UNDERSTANDING
GLOBAL PUBLIC PRIVATE INITIATIVES (GPPIs)

based on a case study of the

Global Alliance to Eliminate Lymphatic Filariasis (GAELF)

in

Karnataka State, India

by

Dr. Thelma Narayan **Mr. Naveen I. Thomas**

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Community Health Cell
359 (Old No. 367), Srinivasa Nilaya
Jakkasandra, I Main, I Block
Koramangala, Bangalore – 560 034
Karnataka state, INDIA

In collaboration with the WEMOS-GPPI study team

WEMOS Foundation, P. O. Box 1693
1000 BR Amsterdam
The Netherlands

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Dr. Thelma Narayan
Mr. Naveen I. Thomas

EXECUTIVE SUMMARY

While the intentions of GPPIs may be good, the case study the Global Alliance to Eliminate Lymphatic Filariasis (GAELF) raises many questions. GAELF has been driven strongly by a very small group of international players. Even at the global level there is unevenness between WHO and the companies on the one hand and national government representatives on the other. The possibility of getting some additional funds and technical support may override other factors in decision making. On one hand GAELF helped to bring the issue of filariasis back on the health agenda of the government, however on the other hand, the means advocated by the Alliance are debatable.

Some of the other arguments against the GAELF are that, there appears to be a decline in the mf+ve prevalence rate over time in India. Therefore, before embarking on an ambitious and expensive Mass Drug Administration Programme, the risks and benefits of this approach needed to be carefully considered. Secondly, problems of much wider public health significance such as anaemia, under-nutrition of under-fives and low birth weight are not even addressed. Access to mental health services and rehabilitation is extremely limited. Hence prioritisation was necessary. A proper costing of the MDA approach was required – not just of the drugs but of the entire exercise. The filariasis control programme, with MDA as a one-stop solution has turned out to be programme-oriented approach, rather than a community and person-oriented one, which has resulted in the lack of ownership and participation of the community. The programme has also turned a blind eye to the needs and problems of the people who are already suffering from filariasis. In addition, vector-borne disease would continue to exist as long as mosquitoes were around. The GPPI has unfortunately only concentrated on providing drugs as the solution leaving the cause untouched. The Government machinery at the field level was not involved in planning and designing of the MDA activity, which affected the planning and implementation. The co-administration of Albendazole with DEC has been resisted by senior officers of the Government, and a recent Cochrane review also has reportedly not shown any positive effect of adding Albendozole to DEC. GAELF is making the two-drug regimen conditional to any support even for a research study, raising the question of its own interests – in filariasis control or in its major partners. One of major problems of the drugs is the anaphylactic shock experienced by some people who take the drug, due to the microfilariae present in their body. It is also known to be teratogenic in early pregnancy. When a drug administration is done on such a mass scale, it would be difficult to identify women in their early stages of pregnancy. Some of the other problems are related to lack of choice, adverse impact on the public health system, poor implementation thereby defeating the purpose, dug industry manipulation, questionable partnership and lack of accountability

Some of the key recommendations are that, following the WEMOS study of GPPIs in the health sector, it is important to have a presentation and discussion with key decision-making staff from across the World Health Organization. The process of discussion, debate and dissemination of research findings should happen among all stakeholders at international and national levels. A set of core values need to be identified and made widely accepted as a framework for global public policy action, including strengthening community participation, respect for local health traditions and systems of medicine and respect for the basic human right to health and health care. The public health systems needs to be strengthened with local capacity building for public health. Increased research and advocacy on GPPIs in health is required. There is a need for greater openness towards alternative approaches to public health problems with affirmation of diverse local solutions.

PART I

1. INTRODUCTION

The past few years have seen a rapid rise in the number of Global Public Private Initiatives (GPPIs) in the health sector. This policy phenomenon has grown dramatically in order to reportedly address major public health problems particularly in the so-called developing world or the South countries. GPPIs have been characterized by WHO as a means to bring together a set of actors for the common goal of improving the health of populations based on mutually agreed roles and principles. This sounds quite harmless, but may be simplistic and misleading. Some consultative process between major actors have taken place in the GPPIs studied. However consultations have been fairly restricted to a small circle of international players, that include WHO, multinational companies, other multilateral agencies, major foundations, and some representatives of government. All this has occurred for the sake of the public good. However, participation of the public and public health professionals and implementers has been remarkably low or absent. There is an inadequate evidence-base to suggest that this new policy-approach being applied on such a large scale results in positive or intended impacts. There was a need to know the effects of this policy-approach on the public health problems that are being addressed; on the health systems through which they function; and on the health rights of people particularly the poor. An inter-country collaborative study was initiated by WEMOS to fill in this gap.

While the intentions of GPPIs may be good, the case study the Global Alliance to Eliminate Lymphatic Filariasis (GAELF) raises many questions. GAELF has been driven strongly by a very small group of international players. Even at the global level there is an unevenness between WHO and the companies on the one hand and national government representatives on the other. The possibility of getting some additional funds and technical support may override other factors in decision-making. Doubts about inadequacies of the technical component of the approach were muted and even dismissed. The capacity of national health systems to undertake such an exercise was not adequately thought through. Dissent was not seriously considered. A variety of methods were used to influence decision-making. Consequently a narrowly focused, rigid, vertical, top-down, strategy was adopted.

The positive impact of the Global Alliance to Eliminate Lymphatic Filariasis (GAELF) was that it has helped to bring the issue of filariasis back on the health agenda of the government. However the means advocated by the Alliance was debatable.

There has been a long-standing debate on the use of Mass Drug Administration (MDAs) to tackle the problem of filariasis. The wisdom in using the drug on such a mass scale has been questioned in various forums, and in public debates generated by the government's plan to introduce MDA. Another issue that has come up under public scrutiny is the introduction of Albendazole with DEC. The public debates have brought out a lot of issues concerning denial of rights, due to implementation of the GAELF supported filariasis control programme. Some of the key rights denied are the Right to Life, Right to Know, Right to Informed Consent and the Right to Health Care. The denial of these rights affect decision-making at all levels. In addition, the programme also has an impact on the local drug industry and functioning of the public health system.

Some of the other problems identified by this study questions the very nature of the partnership. The partnership is seen to be only a theoretical one, where the coalition is too

diffused and the partners highly unequal so to bring any meaningful interaction. The deficiency in the partnership process has caused the programme to be context-blind, programme-oriented and lacking in accountability.

2. OBJECTIVES

General Objective: To study the influence of the Global Alliance for the Elimination of Lymphatic Filariasis on the National Filariasis Elimination Programme in India and its implementation in selected sites in Karnataka, with particular reference to the fulfilment of the Right to Health and Health Care of people, particularly the poor.

