatisfactory . A total of 192 Prosecutions were done.

Table. 5.17 Food Safety & hygiene activities provided by Public Health Inspector

	2005		2006	
	No. registered	Percentage	No. registered	percentage
Registration of food handling establishments				
Factories	359	-	441	-

A grade satisfactory	184	51.3	211	47.8
B grade fair	170	47.4	190	43.1
C grade unsatisfactory	05	1.3	40	9.1
Bakeries	755	-	795	-
A grade satisfactory	351	46.5	367	46.2
B grade fair	314	41.6	357	44.9
C grade unsatisfactory	90	11.9	71	8.9
Hotel, Restaurants	1,082	-	1,134	-
A grade satisfactory	522	48.2	588	51.9
B grade fair	460	42.5	487	42.9
C grade unsatisfactory	100	9.2	59	5.2
Inspection of Food handling establishments				
Number inspections	23,411	-	22,830	-
Number served notice	843	3.6	968	4.2
Number prosecuted	66	7.8	88	9.1
Number convicted	51	77.3	92	* 104.5
Food Sampling				
Number formal samples taken	494	-	445	-
Number unsatisfactory	182	36.8	228	51.2
Number prosecuted	128	70.3	192	84.2
Number convicted	108	84.4	144	75.0
Number of formal iodized salt samples taken	75	-	58	-
Food seizures				
Number of food seizures	5,640	-	4,580	-
Number of awareness prg. on food safety				
Traders	1,788	-	1,005	-

Public	1,214	-	1,193	-
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* Note: Some prosecutions initiated in 2005 has been convicted in 2006

The area of food safety needs to be strengthened in 2007.

Occupational Health activities reported show that 587 factories are registered with the Health sector. During inspections 284 defects were found of which 32 were referred to special units.

4657 Environmental pollution problems were reported in 2006 of which 95.0% were investigated by the PHI. 379 were referred for action while 4045 were settled.

5619 Volunteers were reported to be assisting in preventive Health activities in the MOH areas by the end of 2006.

5.9 Rabies Control activities

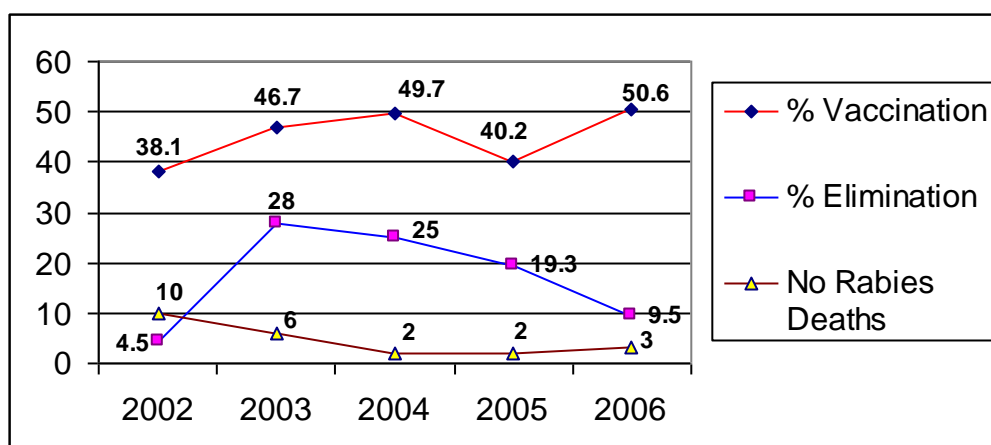
Rabies control measures were launched in Sri Lanka in 1975 and was decentralized to the Provinces in the early 90s. The Central Province initiated the streamlining of rabies control activities in 1998 through the formation of dog vaccination teams and destruction teams. The programme by 2006 have gradually been strengthened to include 6 teams for routine dog vaccination, one team each for destruction for each district, 5 teams mobilized for community dog vaccination using auto plunger. The strengthening of human resources for Rabies control have resulted in a increased vaccination coverage to 50.6% of the dog population and 3 human rabies deaths reported which gives a very low incidence rate of 0.12 per 100,000 population for the year 2006.

Table. 5.18 Rabies Situation and Control activities by Districts in the Central Province.

Activity	2005			2006		
	Estimated DP	Number	%	Estimated DP	Number	%
Dog Vaccination						
Kandy	166657	66615	40.0	166819	83229	49.9
Matale	58224	25637	44.0	58282	35657	61.2

Nuwaraeliya	90672	34592	38.2	90761	40992	45.2
Central Province	315553	126844	40.2	315862	159878	50.6
Dog Elimination						
Kandy	49997	3353	6.7	50045	2191	4.4
Matale	17467	6314	36.1	17485	1203	6.9
Nuwaraeliya	27201	8605	31.6	27228	5614	20.6
Central Province	94665	18272	19.3	94758	9008	9.5
Dog Birth control						
Kandy	-	-	-	40036	1130	2.8
Matale	-	-	-	13988	2146	15.3
Nuwaraeliya	-	-	-	21782	851	3.9
Central Province	-	-	-	75806	4127	5.4
Human Rabies Deaths	-	02	*0.18	-	03	*0.12

* Incidence rate per 100,000 population



ANNUAL HEALTH BULLETIN-2006

Preventive Health

During mid 2006 the Ministry of Healthcare and Nutrition revised the strategy to be more humane towards dogs by promoting dog birth control measures instead of dog destruction. The CP has already implemented this change of strategy in the provincial strategy and more focus will be required to promote dog birth control measures in the next few years. The provincial Ministry has already requested the support of the Provincial Department of Animal Health and NGOs to assist in streamlining the provision of birth control measures

Dog Vaccination programme.



Dog Sterilization programme.



ANNUAL HEALTH BULLETIN-2006

Preventive Health

5.10 Malaria Control Programme.

Malaria has been one of the major public health problems in the Central Province. In 1989 the malaria control programme was decentralized to district level, a change from a “vertical” managerial structure resulting in administrative and operational problems during the transition period. The incidence of malaria has been reduced to extremely low levels during the past few years due to implementation of evidence based parasite and vector

control programmes in the area. These control measures include, change of insecticide from malathion to pyrethroid after identification of malathion resistance in *An. culicifacies* and *An. subpictus* using WHO insecticide susceptibility test kits, stratification of the district into malaria risk areas and carry out indoor residual spraying of the houses in the high risk malaria areas, introduction of larvivorous fish to permanent breeding places and application of insect growth regulator, pyriproxyfen to gem pits in gem mining areas and carry out mobile malaria clinics to detect the malaria cases among migratory population in gem mining areas and security personnel in the security camps in the districts. Furthermore, all the reported malaria cases were investigated and entomological investigations were carried out and IRS was carried out to reduce the infective vector density and 1.5 km radius Mass Blood Surveys were carried out to eliminate the parasite reservoir in the human population. Early warning based on entomological and parasitological investigations and instituting timely remedial measures would have contributed to prevent local transmission of malaria in the area.