Specific Objectives:

1. To study the content, organizational structure, financing and operating mechanisms of the GAELF and the National Filariasis Elimination Programme in India.
2. To study its linkages with the general health services and primary health care in Karnataka state.
3. To study its implementation in selected districts of Karnataka with a focus on access, equity and sustainability, and a special focus on those in need of care.
4. To study all the above, using a framework of the right to health and health care as enshrined in international covenants and in the Indian national constitution and legal / ethical guidelines.
5. To identify conflicts of interests if any, and to identify how they are mediated / negotiated.

3. METHODOLOGY

1. Participation in two workshops for synchronisation of concepts, methods to be used and discussion on preliminary findings.
2. The health and health care situation in India and Karnataka was outlined through updated secondary sources of information / data.
3. A policy analysis of GAELF and the National Filariasis Elimination Programme was done through interviews and a study of documents.
4. The implementation of the programme at the state level was studied by field visits to health institutions in the periphery (Sub-Centres, Primary Health Centres and Community Health Centres) wherein discussions were held with providers, patients and the community. Discussions / interviews were also held at the taluk, district, state and national programme unit and with other officials at the Directorate of Health Services.
5. Document review and interviews were done at the national level and with experts from the Vector Control Research Centre, Pondicherry. Health system professionals from academic institutions and NGO resource centres were interviewed. Links were maintained with the ongoing Right to Health Care Campaign of the *Jan Swasthya Abhiyan* (People's Health Movement in India)
6. The methodological tools, guidelines and framework of analysis used by other participating countries and organisations for the GPPI study were utilised.
7. Principles of Research Ethics were maintained.

4. DEFINITION OF GLOBAL PUBLIC PRIVATE INITIATIVES (GPPIs)

Health GPPIs are collaborative relationships that transcend national boundaries and bring together at least three parties – among them a corporation and / or industry association and an inter-governmental organization – so as to achieve a shared health creating goal on the basis of mutually agreed and explicitly defined division of labour.

PART II

5. THE GLOBAL CONTEXT AND GPPIs

Over the past two to three decade the broader socio-political global context has been characterised by intensified neo-liberalism. Processes of globalisation and liberalisation place a higher value on the role of the market through the private sector to address a variety of issues and problems including public health. These forces now play a dominant role in defining what the current problems are and also their solutions. Community voice is being reduced even in apparently democratic institutions and there is growing evidence about the roll back of the public sector under policy pressures of dominant international institutions that often operate via the state, and the adverse consequences of this approach. The economic value of health services is being given greater priority and the commercialisation of the health sector has been growing rapidly. GPPIs in health could well be a manifestation of this trend.

In the current global public health scenario, certain specific diseases have been selected by a small group of experts for elimination, eradication or conquest. Based on the experience of small pox eradication public health battles are being waged against six diseases that include leprosy, polio and filariasis. Disease specific experts with a great deal of commitment become policy champions who influence financial institutions, international bodies and national governments with a single minded focus on their particular disease of interest or expertise. The strategies for disease control are biomedical, based on widespread population based use of diagnostics vaccines and drugs that have been redefined as public goods. Close relationships develop between the producers of public goods (most transnational companies including pharmaceuticals) and the experts. Public sector production of public goods has been systematically reduced in several countries through arguments concerning efficiency and quality. Private sector players whose goals are explicitly profit oriented have in the past few years have been given a place on key global and national decision making bodies even foreign affaits have a say, pushing ministries on health and public health into a minority. The closed policy circles are often blind or unconcerned about the reality of the lives and the health concerns (other than filariasis) of the social majority, the poor; to the underlying determinants of health and disease; and to the functioning of the under funded, understaffed and demoralised health systems. Populations living in poverty, currently experiencing further loss of livelihoods and destruction of the environment, with widespread malnutrition, anemia, and a high burden of water and sanitation related diseases etc now have a vertical disease programme thrust on them in the ‘public interest’.

There has been a rapid growth in member of GPPIs in health over the past five years, reaching a little over 90 in 2003. They also exert enormous influence in the health policy arena. Given the scientific institutions within which they function there seems to be inadequate public debate about decision making processes; implications and consequences on health; systems and on the health and human rights of people subject to global policy prescriptions that result from GPPIs. There is as yet an insufficient evidence base regarding

the effectiveness and unintended consequences of GPPIs on heath and health systems to justify its widespread application.

6. GLOBAL ALLIANCE TO ELIMINATE LYMPHATIC FILARIASIS (GAELF)

The GAELF was selected as a case study for a deeper understanding of the dynamics of the current global public private initiatives in health.

6.1. Epidemiological Profile

Lymphatic Filariasis (LF) is one of several vector borne diseases. It does not result in mortality, but takes a substantial toll in terms of morbidity and disability. It is reported to be endemic in more than 80 countries and territories, with 120 million people possibly diseased out of 1 billion who may be at risk. India contributes a large proportion of those at risk. 236 million people lived in filarial endemic areas in 1977, while current estimates are that 420 million persons are at risk. Filariasis prevention, treatment and control has been relatively neglected during the past 4-5 decades though it takes a human toll in terms of suffering, loss of income and livelihood, and even results in discrimination. Efforts of WHO and GAELF have helped to place the disease on the public health agenda. It must be noted that filariasis has not been adequately epidemiologically defined in terms of size and distribution (Banerji 1985). Though the National Filarial Control Programme in India was established in 1955 with one of the objectives being to study the disease distribution through surveys, this was done in a relatively limited way. Studies show that despite a poorly functioning filarial control programme there is decline in the prevalence of microfilaria positivity. However the population at risk has been increasing over the decades and what was considered an urban problem earlier is widely prevalent in rural areas as well. The number of persons diagnosed clinically is fairly low (4000 – 6000 patients with filariasis per year from 1995 to 1998 in Karnataka state out of a population of 53 million, with only about 950 to 1350 of them showing microfilaria on laboratory diagnosis). Data from secondary governmental sources can however be misleading, as there is underutilization of government health services and under reporting. Nevertheless before embarking on a population wide approach a better understanding of the epidemiological pattern is advisable and necessary.

6.2. Evolution of the GAELF

An Independent Task Force for Disease Eradication at the global level identified lymphatic filariasis as one of six infectious diseases that are eradicable or potentially eradicable. This approach to disease control and eradication was influenced strongly by public health experts including those from the USA (CDC), UK and Australia, all countries not directly affected by LF. This followed an earlier tradition of a stream of deterministic public health thinking that had considered even diseases like tuberculosis as eradicable through chemical intervention such as widespread use of INH. A strongly biomedical, techno centric approach was evident. The Task Force recommendation led in 1997 to a resolution at the fiftieth World Health Assembly (WHA 50.29) for elimination of LF as a public health problem worldwide. In January 1998 the World Health Organization (WHO) and Glaxo Smith Kline (GSK) announced a new world wide programme to eliminate LF. GSK was a partner through provision of Albendezole (an anthihelminthic) which was earlier not used for LF.