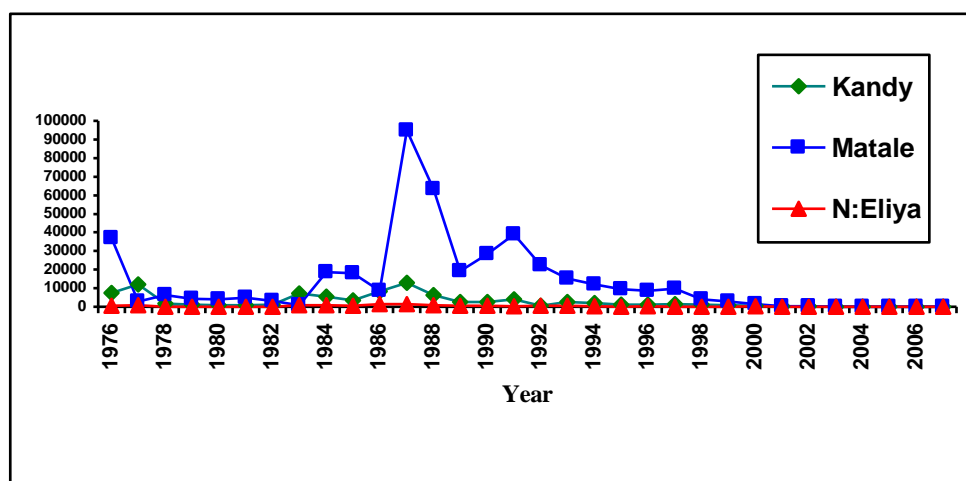


Fig. 5.5 Trends of malaria cases reported by District from 1976 - 2006

2000	710	1419	206
2001	248	390	84
2002	150	228	19
2003	73	63	2
2004	14	75	1
2005	15	19	0
2006	5	7	0
2007	4		0

ANNUAL HEALTH BULLETIN-2006

Preventive Health

Table. 5.19 Number of malaria cases reported by District from 2000 - 2006

Year	Kandy	Matale	Nuwara Eliya	Central Province
2000	710	1419	206	2335
2001	248	390	84	722
2002	150	228	19	397
2003	73	63	2	138
2004	14	75	1	90
2005	15	19	0	34
2006	5	7	0	12

The results planned under the malaria control programme were as follows

1. To reduce the incidence of malaria to a level that the Annual Parasite Incidence would not exceed 0.02 per 1000 population by the year 2006
2. To minimize the proportion of *P. falciparum*
3. To eliminate mortality due to malaria
4. To prevent malaria epidemics
5. To prevent malaria in pregnant mothers

In the Matale District, during 2006, 17,305 blood smears of fever patients were screened of which 0.04% were positive in 2005 compared to 0.18% during 2006. In 2006, *P. vivax* account for 85% of the case load. A 65% decrease of malaria cases were recorded in 2006 when compared with 2005. There were NO malaria deaths or malaria cases among the pregnant mothers recorded in 2005 and 2006. In the Kandy district, 27, 737 blood smears were examined and 6 malaria cases were detected in the year 2006. No malaria cases were detected in the Nuwara Eliya district with 291 blood smears examination. The cases reported in 2005 and 2006 in the Kandy district were from outside the area. No local transmission of malaria has occurred in the two districts during the years 2005 and 2006.

Table. 5.20 Number of blood films, malaria cases and Annual Parasite Incidence (API) by District

District	Year	No. of Blood films	No. of positive	<i>P. Vivax</i>	<i>P. Falciparum</i>	Mix	API (1000 population)
<i>Kandy</i>	2005	26,704	17	13	4	0	0.02
	2006	27,737	6	2	3	1	0.01
<i>Matale</i>	2005	10,940	20	18	02	00	0.04
	2006	17,305	7	06	00	1	0.01
<i>Nuwaraeliya</i>	2005	145	00	00	00	00	00
	2006	291	00	00	00	00	00

Forecasting of malaria epidemics using entomological surveillance and necessary action was taken to prevent two epidemics in Laggala pallegama and Galewela also contributed for reduction of malaria in the Province.

14 Anophelines species were recorded in the Matale. *An. culicifacies* and *An. subpictus* are considered as the primary and secondary vectors. *An. varuna* was incriminated as a secondary vector in gem mining areas in L/Pallegama MOH area. There was 28 % and 7% increase Anophelines adults and larvae respectively in 2006 compared to 2005. *An. culicifacies* collected from Cattle baited huts also increased by four folds in 2006 compared to 2005. 80% of the *An. culicifacies* collected from the cattle baited huts in Wettiyaya village of Galewela MOH area. The density of *An. culicifacies* and other Anophelines increased due to formation of river bed pools for a longer period in 2006 compared to 2005 in the Walamitiyawa oya . Therefore temephos was applied to river-bed pools and all the bed nets distributed to the houses by the Department of Health were impregnated with permethrin to prevent the malaria transmission in the locality.

In the Kandy and Nuwara Eliya districts, 15 anopheline species were recorded. *Anopheles culicifacies*, the major vector of malaria in Sri Lanka, was encountered throughout the year in Minipe and Hanguranketha DDHS areas. In Tumpane and Hataraliyadda, *An. culicifacies* appears seasonally. In the rest of the area *An. culicifacies* appears periodically. This explains the endemic nature of malaria in the areas close to the dry zone and epidemic nature of malaria in the wet and intermediate zone (intermediate zone located more towards the dry zone) in the area.

Number of *An. culicifacies* (cul) and *An. subpictus* (sub) and anophelines collected from 5245 man hours of Indoor resting Cathes (INRC), 845 man hours of Pyrethrum Sprayed Sheet collections (PSC), 222 Cattle Baited Traps (CBT), 135 Cattle Baited Huts (CBH), 595 man hours of Human Landing (HLC) Collections and larval surveys from malaria risk sentinel sites of Galewela, Dambulla, L/Pallegama and Naula MOH areas.

Table 5.21 Entomological surveillance by District in the Central Province

District	Method	Indicator	2005		2006	
			An. <i>culicifacies</i>	An. <i>subpictus</i>	An. <i>culicifacies</i>	An. <i>subpictus</i>
Matale	INRC	No./room	00	00	00	00
	PSC	No./room	0.003	0.02	0.04	0.04
	CBT	No./trap	2.03	6.87	0.11	1.7
	CBH	No./hut	5.53	32.4	27.72	29.62
	WTC	No./trap	0.05	0.03	0.001	0.008
	Larval surveys	No. /dip	0.02	0.01	0.06	0.03
Kandy	INRC	No./room	00	00	00	00
	PSC	No./room	00	00	00	00
	CBT	No./trap	0.02	00	0.05	00
	CBH	No./hut	00	00	00	00
	WTC	No./trap	00	00	00	0.02
	Larval surveys	No. /dip	0.005	00	0.0007	00
Nuwareliya	INRC	No./room	00	00	00	00
	PSC	No./room	00	00	00	0.04
	CBT	No./trap	0.08	3.62	0.21	3.8
	CBH	No./hut	Nd	Nd	0.82	1.32
	WTC	No./trap	00	00	00	00
	HBNC	No./bait	00	00	1.8	0.06
	Larval surveys	No. /dip	0.004	0.0008	0.02	0.006

The following Vector control activities carried out in the Central province

A. Indoor Residual Insecticide spraying in Matale District

Table. 5.22 Indoor Residual Insecticide spraying in Matale District

Year	Villages	houses	Population	Houses			Population	Insecticide used
				fully	partially	Closed/ refused	Protected (%)	Fenitrothion Packets
2005	104	3649	14408	3211	278	160	11258 (78%)	3623
2006	97	9855	25684	8447	410	998	27186	8484

In the Kandy district 26 houses were fully sprayed with Fenitrothion in the year 2005. No Residual insecticide spraying were carried out in the Nuwara Eliya district in the years 2005 and 2006.

Residual insecticide spraying was carried out once a year before the rain season (November to January) in bordering malaria high risk areas of Anuradapura and Polonnaruwa districts. Focal spraying was carried 1.5 km radius around the reported indigenous malaria cases. Number of houses sprayed with fenitrothion and Impregnation of bed nets were increased in 2006 compared to 2005 due to increase number of *An. culicifacies* density in Galewela and L/Pallegama MOH areas in the Matale District.

B. Impregnation of bed nets with Permethrin**Table 5.23 Impregnation of bed nets with Permethrin in the Matale district**

District	Year	No.of families	Bed nets	Insecticide used Liters(Permethrin)
Matale	2005	1393	2168	32.5
	2006	1075	7040	105.6
Kandy	2005	321	348	05
	2006	136	166	03

Long Lasting Impregnated bed Nets were not received for the Districts in the Central Province.

C. Application of Insect Growth hormone, pyriproxyfen to the gem pits**Table .5.24 Application of Insect Growth hormone, pyriproxyfen to the gem pits in Matale**

Year	No. of gem pits	Pyriproxyfen used Kg	Population protected

2005	5400	28.3	4687
2006	5632	29.8	4972

Note: No application of Insect Growth Hormone, pyriproxyfen in the Kandy and Nuwara Eliya districts in the years 2005 and 2006.

ANNUAL HEALTH BULLETIN-2006

Preventive Health

D. Application of larvivorous fish, *Poecilia reticulata*

Table .5.25 Application of larvivorous fish, *Poecilia reticulata* in the Central Province

District	Year	No. of permanent breeding places	No. of fish introduced
<i>Kandy</i>	2005	106	2500
	2006	00	00
<i>Matale</i>	2005	205	1095
	2006	321	1655
<i>Nuwaraeliya</i>	2005	900	5500
	2006	540	2550

Health Education and awareness programmes

Table 5.26 Health education and community awareness programmes conducted- Matale district

District	Year	Target group	Number of Programmes	Number of participants
Matale	2005	Community	08	400

	2006	Community	20	1047
Kandy	2005	Community	03	200
	2006	Community	03	452
Nuwara Eliya	2005	Community	02	250
	2006	Community	03	460

ANNUAL HEALTH BULLETIN-2006

Preventive Health

The community health awareness needs to further strengthened in 2007 to ensure the success of malaria control activities.

Malaria control activities need to be further strengthened in the next few years to ensure that the reduction gained during the past few years is maintained. The Human resources required to further strengthen the activated passive case detection (detection of cases at hospitals by the anti malaria staff) needs to be addressed if Malaria Control activities are to remain a success. More effort needs to made in 2007, to ensure that the number of patients sent by the medical officers attached to medical institutions for the malaria microscopy is increased. Joint effort should be made to increase the number of blood films examined by microscopy for better surveillance of malaria parasites.

The Anti Malaria Programme in Matale, Kandy and Nuwara Eliya districts needs to further intensify vector surveillance since monitoring vector density is of utmost importance in preventing malaria outbreaks/ epidemics. Minipe, Adikarigama (river bed below the dam Victoria), Hataraliyadda, Kotmale, Nilambe, Ambagamuwa In Kandy and Nuwaraeliya districts and Galwewela, L/Pallegama, Dambulla Malaria high risk areas should be surveyed regularly to detect emergence / increase of *An. culicifacies*.

6.Special units**6.1 Patient Rehabilitation Services of the Central Province.****Physical Rehabilitation Center: Digana.**

The patient rehabilitation is poor in the general health services due of lack of facilities and trained staff. Most acute cases are managed in surgical and medical wards in general hospital s. There, the patients may get discharged after the acute phase but poor attention is paid for rehabilitation. Usually they end up as bed ridden or wheel chair seated disabled citizens and become burden for the family and the society which is a disgrace for a civilized society. According to 1999 statistics of the Teaching Hospital Kandy, for the 1st six month of 1999, 1100 patients who needed medium and long term rehabilitation were discharged without proper rehabilitation plan.

Therefore, The Department of Health Services Central Province decided to develop a rehabilitation hospital in underutilized rural hospital at Digana, which is about 15 km away from Kandy town. in 2001 with government and other well-wishers donation.

Due to the constrain in financial and human resources it was proposed that the rehabilitation project be carried out in a phased manner.

1 st phase	- 25 beds	- 2001 June
2 nd phase	- 50 beds	- 2007 April

Above 75% of the two phases has been completed now and successfully delivering the services.

The total investment for the project is about 52 millions.