Diethylearbomazene (DEC) was the drug of choice for LF and was proven to be very effective.

The GAELF formed in May 2000 with a larger number of partners including WHO, GSK, Merck and Co (who provided Metizan Ivermectin for Africa), the Bill and Melinda Gates Foundation, Department for International Development – United Kingdom (DFID), the Japanese government, the Arab Fund for Social and Economic Development and academic institutions in the UK, USA and Australia. Generically the partners were a combination of WHO, pharmaceutical TNCS and donor agencies. The secretariat was in the WHO office, Geneva with 3-4 full time staff for coordination, technical support and monitoring. The key strategic decisions were made early in the GPPI by a relatively small group. The objective of GAELF was to eradicate lymphatic filariasis by 2020 by interrupting the transmission of infection and to alleviate and prevent the suffering and disability caused by the disease. The number of participants or partners in GAELF then increased with further involvement of private organizations, international agencies ministries of health of national governments and NGOs. The Alliance now actively invites groups to join GAELF (even we were requested to join). However this may be more to promote the idea and strategy and to gain more widespread social support for it. Questioning the basic strategy and decision making is met with justifications and defensiveness. Experience with leprosy and polio show that eradication of a disease is complex and often not possible, even ecologically. While prevalence declines, the incidence of the disease (new infections) have been found to continue indicating that disease transmission continues. Thus the objective though noble may be flawed.

6.3. Intervention Strategy

Strategy 1: The entire population at risk for filariasis would be treated by the administration of two drugs. Diethylcarbamazine or Ivermectin with Albendazole) given together once a year for 4 to 6 years in order to reduce microfilaria in blood below levels necessary to sustain transmission

Strategy 2: Work at regional level with national ministries of health.

Strategy 3: Implement the programme on a small, localised basis initially and then scale it up when small output targets are met.

Comments

Strategy one, the main strategy which was essentially a seemingly simplified, effective population wide chemical approach to prevent transmission of filariasis. However there are several issues that require serious thought at national and global level before decisions are taken and action initiated. The issue of individual informed voluntary consent by people prior to drug ingestion was not considered or operationalised.

One billion tablets of the two drugs would be required annually for 4 – 6 years, providing an assured large market. While some of the drugs were to made available free of cost to the country, packing and distribution costs were covered by the country. The drug donation gave a strong positive broad image to purchasers such as governments, international agencies, medical professionals and public. While the

actual cost of bulk production was very low, the translated cost cited for the donations were the market prices. Drug donations could possibly be seen as a form of indirect advertisement and publicity. Drug donations of albendazole to a country like India where there are local manufacture of the drug, could adversely affect the local market and local manufacturers. Albendezole is also widely used in medical practice and in school health programmes, etc. Providing it through GAELF results in an additional dose.

A Cochrane review in 2004 (see annexure 3), shows insufficient reliable research data to confirm whether albendezole used alone or co-administered with DEC is effective against lymphatic filariasis. Albendazole (and Ivermectin) have been listed as Class C teratogens following experimental animal studies. Its presence in breast milk is harmful to babies. During mass drug administration campaigns done in the context of a time pressure, it is very likely that early pregnancies will be missed and that pregnant and lactating women will be admitted the drug. One of the later arguments put forward regarding use of Albendazole during the MDA is that given the high prevalence of helminthic Infestation in India, addition of an anti-helminthic may have a visible result in that worms may be passed the next day. This will help to justify the administration of Albendazole to people. Even if this convoluted argument was considered reasonable, there would be no need to administer Albendozole to all age groups, and school-going children are already supposed to be covered through the school health programme. There have been no debates in the public health community regarding this issue. The researchers were denied access to an ICMR meeting that we tried to attend.

There is need for much greater thought and clarity on the scientific merits and demerits of the two drug therapy. This fortunately was insisted upon by the DGHS, Government of India following which five-year trial was initiated in 9 districts. In five districts the two-day regimen is used and in 4 districts the single-drug MDA is used. Given the high states and even on technical grounds analyzing the data every year may not be very helpful. Potential side effects on individuals, including pregnant women and children and unintended effects of taking the drugs were not debated publicly.

Vector control, complete treatment of patients with filariasis, role of indigenous systems of medicine were not considered adequately. Comprehensive, integrated and even alternative approaches would help to strengthen the health system and also in sustainability.

Logistical issues, costs to the national health systems, diversion of trained staff which hinders access to health care for other medical and health problems during the period were also inadequately considered.

Principles of public health and medical ethics need to applied through appropriate institutional mechanisms before GPPIs of this scale are embarked upon. Field experience of deaths due to anaphylactic reactions and a fairly high proportion of side-effects indicate that the principle of ‘do no harm’ is violated.

6.4. Work done by the GAELF

GAELF members meet at an international meeting every two years to review progress and discuss strategies. Three alliance meetings have been held so far in 2000 (Spain); 2002 (India) and 2004 (Egypt). Questions can be raised as to whether it is a means of

promoting the strategy or actually reviewing progress and making decisions. It is not clear now dissent and conflicts are resolved. For most of the resource-poor countries that participate, the availability of some funds, professional contacts and support, besides the opportunity to travel to a meeting may be difficult to resist.

It is reported that out of the 1 billion populations at risk, 15 million were covered through GAELF in 2000, 30 million in 2001, 50 million in 2002 and 100 million in 2003. In India alone, the population at risk is 420 million. Besides conceptual issues raised earlier, there are several implementation issues including coverage and quality that need to be considered.

Following the GAELF, several countries were certified as being free of lymphatic filariasis – 10 in 2002 and 20 in 2003. Achieving this in the larger countries would be more difficult. As seen above only one-tenth of the population at risk has been covered so far, and case studies from India show that the coverage and quality of implementation is still weak.