The available services are

1. Inward facilities (10 beds allocated for peadiatric patients.)
2. Medical Management
3. Physiotherapy
4. Occupation therapy
5. Vocational Training
6. Supply of disable appliances free of charges
7. Counselling services by professional counsellors
8. Training of relative for disabled care
9. Staff training
10. Follow up after Discharge

ANNUAL HEALTH BULLETIN-2006

Special Units

Community Resettlement

This aspect has been not address so far by the National Health Service and a crucial factor in the disabled rehabilitations. Therefore Digana rehabilitation project has started this service and so 52 resettlement activities has been carried out.

The resettlement protocol is as follows.

- 1 Inward Social Assessment of the Patient by Social Services Officer
- 2 Home visit by the Occupational therapist, Physiotherapist, Medical Officer and Social Services Officer
- 3 Recommendation → Social Services Department
Health Department
- 4 Seeking assistance from NGO's at necessary.
- 5 Organization of self employment and income generation programme.
- 6 Follow up by DMO's, MOH's and rehabilitation team.

Table. 6.1 Physical Rehabilitation Center: Digana., Statistics for 2006

No	Activity and Description	2006	Total from the Establishment (2002)
01	Total No. of Admission	155	115

02	Discharge With total recovery	87	72
03	Total No. of Deaths	00	03
04	Total No . of Vocccational Training given	48	-
05	Total No. appliances given free of charge	35	-
	<ul style="list-style-type: none"> • Wheelchairs • Clutches • Walking aids • Others 	} 19	-
06	No. Of Patients Counsellled	23	-
07	NO. Of Home Visits	42	-
08	NO. Of Successfully resettled Patients	28	-
09	NO. Of .training programme		
	<ul style="list-style-type: none"> • For Patients • For the Staff 	02 00	- -
10	General OPD average Per day -2006	110	93
11	Medical clinic average per day -2006	13	09
12	Medical clinic average per Week - 2006	121	26
13	Maternity clinic average per Week - 2006	66	37

ANNUAL HEALTH BULLETIN-2006

Special Units

Newly Constructed ward at Physical Rehabilitation Center: Digana.



Patients undergoing rehabilitation at Digana Rehabilitation Hospital



ANNUAL HEALTH BULLETIN-2006

Special Units

6.2 Regional Health Training Centre (RHTC) & MOH - Kadugannawa.

The Regional Health Training Center, Kadugannawa, which was upgraded to RHTC in 1990, functioned as a training centre for conducting both basic and in-service training courses / programmes. Medical Officer of Health (MOH) division Yatinuwara serves as the field practice area for this purpose. It functions directly under the administrative purview of Provincial Director of Health Services - Central Province.

There are two main roles in this institute. The first one is basic training of primary health care personnel, namely Public Health Inspectors and Public Health Midwives.

In addition it conducts following programmes on regular basis.

1. Basic training for medical, dental and nursing students on community health.
2. Basic training programme for hospital attendants.
3. In-service Update Programmes for public health personnel and hospital staff
4. Public awareness programmes on food sanitation, STD/AIDS, life skills and health promotion etc.

The second main role is to provide primary health care services to the public through the field staff. This includes maternal and child health care (immunization, ante natal care, post natal care, well women clinic & family planning), environmental health, food sanitation, occupational health, estate health and school health etc. **Table (6.2) – Training Courses/Programmes – 2006**

Basic Training Courses / Programmes		
Name of Course / Programme	No. of Batches	No. of Students
Public Health Inspectors' Diploma Course	01	41
Public Health Midwives Basic Training Programme	02	112

Community Health Training Programme for Medical Students	06	-
In-service Training Courses / Programmes / Workshops for Health Staff in the Province		
Name of Course / Programme / Workshop	Target Group	No. of Participants
Management Training Programme - 3 days	Nursing Officers	127
Skills Development Pertaining to Court Procedure Course - 6 days	PHII	64
In-service Training Programme - 6 days	Drivers	191
Community Participatory Methods Workshop - 6 days	Health Staff	100
In-service Training Programme - 3 days	Hospital PHMM	48
In-service Training Programme - One day	MRAA	20
Training on Communicable Diseases - One day	Health Staff	61
In-service Training Programme - 10 Saturdays (60 hrs.)	Junior Staff	59
Other Training Programmes		
Health Volunteer Training Programme (Tamil Medium) - One month	Volunteers	25
Health Promotion Programme	Principals	37
Early Child Care Development Programme	Preschool Children	200
Training on Nutrition	Preschool Children Teachers Parents	755
Counseling Training Programme	Teachers	30
Mental Health Training Programme	Teachers	219
Awareness Programme on Dengue	Volunteers	100
Awareness Programme on Non Communicable Diseases	Community	91
World Children's Day Programme	Preschool Children Teachers Parents	334
Awareness Programme on STD/AIDS	School Children	107

Regional Training Center -Kadugannawa



Training Programme Conducted at Regional Training Center -Kadugannawa



ANNUAL HEALTH BULLETIN-2006

Special Units

6.3 Respiratory Disease Control Unit

The resurgence of tuberculosis globally, and its association with HIV and the emergence of multi-drug resistant TB has made tuberculosis a communicable disease of high priority. Matale and Nuwaraeliya Respiratory Disease control units, are attached to District General Hospitals. Respiratory Disease control unit Kandy is functioning separately at Bogambara while inward patients care located at Teaching Hospital Kandy. All three units are functions under purview of the consultants' chest physicians.

Table. 6.3 Incidence of Tuberculosis cases by type

Type	2005	2006
PTB smear +ve	518	557
PTB smear -ve	490	486

EPTB	267	343
Total	1,275	1,386

Total no of new Tuberculosis cases were higher in year 2006 compare to 2005. Number of smear positive cases and extra pulmonary cases were increased in 2006 compare to 2005. This may be due to improvement of screening facilities including accessibility in the province.

Table. 6.4 Case detection rate per 10000 population of the new smear positive cases

District	Estimated target	2005	2006
Kandy	389	365	343
Matale	135	114	86
N-eliya	211	99	72
Province	735	578	501

Case detection rate is well bellow the estimated targets in both years in all three districts and it has decreased in year 2006 compare to 2005.

Table. 6.5 Percentage distribution of new smear positive cases by sex

District	2005		2006	
	Male	Female	Male	Female
Kandy	69%	31%	64%	36%
Matale	74%	26%	63%	37%
N-eliya	64%	36%	60%	40%
Province	69%	31%	62%	38%

No of females among new smear positive cases has increased in all three districts compare to year 2005. It was highest in Nuwaraeliya district.

Fig. 6.1 Percentage distribution of new smear positive cases by age –

2005

2006

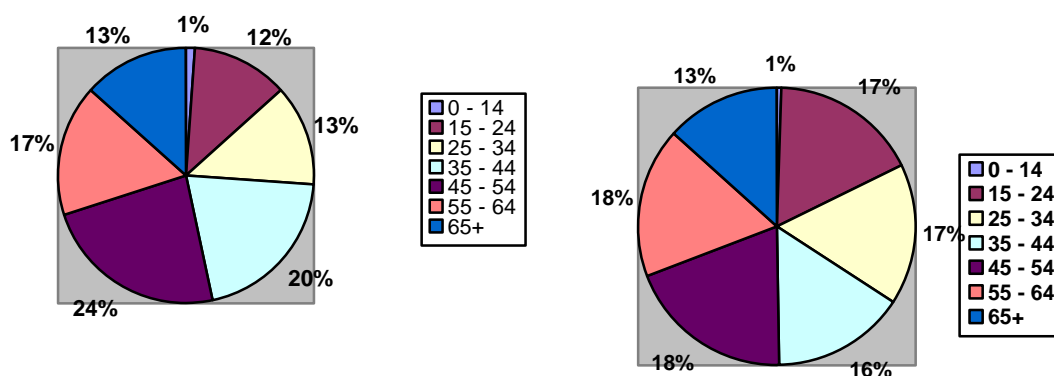


Table. 6.6 Distribution of new cases of TB by district

District	Number	
	2005	2006
Kandy	949	994
Matale	236	162
Nuwaraeliya	205	174
Province	1,390	1,330

No of new cases of Tuberculosis diagnosed during year 2006 is higher in Kandy district compare to previous year while in other two districts new cases was decreased.

Category	2005		2006	
	Number	%	Number	%
Referred	6,446	37%	5,795	31%
Self referred	6,078	35%	7,553	40%
Contacts	466	03%	400	02%
Medicals	4,528	25%	5,047	27%
Total	17,518	100%	18,795	100%

Self referred cases to clinics in the Province has increased compare to year 2005. This may be due to awareness programmes conducted for general population through public health staff and increased number of outreach clinics by the chest clinics in respective districts.

Table 6.8 No of investigations carried out and results

Type of investigation	Number	
	2005	2006
No of smears examined	20,915	21,847
No of smear positive slides	1,149	752
No of smear negative slides	19,766	21,095
No of X rays carried out	8,246	9,815
No of films used	8,259	10,083

No of smears examined in all three clinics in the province was increased compare to year 2005, but slide positive rate was decreased. No of X rays carried out in 2006 was higher than 2005.

6.4 Community Mental Health Resource Centre.

Mental health services in the Central province are mainly targeted for community mental health services development. This programme is carried out with coordination of Ministry of Healthcare and Nutrition, Psychiatry Department of Peradeniya University, Psychiatry unit Kandy Teaching Hospital. For the purpose of improvement of mental health services of the province Mental Health Resource Centre is established in Katugastota. 'Nivahana society" a NGO functions in Kandy provides consultative facilities for the service development.

Table . 6.9 No of functioning clinics by district

District	Number	
	2005	2006
Kandy	07	12
Matale	04	07
Nuwaraeliya	05	07
Province	16	26

No of functioning clinics in the Central Province has increased with appointment of new Medical Officers (Mental Health) to the Base Hospitals and selected District Hospitals in all three districts compare to year 2005.

Table 6.10 No of new cases referred by category

Category	2005		2006	
	Number	%	Number	%
From DH	299	36%	419	68%
By PHM	157	19%	125	20%
Other	379	45%	74	12%
Total	835	100%	618	100%

Referrals from District Hospitals have markedly improved compare to year 2005 due to peripheral health staff training especially Medical officers and Registered/Assistant Medical Officers.

Table 6.11 Diagnosed new cases by type of disease

Category	2005		2006	
	Number	%	Number	%
Depressive	934	35%	1,535	46%
Psychotic	688	26%	740	22%
Neurotic	248	09%	244	07%
Substance misuse	302	11%	317	10%
Childhood	91	03%	57	02%
Mental retardation	47	02%	66	02%
Other	377	14%	344	11%
Total	2,687	100%	3,303	100%

In both years nearly two third of newly diagnosed cases includes depressive and psychotic disorders in the Central province. However there is 10% increase of depressive disorders in 2006 compare to year 2005.

Table 6.12 No of persons trained by category

Category	Number	
	2005	2006
Medical Officers/ RMO	-	424
Other Health staff	701	1,986
Grama/ Samurdhi Niladhari	644	1,277
Pre school teachers	118	389
School teachers	148	522
Volunteers	222	1,001
Estate Medical Assistance	-	110
Community development officers	-	124
School children	-	644
Social service officers	47	-
Total	1,880	6,477

Mental Health resource centre has done a good job during year 2006 by training more than 6000 people in the Central Province. This includes mainly Medical Officers & other categories of health staff, other government employees and volunteers.

6.5 STD , HIV/AIDS

Early case detection and management, partner notification, contact tracing, health education, counseling, condom promotion, surveillance and dissemination of information are the major strategies adopted by the National Sexually Transmitted Diseases/ AIDS Control Programme (NSACP), for the prevention and control of STI and HIV/AIDS. Main clinic in the province is situated at the premises of the Teaching Hospital Kandy, while Matale and Nuwaraeliya clinics are situated in the respective District General Hospitals.

Table 6.13 Clinic attendance and no of new diagnosed cases by district

	Kandy		Matale		Nuwaraeliya	
	2005	2006	2005	2006	2005	2006
Total clinic attendance	4,548	5,576	-	-	-	-
Syphilis	56	68	08	13	06	05
Gonorrhoea	101	61	10	07	12	15
NGU/NGC	93	166	04	-	38	15
Genital Herpes	115	135	03	15	14	07
Candidiasis	119	163	24	07	34	22
Other STI	176	221	81	80	24	13
Non STI	612	591	84	59	106	60

Total No of cases	1,272	1,405	214	181	234	137
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ANNUAL HEALTH BULLETIN-2006**Special Units**

Total clinic attendance in all three districts has increased in year 2006 compare to 2005. Majority of new cases includes candidacies, Genital Herpes, Gonorrhoea and Syphilis.