6.5. Constituents of GAELF and their role

a) The WHO housed the secretariat from 2000-2004 playing a co-ordinating and technical role.

b) Three major private sector companies provide drugs and diagnostics. Glaxo Smith Kline (GSK) donates albendazole for use in all LF endemic countries for as long as it takes to eliminate LF. They have also committed to providing one million USD annually in cash grants to alliance partners. They also have a five member team supporting the global effort. Merck and Co., Inc. operate the Mectizan Donation Programme providing Ivermectin for Onchocernasis and Filariasis in 30-35 countries. Binax ICT a US based pharma company have agreed to provide ICT card diagnostic tests to participants and stakeholders on a "cosllplus" basis. Through the GPPIs private multinational companies have for the first time joined the governing bodies of public health programs at a global level and have a say in decision making and coordination. The appears to be no formal decision at the level of the World Health Assembly that mandates or legitimizes this involvement in a United National specialized Agency. An in-house note on public private partnerships was prepared and circulated within WHO, but this has not been approved by WHO-GB or the WHA.

c) The World Bank and UNICEF also support the GAELF through co-financing the programme.

d) Global non-governmental development organizations such as the Carter Centre, Health and Development International (HDI), Inter-church Medical Assistance and the Mectizan Donation Programme (of Merck & Co.) are also part of GAELF. While they contributed to different components of the programme, they also have their own specific interests which get implicitly promoted by being a member of major intergovernmental initiatives.

e) Similarly academic and research communities from Emory University (USA), Centre for Disease Control and Prevention, (USA), Liverpool school of Tropical

Medicine (UK), and James Cook University (Australia) contribute and gain through monitoring, training, research. Being part of a global epistemic community they can exert a certain control on decision making using their knowledge base as leverage. Other academic institutions and professionals in LF affected countries could become subservient to a more technology driven knowledge base which grows further through enhanced funding for research projects, coordination, Ph.D. and other teaching programmes. They also get a field base for ongoing work

f) International donor and development agencies (bilateral agencies[1]) and private foundations (Bill and Melinda Gates Foundation) provide financial assistance and largely go by the technical advice of WHO and the academic and research institutions. Much depends on the institutions in which they have confidence.

Health Ministries of affected countries play a more sub missive, recipient or beneficial role as under-funded health programmes are offered on opportunity of greater funding. Where Health Ministries / departments are strong, a variety of pressures and incentives are applied.

The structure and mechanisms of decision-making and the public health ethics of decision-making at global level, where United Nations bodies and public interest is involved, need to come under closer scrutiny.

PART III

7. THE INDIAN CONTEXT

The health status of people and the health system need to be understood in the context of the prevailing socio-economic-political and demographic conditions. India has a federal system, and health is a subject that constitutionally is largely the responsibility of the state governments. The central government articulates the national health policy, which provides the overall framework within which the health system functions. Medical education and medicinal drugs, including their quality control and regulatory bodies are central government subjects. The central government also has several National Health Programmes which are implemented throughout India. The policies and programmes are predominantly implemented through the public sector. However the private sector is a dominant sector in medical care though not in preventive and promotive health care. The regulation of the private sector is also very weak. They also do not currently report to any disease surveillance system. Health statistics are therefore incomplete, except for data from special surveys and organizations such as the Sample Registration Scheme (SRS), the National Sample Survey, National Family Health Survey, etc.

The 'Right to Life' is enshrined in the Indian Constitution (Article 21). In addition there are Directive Principles regarding Nutrition, Standard of living and Health in Article 47 of the Indian Constitution. These provisions along with the various Supreme Court judgments in favour of emergency and occupational health care, illustrate that the case for basic healthcare to be provided to all citizens as their right, is strong in India. The 93rd amendment in the

[1] Arab Fund for Economic and Social Development (AFESD); Department for International Development – UK (DFID); Japanese Ministry for Health and Family Welfare.

Constitution accepting Education as a fundamental right has strengthened the case of basic social services to be accepted as people's right. The International Covenant on Economic, Social and Cultural Rights, in its Article 12 clearly recognises the right of everyone to the enjoyment of the highest attainable standard of physical and mental health and creation of conditions which would assure to all medical service and medical attention in the event of sickness. The Alma Ata declaration of 'Health for all by 2000' signed in 1978 is yet another declaration which the government endorses.[2]

In spite of all these rights and progressive judgements, adequate financial allocation, political will, awareness of these rights among people and strong political mobilization will be required to realize the right to healthcare.

7.1. India's health situation [3]

On the basis of data received over the period from 1995 to 2000, the Human Development Report 2002 (UNDP) states that in India—less than 50 per cent of the population has access to essential drugs, only 31 per cent is using adequate sanitation facilities, 47 per cent of children under the age of 5 years are underweight, 46 per cent of children under the age of 5 are under-height and only 42 per cent of the births are attended by skilled health staff.

A handful of states, accounting for well over half of the country's population, are performing very poorly in terms of the standard indicators. The figures bring out the wide intra-country differences at the state level; as it happens, even within states, there exist wide disparities. Thus, as the Ministry of Health and Family Welfare puts it: 'national averages of health indices hide wide disparities in public health facilities and health standards in different parts of the country.

Table 1: Differential in Health Status among the States

	IMR/ 1000 live births (1999 SRS)	**Under 5 mortality per 1000 (NFHS II, 1998-1999)**	**MMR/ lakh* (in 1997)**	**Leprosy cases per 10,000 population**	**Malaria +ve cases in thousands (in 2000)**
India	70	94.9	408	3.70	2200
Better Performing States					
Kerala	14	18.8	195	0.90	51
Maharashtra	48	58.1	135	3.10	138
Tamil Nadu	52	63.3	76	4.10	56
Low Performing States					
Orissa	97	104.4	361.0	7.05	483
Bihar	63	105.1	451.0	11.83	132
Rajasthan	81	114.9	677.0	0.80	53

[2] Source: *A brief report of the 'Right to Health Care Seminar, Asian Social Forum, Hyderabad*
[3] Source: Social Watch India, 2003

Uttar Pradesh	84	122.5	707.0	4.30	99
Madhya Pradesh	90	137.6	498.0	3.83	528

Source: *Draft National Health Policy, 2001*
****Source:*** *Annual Report 1999–2000, Ministry of Health and Family Welfare*

Given a situation in which national averages in respect of most indices are themselves at unacceptably low levels, the wide inter-state disparities imply that, for vulnerable sections of society in several states, access to public health services is nominal and health standards are grossly inadequate.

A look at the Central Government's budgetary allocations under health sector, during 1992-93 to 1999-2000 shows that it rose during this period for the relatively better performing states such as Andhra Pradesh, Gujarat, Karnataka, West Bengal and Delhi, whereas those already lagging behind, viz. Bihar, Madhya Pradesh and Rajasthan were neglected in this respect, thus accentuating interstate differences.

Given the narrow reach and poor quality of the public health system in the country, the most vulnerable socio-economic groups have benefited the least from the public health system. There is indication of such an inequality as reflected through some of the major indicators of the health status among different socio economic groups in the country.