Table 6.14 Serology test for Syphilis

Category	Number			
	2005		2006	
	Total VDRL	VDRL +ve	Total VDRL	VDRL +ve
STI clinic attendees	3,114		3,240	
Antenatal mothers	24,070		26,602	
Pre-employment	5,940		3,966	
Other	4,613		3,626	
Total	37,737	70	37,434	86

No of serology tests for Syphilis (VDRL) carried out among antenatal mothers was markedly increased in year 2006 compare to 2005.

Table 6.15 Serology test for HIV

Category	Number			
	2005		2006	
	Total HIV tests	HIV +ve	Total HIV tests	HIV +ve
STI clinic attendees	2,558	10	3,252	06
Other	1,223	-	1,440	-
Sentinel sites	2,682	-	824	01
Total	6,463	10	5,516	07

No of HIV tests done at clinics has increased in 2006 compare to previous year. But diagnosed no of cases of HIV/AIDS has decreased

6.6 Mobile Dental Services

Mobil Dental Unit was established in 2002 to provide satisfactory curative & preventive dental care for the people living in rural and suburb areas in the where accessibility to the dental treatment is minimal.

The areas recognized as very difficult areas due to difficult geographical terrain, poor infrastructure facilities and low socioeconomic education levels have led to high incidence of dental caries and periodontal diseases. The provincial Department of Health identified these factors and established the mobile dental unit to ensure dental services are brought closer to these populations who have no access to regular dental care.

The mobile dental services consists of the vehicle with fixed and portable dental chair, essential dental instruments & materials. The team consists of 5 personals, two dental surgeons, a driver, driver assistance and one minor staff. Services are provided on weekdays and Saturdays. The services are also provided on Sunday and public holidays, if requested by organizations, institution and societies etc.

Main services provided include oral hygiene Education & motivation, Restoration of deciduous and permanent teeth, extraction, treatment for periodontal disease of dento-alvula abscess, screening for pre-malignant lesions , diagnosis of oral carcinomas and proper referral for tertiary care.

Table. 6.16 Summary of the Mobile Dental Clinics in 2005/2006

ACTIVITY	2005	2006
EMERGENCY (a)Extractions : Deciduous	229	304
Permanent : Caries	2,472	3,732
Periodontal	1,153	1,066
Other	117	286
(b) D.A.A. Treated	163	358
(c) Fractures Treated		
(d) Medico Legal		
(e) Post OP : Hemorrhage	15	24
Infection	16	06
ORAL MEDICINE (f)Realignment : Leukoplakia		
Other		
(g) Oral carcinoma		
(h) Candida Albicans		
(I) Restorations : Temporary	2,129	2,704
Permanent : Amalgam		
Composite		
Advanced Cons		
(J) Periodontal Treatment :	302	846
Scaling		
Surgery		
SURGERY		
(K) Incision & Drainage	53	193
(l) Impacted		
(m) Apicectomy		
(n) Fractures		
(o) Biopsies		
(p) Other	07	32
(q) Indoor		
(r) All Referrals	915	826
(s) Miscellaneous	1,221	2,182
(t) Prevention : Individual	3,253	5,478

Community	3,106	1,524
First Visit	7,927	19,964
Second Visit	762	1,118
Total Attendance	9,215	21,182

ANNUAL HEALTH BULLETIN-2006**Special Units****6.7 Bio-Medical Engineering Services Unit.**

The Central Province Bio- Medical Engineering Services unit was established in November 2002. The repairing of medical equipments were carried out by Bio-Medical Services unit in Colombo (BES) till November 2002. Since there are 224 hospitals managed by the central provincial health Department, minor repairs could not be done properly because the huge workload on BES Colombo. Major repairs in base hospitals are done on urgent requests. A large amount of serviceable medical equipments were stocked in hospitals. Further, there were no proper procedures of purchasing, condemning and maintenance of medical equipments. Considerable shortages of some equipments could be observed in most of the hospitals. A provincial Bio-medical unit was established in order to solve all these problems.

Within the past one and half years, the service rendered by provincial BMES unit can be summarized as follows. A large amount of sphygmomanometers, sterilizers, mini autoclaves and dental equipments were repaired. All equipments repairing needs were immediately attended as they were informed. The actions were taken to carry out Survey on availability of medical equipments in provincial hospitals and to purchase mostly required equipments.

Table 6.17 List of medical equipments repaired during year 2006

Name of Items	No: of Items
BP Apparatuses	95
Suckers	45
Nebulizers	60
Auto Claves	15
Boilers	17
Sterilizers	55
Water Baths	09
Projectors	07
Defibrillators	08
Mobil Theatre Lamps	04
Incubators	08
Dental Chairs	12
Hand Pieces	25
Phototherapy units	30
Compressors	18
High Pressures Sterilizers	12
Mini Auto Claves	20
Infant Warmers	02
ECG Machines	35
Scanning Machines	06
Microscopes	05
Glucometers	05
Spot Lamps	15
Centrifuges	15
Diathermy Machines	08
Theater Lamps	02
Portable Dental Units	05
Cavitrons	07
Light Cure Machines	03
Spectrophotometers	04
Theater Tables	04
Refrigerators	18
Syringe Pumps	12
Infusion Pumps	16
Colorimeters	03
Dopplers	09

Laryngoscopes	12
CTG Machines	15
Dental Units	18
Flame Photometers	01
Hot air Ovens	07
X-Ray illuminators	10
Pulse Oxymeters	05

ANNUAL HEALTH BULLETIN-2006

Development Projects

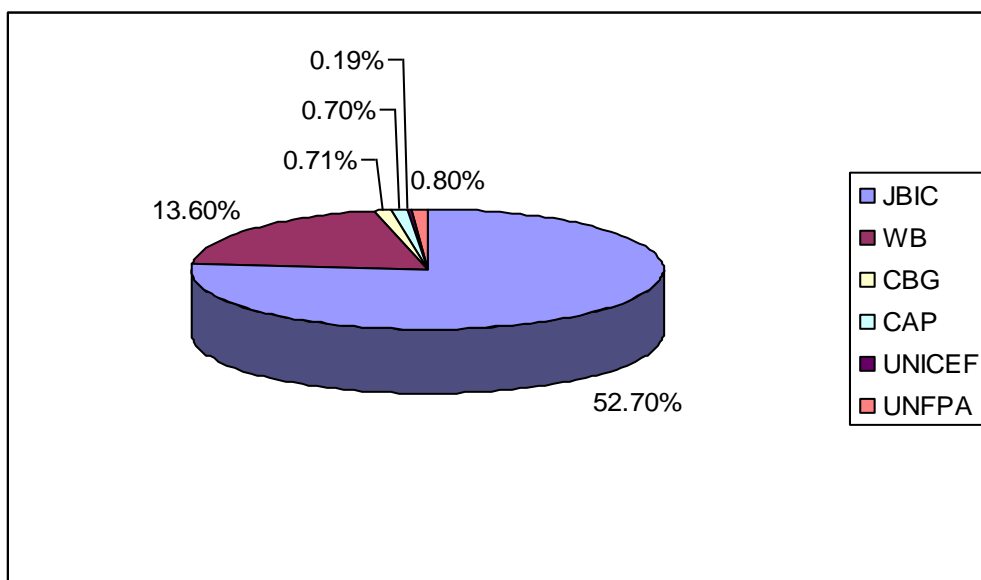
7. Development Projects-2006

For the development of health sector in Central Province, different types of sources of funds were utilized during the year 2006. Apart from the Government of Sri Lanka The major contributions for these were from Japanese Bank for International Cooperation (JBIC) and World Bank. The other sources included national plan of action for children, Criteria based grants, UNICEF and UNFPA projects.

Table (7.1):- Distribution of expenditure by Category of Development Projects – 2006 (RS. Million)

Expenditure Category	Approved Amount (Rs million)	Expenditure (as at December 31st 2006)	Percentage %
Japanese Bank for International Cooperation (JBIC)	547.6	359.6	65.7%
World Bank (WB)	114.0	93.0	81.6%
Criteria Based Grants (CBG)	7.0	5.1	72.9%
National Plan of Action for Children	6.0	4.8	80.0%
UNICEF	2.1	1.3	61.9%
UNFPA	6.0	5.5	92.0%
Total	682.7	469.3	68.7%

Fig. 7.1 expenditure of all funds by province.



ANNUAL HEALTH BULLETIN-2006

Development Projects

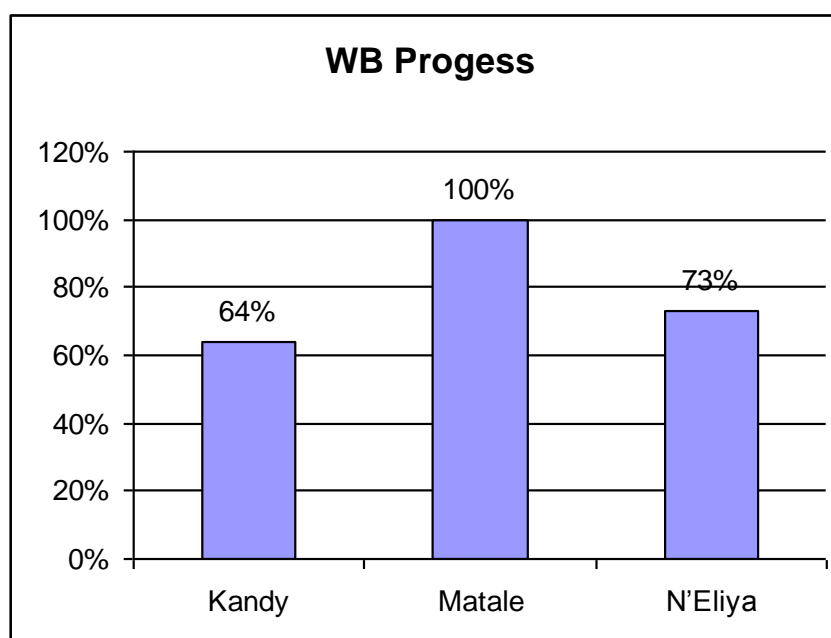
7.1 Health Sector Development Project – World Bank –2006

Table (6.2):- Health Sector Development Project – World Bank –expenditure by districts 2006

	Kandy	Matale	N'Eliya
Approved Amount (Rs)	41,700,000	33,467,500	33,716,000
Actual Expenditure (Rs) (2006/12/31)	26,957,097	33,467,429	24,681,333
Progress (%)	64%	100%	73%

Fig: (7.2)

by



WB Progress - expenditure districts 2006

Table (7.3):- Summary of projects under WB - CP -2006

NO .OF. PROJECTS-UNDER THE WB						
	Kandy		Matale		N' Eliya	
	No. of. Projects	Completed by 31.12.2006	No. of. Projects	Completed by 31.12.2006	No. of. Projects	Completed by 31.12.2006
Constructions	9	06	05	05	08	06
Repairs	14	09	13	13	14	14
Provision of Surgical Equipments	02	02	06	06	04	04
Provision of other Equipments	11	11	09	09	05	05
Provision of vehicles	03	02	02	02	02	02
Training Programme	662	662	51	51	02	02
Other	23	23	08	08	02	02
Total	724	715	94	94	37	35

Matale district could finish all the project activities identified under WB project by the end of year 2006. The details of activities done under this project is described at annexure 7.

7.2 Health Sector Development Project – JBIC-2006

Table (7.4):- JBIC financial Progress of CP during 2006

	CENTRAL PROVINCE
Approved Amount (Rs)	547,600,000
Actual Expenditure (Rs) (2006/12/31)	359,600,000
Progress %	65%

Table (7.5):- Summary of Project activities done under JBIC project during 2006- Central province

	No. of. projects- Central province	
	No.of. Projects	Completed
Construction	18	10
Repairs	43	19
Provision of Surgical Equipments	*	
Provision of other Equipments	*	
Total	62	30

*Procured surgical equipments worth of 29.9 million

ANNUAL HEALTH BULLETIN-2006

Development Projects

7.3 Health Sector Development Project- CBG-2006

Table (7.6):- CBG- PROGRESS

	CENTRAL PROVINCE
Approved Amount (Rs)	7,000,000
Actual Expenditure (Rs) (2006/12/31)	5,091,913
Progress %	72%

Table (7.7):- Summary of Project activities done under CBG project during 2006- - Central province

	No. of. projects- Central province	
	No.of. Projects	Completed
Repairs	05	04

Total	05	04
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7.4 Health Sector Development Project -Children Action Plan – 2006

Table (7.8):- Children Action Plan financial Progress during 2006

	Kandy	Matale
Approved Amount (Rs)	3,500,000	2,500,000
Actual Expenditure (Rs) (2006/12/31)	1,858,381	2,752,783
Progress %	53%	110%

Table (7.9):- Summary of Project activities done under children action plan during 2006 - CP

	Kandy	Completed	Matale	Completed
Construction	20	13	-	-
Repairs	08	04	-	-
Provision of Surgical equipments	01	01	*	
Total	29	18	01	01

*Provided surgical equipments worth of 2,752,783 Rs.