Table 2: Selected Health Indicators of Marginalised People in India [4]

	Infant mortality/1000	**Under 5 mortality/1000**	**% Children underweight**
India	70.0	94.9	47.0
Scheduled-Castes	83.0	119.3	53.5
Scheduled-Tribes	84.2	126.6	55.9
Other-Disadvantaged	76.0	103.1	47.3
Others	61.8	82.6	41.1

7.2. Indian healthcare market

Healthcare is estimated to be a Rs 850 billion industry. The Confederation of Indian Industries (CII) anticipates a growth rate of an estimated 13 per cent per annum for the next five years in this sector.[5]

India exports health services through consumption abroad. Patients come from industrialized and developing countries (including Bangladesh, the Eastern Mediterranean, Nepal, Sri Lanka, the United Kingdom, and the USA) for surgery and specialized services in areas such as neurology, cardiology, endocrinology, nephrology, and urology.

[4] Draft National Health Policy, 2001
[5] http://www.expresshealthcaremgmt.com/20020715/index.shtml (accessed on 16 April 2004)

In addition, trained health personnel migrate to other countries. A 1998 United Nations Conference on Trade and Development/WHO study estimated that 56% of all migrating physicians flow from developing countries to industrialized countries, while only 11% migrate in the opposite direction; the imbalance was even greater for nurses. The most prominent source countries for health personnel are India, the Philippines, and South Africa. [6]

7.3. Health system

As per the most recent available estimates[7],

Table 3: Health Infrastructure

	Hospitals per one hundred thousand of population	Dispensaries per one hundred thousand of population	Beds per one hundred thousand of population
Urban	4.48	6.16	308
Rural	0.77	1.37	44

Table 4: Availability of Doctors and Hospital Beds per Lakh of Population [8]

Year	No. of doctors (Allopathic doctors registered with the Medical Council of India) per lakh of population	No. of beds (in both government and private hospitals registered with health authorities) per lakh of population
1971	27	64.0
1981	39	83.0
1991	47	95.0
1997	52	93.0
1998	52	–

Source: *CSO, 'Selected Socio-Economic Statistics of India 2000'.*

In the decade of the 1990s, the number of doctors per lakh of population continued to increase at a very slow rate, but the number of hospital beds per lakh of population actually decreased. This is yet another proof of the fact that in the decade of the 1990s the negligence of the health sector by the State in India became more acute than ever before.

[6] Trade in Health Services, Dr. Rupa Chanda, *Bulletin of the World Health Organization* 2002;80(2): 158-163
[7] Social Watch India, 2003
[8] ibid

7.4. Health expenditure

Currently the aggregate annual expenditure on health is 5.1 per cent of GDP. Out of this, about 18 per cent of aggregate spending is coming from the State, the rest 82 per cent being out-of-pocket expenditure borne by the citizens directly.

Table 5: Indian Health Expenditure

INDIA[9]	1997	1998	1999	2000	2001
Total expenditure on health as % of GDP	5.3	5	5.2	5.1	5.1
General government expenditure on health as % of total expenditure on health	15.7	18.4	17.9	17.6	17.9
Private expenditure on health as % of total expenditure on health	84.3	81.6	82.1	82.4	82.1
General government expenditure on health as % of total government expenditure	3.2	3.5	3.3	3.1	3.1

Health being primarily a state subject as per the Constitution, the contribution of Central Government to the overall public health funding has been limited. Moreover, the successive governments at the Centre have unfortunately shown an accelerated tendency of withdrawing from their responsibilities towards the so-called social sectors. The major squeeze on the fiscal resources of almost all the state governments in the last decade has meant that public investment in the health sector, instead of rising, has been stagnant at best in most cases. While the budgetary allocation on health sector by the Central Government over the last decade has been stagnant at 1.3 per cent of the total Central Budget, in the states it has declined from 7 per cent to 5.5 per cent.

Table 6: India's Per-Capita Expenditure on Health

India's Per capita Total expenditure on health at International dollar rate ($)					India's Per capita Government expenditure on health at average exchange rate (US$)				
1997	1998	1999	2000	2001	1997	1998	1999	2000	2001
64	65	71	74	80	4	4	4	4	4

Public Expenditure on Health in India which consists of recurrent and capital spending from budgets, external borrowings, grants and social (or compulsory) health insurance funds is one of the lowest in the world.

Table 7: Public Investment on Health

Year	Public investment on health as a percentage of Gross Domestic Product (GDP)	
1990	1.3	↓
2002	0.9	

[9] Figures computed by WHO to assure comparability; and they are not necessarily the official statistics of Member States, which may use alternative rigorous methods (World Health report 2003)

Table 8: Country Public expenditure on health as a share of the GDP (1990–2003*)

Country	Percentage
Germany	8.30
Cuba	8.20
France	7.10
United States	6.50
Canada	6.40
United Kingdom	5.90
Australia	5.50
Brazil	3.40
China	2.00
Sri Lanka	1.40
Bangladesh	1.60
Pakistan	0.90
India`	0.90`

Source: The World Bank, 'World Development Indicators 2000'
`Source: Human Development Report - 2003 (** Data are for the most recent year available.*)

Private Expenditure on Health consists of direct household (out-of-pocket) spending, private insurance, charitable donations, and direct service payments by private corporations. In 1997, an estimated 68 per cent of the hospitals, 56 per cent of dispensaries, 37 per cent of beds and 75 per cent of the allopathic doctors were in the private sector.

Table 9: Comparison of the Private Expenditures on Health in Different Countries

Country	Private expenditure on health as a share of the GDP (1990–1998*) (in %)
United States	7.50
Thailand	4.50
India	4.10
Brazil	4.00
Pakistan	3.00
Canada	2.80
China	2.60
France	2.50
Germany	2.50
Bangladesh	2.00
Japan	1.40
Sri Lanka	1.20
United Kingdom	1.00

** Data are for the most recent year available.*
Source: *The World Bank, 'World Development Indicators 2000'.*

In the 1990s, a number of corporate hospitals sprung up on land allotted to them by the Central and state government in prime urban locations, in exchange for their promise to provide a reasonable proportion of their services free to the poor. However, there is increasing evidence of non-fulfilment of such promises by major private hospitals. Yet such policies are being pursued vigorously. The 1990s also saw the privatisation of public health institutions and specific involvement of private providers in the public health system.

7.5. Drugs and pharmaceuticals

A major culprit in pushing up costs has been the systematic deregulation of the pricing of drugs which gathered momentum in the recent years. At the time of the introduction of Drug Price Control Order, in 1970, all drugs were kept under price control. Now, the Pharmaceutical Policy of 2002 has reduced it further to 35 drugs.

Table 10: Number of Drugs under Price Control

Year	1970	1979	1987	1995	2002
Drugs kept under price control	All drugs	347	163	76	35

In 1995, the amendment of the Drug Price Control Order of 1987 (which had kept 163 drugs under price control) deregulated the drugs market leaving only 76 drugs under price control mechanism. An analysis of its impact by the Delhi Science Forum (DSF) showed that out of a set of 28 essential drugs (8 under price control and 20 outside it)—whose price movement was studied—'prices of 6 of the 8 controlled drugs decreased; on the other hand, the prices of the 20 drugs outside DPCO mechanism showed an increase in excess of 10 per cent and in some cases in excess of 20 per cent.' 'The DSF also analysed the increase in prices of 50 top-selling drugs between February 1996 and October 1998. It showed that the average increase in case of brands under price control was 0.1 per cent, whereas that in the case of brands outside price control was 15 per cent. It was also found that the price-rise was not a one-time increase owing to an escalation in raw material costs but was indicative of a trend of a continual increase in the prices of decontrolled drugs.[10]

8. THE KARNATAKA STATE CONTEXT

Karnataka is a moderately developed state and currently has one of the highest State Domestic Products (SDP) in the country. A population of 53 million is spread over 27 districts, which are further subdivided into 175 *talukas.* [11] Besides the elected state government, elected functionaries also function through three tiers of local government or *Panchayati Raj* Institutions (PRIs). PRIs have a statutory role to play in public health. However capacity and financial resources to play this role needs to be further strengthened.

Given below are some of the institutional, demographic and health indicators for Karnataka state.

[10] R Ramachandran (2002); 'Unhealthy Policy', *Frontline*, 15 March 2002
[11] Administrative sub-unit of a district

8.1 General Information

Table 11: General Information Regarding Karnataka

1. Area Sq. Km	191791
2. Number of districts	27
3. Revenue divisions	4
4. No. of *Taluks*	175
5. No. of towns and Urban Areas	254
6. No. of inhabited villages	27066
7. No, of *Gram Panchayats*	5692

8.2. Karnataka health indicators

Table 12: Karnataka Health Indicators

1.	Crude Birth Rate (SRS, 1999) Combined Urban Rural (NFHS – 2)	22.3 / 1000 population 19.2 / 1000 population 23.7 / 1000 population 20.4 / 1000 population
2.	Crude Death Rate (SRS, 1999)	7.7 / 1000 population
3.	Infant Mortality Rate (SRS, 1999) Urban Rural (NFHS -2)	58 / 1000 live births 24 / 1000 live births 69 / 1000 live births 51.5 / 1000 live births
4.	Life Expectance at Birth (1996 – 2001) Male Female	 61.7 65.4
5.	Under 5 Mortality Rate (NFHS 2)	69.8 / 1000 live births
6.	Neonatal Mortality Rate (NFHS 2)	37.1 / 1000 live births
7.	Post-Neonatal Mortality Rate (NFHS 2)	14.4 / 1000 live births
8.	Perinatal Mortality Rate (1994) Rural Urban	47.8 / 1000 live births 49.2 / 1000 live births 44.3 / 1000 live births
9.	Percentage of children fully vaccinated (NFHS – 2) BCG DPT (3) Polio (3) Measles	60 84.8 75.2 78.3 67.3
10.	Child Mortality Rate (NFHS – 2)	18.3 / 1000 children
11.	Anaemia among children (6-35 months)	70.6%
12.	Nutritional status of children (Gomez Classification, 1996 Severe Undernutrition Moderate Undernutrition Mild Undernutrition Normal	 6.20% 45.40% 39% 9.40%
13.	Total Fertility Rate (SRS, 1997) (NFHS – 2)	 2.5 2.13

14.	Percentage of Institutional Deliveries (NFHS – 2)	51.1
15.	Percentage of safe deliveries (NFHS- 2)	59.2
16.	Anaemia among women in 15 – 49 years age group (NFHS – 2)	42.4%
17.	Newborns with Low Birth Weight (1994)	35%
18.	Percentage of mothers who received ANC (NFHS-2)	86.3
19.	Percentage of Eligible Couples protected as on March 2000	59.7
20.	Maternal Mortality Rate (SRS, 1998)	195 / 100,000 live births
21.	Percentage of currently married women using (NFHS -2) a. Any contraceptive method b. Sterilization	 58.3 52.1
22.	Unmet need for family planning (NFHS 2) a. For spacing b. For limiting c. Total	 8.3 3.2 11.5
23.	Percentage of women reporting a reproductive health problem (NFHS-2)	18.8

8.3. A comparison

Human Development Index and Gender Related Development Index (GDI) Ranks [12]

Table 13: Comparative HDI and GDI Ranks

State	HDI	GDI
Kerala	1	1
Punjab	2	4
Maharashtra	3	2
Haryana	4	9
Gujarat	5	3
West Bengal	6	7
Karnataka	7	5
Tamil Nadu	8	6
Andhra Pradesh	9	8
Assam	10	10
Orissa	11	11
Rajasthan	12	13
Bihar	13	14
Madhya Pradesh	14	12
Uttar Pradesh	15	15

[12] Source: A.K.Shivakumar (1991-92) quoted in Human Development in Karnataka, 1999 pp 12.

8.4 Population stabilization

Population stabilization through fertility decline has long been a goal of the state government, in consonance with national priorities. It is, however, realized that some of the causes for the state not achieving demographic goals as envisaged are inadequate social development, isolation of certain sub-groups of population, and lack of commitment on the part of service providers. It is widely recognized that the public sector, in particular has generated awareness, demand for services and has also provided widespread access to contraceptive and family welfare services, especially terminal methods, and Mother and Child health care. There have been resultant gains with declines in birth rates from 41.6 (1951 – 60) to 22.0 (2000), death rates from 22.2 (1950-51) to 7.8 (2000), and growth rates from 2.2 (1951) to 1.7 (2001 Census). The Total Fertility Rate (TFR) is 2.13 and the effective Couple Projection Rate (CPR) is 60.7% (2001). Thus the State is fairly near to reaching replacement levels of fertility. Data indicates decline in growth rates, particularly after 1981 (in all districts except Gulbarga division with slower or stagnant declines). This momentum of decline is likely to continue. Improvement in social development, quality of life and gender development will hasten the process of demographic transition.

8.5. Health gains

During the past century and particularly after independence in 1947, several gains have been made in health and health care in Karnataka. Life expectancy at birth has increased from 37.15 to 61.7 years and from 36.15 to 65.4 years for males and females respectively, between 1951 and 2001. The Infant Mortality Rate (IMR) declined from as high as 148 / 1000 live births in 1951 to 69 in 1981, and further too 57 in 2000 (SRS 2000). In this sensitive key indicator, the goal of 60 mentioned in the 1983 National Health Policy has been reached. The Crude Birth Rate has fallen from 40.8 / 1000 population in 1951 to 22.0 in 2000 and the total fertility rate from 6.0 children in 1951 to 2.13 in 1998-99. Small pox has been eradicated. The State has become free of plague and more recently of guineaworm infection. The incidence of polio was reduced to zero in December 2000 however after two years there have been new cases reported in 2003 and 2004. The progress in bringing down Crude Death Rate by more than two thirds from 25.1 in 1951 to 7.8 in 2000 is noteworthy. Public health care programmes richly deserve much of the credit for this. A brief picture of the health gains achieved over time is depicted below.