ANNUAL HEALTH BULLETIN-2006

Development Projects

7.5 Health Sector Development Project- UNICEF-2006

Table (7.10):- UNICEF financial Progress during 2006

	Nuwara Eliya
Approved Amount (Rs)	2,080,730
Actual Expenditure (Rs) (2006/12/31)	1,315,245
Progress %	63%

7.6 Health Sector Development Project- UNFPA -2006

Table (7.11):- UNFPA financial Progress during 2006

	Nuwara Eliya	Matale
Approved Amount (Rs)	2,000,000	4,000,000
Actual Expenditure (Rs) (2006/12/31)	1,919,087	3,600,000
Progress %	96%	90%

Digana Rehabilitation Center - New Ward

DBH Dambulla - New Theater Complex



DGH Matale - New Theater Complex



New OPD Building -DGH Nawalapitiya



DBH Dambulla- Doctor's Quarters



8. Financial Management system

Table (8.1) :- Recurrent Expenditure Summary – 2006

Object	Title	Total Estimate	Total Expenditure	Balance Rs
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161-1-1-1001	Salaries and Wages	68,492,000	66,055,754	2,436,246
161-1-1-1002	Overtime Holiday pay	14,030,000	13,823,700	206,300
161-1-1-1003	Other Allowances	2,500,000	2,461,037	38,963
161-1-1-1004	Interim Allowances	4,994,000	4,987,714	6,286
161-1-1-1101	Traveling Expenditure	5,842,000	5,818,750	23,250
	Stationary & Office Equipment	1,554,000	1,518,980	35,020
	Fuel and Lubricant	6,369,000	6,197,455	171,545
	Uniform	181,000	177,181	3,819
	Diet	0	0	0
	Medical Supplies	0	0	0
	Mechanical & Electrical Equipment	182,000	112,584	69,416
	Other Supplies	576,000	537,141	38,859
	Vehicle	3,526,000	3,462,652	63,348
	Plant Machinery & Equipment	870,000	773,583	96,417
	Building & Structure	401,000	349,521	51,479
	Other Supplies	159,000	152,473	6,527
	Transport	118,000	109,486	8,514
	Telecommunication	2,073,000	1,998,181	74,819
	Postal Charges	576,000	570,400	5,601
	Electricity & water	1,237,000	1,218,130	18,871
	Rental & Hire Charge	565,000	499,063	65,937
	Rates & yaxes	200,000	189,405	10,595
	Other Contractual Ser vices	1,321,000	1,256,955	64,045
	Holiday warrants	134,000	129,128	4,873
	Others	1,361,340	1,347,355	13,985
	Total	117,261,340	113,746,626	3,514,714

Table (8.2):- Patient Care Services

Object	Title	Total Estimate	Total Expenditure	Balance Rs
	Salaries and Wages	894,566,000	881,077,136	13,488,864

Overtime Holiday pay	344,689,000	333,563,025	11,125,975
Other Allowances	71,500,000	67,762,132	3,737,868
Interim Allowances	57,941,000	57,794,402	146,598
Traveling Expenditure	9,682,000	9,272,578	409,422
Stationary & Office Equipment	1,808,000	1,737,342	70,658
Fuel and Lubricant	19,474,000	17,991,375	1,482,625
Uniform	1,910,000	1,804,700	105,300
Diet	80,000,000	61,596,374	18,403,626
Medical Supplies	3,872,000	3,560,493	311,507
Mechanical & Electrical	1,038,000	687,802	350,199
Equipment	6,650,000	6,268,985	381,015
Other Supplies			
	9,516,000	9,515,492	508
Vehicle	3,493,000	3,418,605	74,395
Plant Machinery & Equipment	4,515,000	4,241,692	273,308
Building & Structure	295,000	185,408	109,593
Other Supplies			
	109,000	95,234	13,766
Transport	6,600,000	6,110,733	489,267
Telecommunication	222,000	187,386	34,614
Postal Charges	49,747,000	41,154,261	8,592,739
Electricity & water	359,000	321,919	37,081
Rental & Hire Charge	760,000	671,005	88,995
Rates & yaxes	12,274,000	11,545,814	728,186
Other Contractual Ser vices			
	375,000	357,656	17,345
Holiday warrants	369,000	334,345	34,655
Others			
Total	1,581,764,000	1,521,255,891	60,508,109

Object	Title	Total Estimate	Total Expenditure	Balance Rs
	Salaries and Wages	351,563,000	350,451,938	1,111,062
	Overtime Holiday pay	17,553,000	17,445,457	107,543
	Other Allowances	14,532,000	14,488,224	43,776
	Interim Allowances	18,906,000	18,867,768	38,232
	Traveling Expenditure	35,048,000	34,929,355	118,645
	Stationary & Office Equipment	780,000	738,077	41,923
	Fuel and Lubricant	6,819,000	6,685,837	133,163
	Uniform	835,000	631,630	203,307
	Diet	0	0	0
	Medical Supplies	135,000	124,630	10,370
	Mechanical & Electrical	250,000	153,548	96,452
	Equipment	1,200,000	1,114,491	85,509
	Other Supplies			
		6,360,000	6,212,418	147,582
	Vehicle	282,000	248,021	33,979
	Plant Machinery & Equipment	1,438,000	1,231,181	206,819
	Building & Structure	160,000	60,327	99,674
	Other Supplies			
		4,957,000	4,558,640	398,360
	Transport	1,666,000	1,575,736	90,264
	Telecommunication	109,000	94,605	14,395
	Postal Charges	2,493,000	2,257,700	235,300
	Electricity & water	75,000	66,084	8,916
	Rental & Hire Charge	55,000	40,878	14,122
	Rates & yaxes	440,000	369,180	70,821
	Other Contractual Ser vices			
		231,000	206,284	24,716
	Holiday warrants	332,000	300,041	31,959
	Others			
	Total	466,219,000	462,852,047	3,366,953

Table(8.4):- Summary of Health expenditure by Programmes

	Programme	Total expenditure Rs
Recurrent Expenditure	General Administration	113,746,626
	Patient care services	1,521,255,891
	Community Health services	462,852,047
	Total	2,097,854,564

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