Table 14: Health Gains

HEALTH INDICATOR	1951	1971	1981	1991	2001
Life expectancy at birth (years)					
Males	37.15	50.9	55.4	58.1	61.7
Females	36.15	50.2	55.7	58.6	65.4
Crude Birth Rate (per 1000 population)	40.8	37.1	28.3	26.9	22.0*
Crude Death Rate (Per 1000 population)	25.1	17.0	9.1	9.0	7.8*
IMR (Per 1000 lbs)	148	120	110	80	57*
Malaria (API)	NA	1.35	4.79	1.16	3.93
Leprosy (cases/10000 population)	NA	Na	31	16	2.45

* - Sample Registration System 2000

Further, improvements in the health infrastructure over the years in Karnataka are apparent from the following table:

Table 15: Health Infrastructure

HEALTH INFRASTRUCTURE	1970–71	1980-81	1990-91	2000-01
No. of Sub Centers	NA	3334	7793	8143
No. of Primary Health Centers	265	300	1198	1676
No. of Primary Health Units	917	1215	626	583
Hospitals	114	137	176	176
Beds	NA	24597	31432	43112
Doctors	NA	NA	4370	5202
Staff Nurse	NA	NA	4607	5317

The health and demographic scenario in Karnataka, compares favourably with the national average as is evident from the following table.

Table 16: Demographic Indicators

Sl. No.	INDICATOR	1951		1971		1991		1997		2000	
		K	I	K	I	K	I	K	I	K	I
1.	Crude Birth Rate	40.8	39.9	37.1	41.2	26.9	32.5	22.7	27.2	22.0	25.8
2.	Crude Death Rate	25.1	27.4	17.0	19.0	9.0	11.4	7.6	8.9	7.8	8.5
3.	Natural Growth Rate	15.7	12.5	20.1	22.2	17.9	21.1	15.1	18.3	14.2	17.3
4.	Infant Mortality Rate	148	NA	120	129	77	80	53	71	57	68

NOTE: K-Karnataka I – India NA – Not Available

8.6 Health gaps

However, gaps remain. Large rural – urban differences remain, exemplified by IMR estimates of 70 for rural areas and 25 for urban areas (SRS, 1998). Despite overall improvements in health indicators, inter-district and regional disparities continue. The five districts of Gulbarga Division (Bidar, Koppal, Gulbarga, Raichur, Bellary), with Bijapur and Bagalkot districts of Belgaum division continue to lag behind. Under-nutrition in under-five children and anaemia in women continue to remain unacceptably high. Women's health, mental health and disability care are still relatively neglected. Certain preventable health problems remain more prevalent in geographical regions or among particular population groups. Structural reforms, as suggested by the Task Force on Health, have to be made and more effective management practices imbued with accountability have to be introduced to ensure swift and effective local responses to health problems.

The relatively low level of public confidence in public sector health services, particularly at primary health centre, is recognized. Lack of credibility of services

adversely affects the functioning of all programmes. Underlying reasons for implementation gaps need to be understood and addressed.

8.7 Equity in health and health care

Recent data analyses reveal unabating regional disparities in health status, in distribution of Primary Health care facilities and their utilization. The regional disparities are apparent in the composite health infrastructure index; based on: the (a) doctor: population and (b) Government hospital beds: population ratios and (c) drinking water facility of 40 or more Litres Per Capita Per Day (LPCD). Out of the 56 relatively developed *talukas* in the state, only 15 (27%) are in the Northern Karnataka region and the remaining 41 (73%) in the southern. Among the 39 most backward *taluks*, as high as 33 (85%) belong to the Northern Karnataka.

Disparities in health status by social and economic background characteristics like religion, caste and standard of living can be indirectly inferred from the important indicator of child mortality and could be used as a yardstick for all practical purposes.

The following statement [13] throws considerable light on the differences in the levels of infant and child mortality by these significant background characteristics, in Karnataka.

Table 17: Differences in the Levels of Infant and Child Mortality

Background characteristics	Infant Mortality	Child Mortality	Under-Five Mortality
Residence			
Urban	44.1	12.1	55.7
Rural	70.3	27.1	95.5
Mother's Education			
Illiterate	76.2	29.2	103.1
Literate<middle school complete	41.9	17.6	58.8
Middle school complete	51.7	4.3	55.8
High school complete & above.	37.8	5.6	43.1
Religion			
Hindu	65.5	24.0	88.0
Muslim	49.5	17.0	65.6
Caste/Tribe			
Scheduled Caste	69.9	37.4	104.6
Scheduled Tribe	85.0	38.9	120.6
Other backward class	60.6	18.7	78.2
Other	56.4.	14.2	69.8
Standard of living index			
Low	82.2	38.5	117.5
Medium	54.6	13.6	67.5
High	38.2	12.4	50.1
Total	**62.3**	**22.4**	**83.3**

[13] *Source*: National Family Health Survey – II (1998-99)

9. FILARIASIS AND FILARIASIS CONTROL IN INDIA

9.1. Background

Filariasis has been and remains a major public health problem in India, next only to malaria and tuberculosis. The disease was recorded in India as early as 6th century B.C. by the famous Indian physician, Susruta, in his book *'Susruta Samhita'*. In the 7th century A.D., Madhavakara described signs and symptoms of the disease in his treatise '*Madhava Nidhana'*. In 1709, Clarke termed elephantoid legs seen in Cochin as 'Malabar legs'. The discovery of microfilariae (mf) in peripheral blood was made first by Lewis in 1872 in Kolkata (Calcutta).

9.2 Causative organisms

In mainland India, *Wuchereria bancrofti* transmitted by the ubiquitous vector, *Culex quinquefasciatus*, is the predominant infection, accounting for 99.45% of the problem. The infection is prevalent in both urban and rural areas. *Brugia malayi* infection is mainly restricted to rural areas due to the peculiar breeding habits of the vector associated with floating vegetation. Both *W.bancrofti* and *B. Malayi* infections in mainland India exhibit nocturnal periodicity of microfilaraemia.

Indigenous lymphatic filarial cases are reported from 20 States and Union Territories namely Andhra Pradesh, Assam, Bihar, Chhatisgarh, Goa, Gujarat, Jharkhand, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Orissa, Tamil Nadu, Uttar Pradesh, West Bengal, Pondicherry, Andaman & Nicobar Islands, Daman & Diu, Lakshadweep and Dadra & Nagar Haveli.

The North-Western States & Union Territories are free from indigenously acquired filarial infection.

9.3. Filariasis control in India - a historical review

i. Pilot Project in Orissa: The first pilot project for the control of bancroftian filariasis was undertaken by the Indian Council for Medical Research (ICMR) in eight villages in Orissa from 1949 to 1954 through conventional methods, namely (a) two villages under mass drug administration with diethylcarbamazine (DEC), (b) two villages under recurrent antilarval measures, and (c) two villages under residual insecticidal spray as anti-adult measure. Two more villages served as control. The pilot study revealed that each of the above methods had drawbacks, but using all the three methods concurrently was considered appropriate for the control of filariasis.

ii. Though it was recognized that filaria was responsible for much morbidity among people living in endemic areas, for long little concerted efforts were made to control it.

iii. Based on the programme developed by the ICMR, the central government initiated the National Filaria Control Programme (NFCP) to cover the major endemic foci. The object of the programme was to break disease transmission through:

    1. mass drug administration

2. anti-larval measures; and,

3. measures against adult mosquitoes, as in the malaria control programme.

   ICMR evaluated the programme in 1960 and in 1971. It recommended that:

   (a) the problem of filariasis should first be fully defined through survey units to get the basic epidemiological data needed for programme implementation;

   (b) anit-larval activities in urban areas should be combined with anti-parasitic measures through filarial clinics;

   (c) control measures should be extended to semi-urban and rural areas on a regionalized basis by limiting/reducing the reservoir of infection through detection and treatment teams.

It was found that prevalence of filaria was particularly high in the states of Uttar Pradesh, Andhra Pradesh, Tamil Nadu, Kerala and Maharashtra. What was earlier considered a urban disease was spreading to rural areas. According to a 1977 estimate about 236 million people lived in filarial endemic areas of which only 64 million were in urban areas.

By 1980, there were 165 filaria control units in various states and union territories, covering a population of 24 million out of the estimated 236 million which was a large implementation gap.

Banerji (1985) noted that even after thirty years filariasis has not been adequately epidemiologically defined in terms of size and distribution. Only 176 of 290 affected districts were surveyed (ICSSR-ICMR 1981:148). However, as shown in Table estimates based on some very broad data are enough to come to a conclusion that, in the first three decades since India become independent, the disease has spread extensively – the population at risk has increased from 25.90 million in 1953 to 65.98 million in 1962, and 263.13 million in 1976.

Filaria Control Units served the urban population though incompletely. The Union Ministry of Health and Family Welfare is cited by Banerji (1985) that ‘ there is at present no viable control programme for filariasis which will be effective in the rural environments’ (Government of India 1982d:13).

The disease has not received the attention it deserves from any of the key groups – political leadership, research workers, health administrators, and international agencies. Without making even a reasonably reliable estimate of the size and extent of the problem, the ICMR went on to recommend what should be the content of the FCP. The fact that there has been a significant increase in the prevalence of the disease in the sixties and seventies is an index of the quality of the programme formulation, its implementation, and its monitoring and evaluation (ICSSR-ICMR 1981 : 148).In India, 17 States and six Union Territories are endemic for filariasis. There are 31.26 million with microfilaria in their blood, 7.44 million with swelling of the limbs and 12.88 million with hydrocoele. It is estimated that 40.65 million

episodes of acute attacks occur annually in the affected population. India has 40 per cent of filariasis-infected people in the world and the annual loss in wages resulting from this disease is estimated to be USD 811 million every year.[14]

9.4. NATIONAL FILARIA CONTROL PROGRAMME (NFCP)

The WHO's target for elimination of the disease worldwide is 2020 and India hopes to achieve the same by 2015.

The National Filarial Control Programme was started during 1955-56 under National Institute of Communicable Disease (NICD) after an agreement between Government of India and United States Technical Cooperation Mission for the purpose of controlling the Bancroftian filariasis with the following objectives:

a) to carry out filariasis surveys in different States of the country where the problem was known to exist in order to determine the extent of prevalence, types of infection and their vectors.
b) to undertake large scale pilot studies to evaluate the known methods of filariasis control in selected areas in different states and
c) to train professional and ancillary personnel required for the programme.

The programme component of NFCP was transferred from NICD to NAMP (National Anti -Malaria Programme) in June 1978 while the research and training components were retained in NICD.

The control activities carried out under the programme include anti-parasitic measures by instituting DEC administration to total population at a dose of 4 mg/kg body wt. per day for five consecutive days and anti-mosquito measures with three rounds of indoor dieldrin spray in rural areas and antilarval measures using mosquito larvicidal oil or BHC in urban areas.

DEC dosage schedule and larvicides currently in use: The DEC dosage adopted in the programme is 6mg/kg body wt. per day for 12 days. Besides MLO as larvicide, organo-phosphorus larvicides namely fenthion and temephos have also been in use in the programme since 1975.

Medicated salt regimens in India: Based on the results obtained in pilot trials in the Uttar Pradesh and Andhra Pradesh, the distribution of 0.1% DEC medicated salt to general public for one year was implemented in Lakshadweep, comprising a population of 25,000 during 1976-77 which reduced mf rate by 80% and circulating mf by about 90%. The DEC medicated salt project with 0.2% concentration was concluded at Karaikal, Pondicherry which gave significant reduction in microfilaraemia. DEC pilot project was taken up during 1989 in selected villages of Kalakuchi Health District of Tamil Nadu. The DEC medicated salt trials conducted in India are given in Table 18.

[14] Dr. R.K. Shenoy, Chief, Filariasis Research Unit, T.D.Medical College Hospital, Alappuzha, Kerala, INDIA (The Hindu, Saturday, Jun 05, 2004)

Table 18: DEC medicated salt trials in India

Sl.No	Place	Pop	Year	Period of Salt Distribution	Dose to DEC	%age reduction	
						Mf Rate	Circulat-ing Mf
1.	Parbatpur (Uttar Pradesh)	204	1968	2 months	0.1%	61.0	94.0
2.	Nelaturu (Andhra Pradesh)	2489	1969	11 months	0.1%	86.0	99.3
3.	Mandapeta (Andhra Pradesh)	24094	1971	3 months	0.1%	34.4	69.0
4.	Darogakhera (Uttar Pradesh)	340	1972-73	3 months	0.3%	57.2	92.4
5.	Lakshadweep (Islands)	26000	1976-79	27 months	0.1% & 0.15%	80.0	90.0
6.	Karaikal (Pondicherry)	130000	1980-84	46 months	0.15% & 0.2%	98.0	99.5
7.	Hill Settlements (Kerala)	1380	1981	12 months	0.4%	100.0	100.0
8.	Kanyakumari District (Tamil Nadu)	1735238	1996-2001	60 months	0.1%	95%	NA

***B.malayi* control:** The pilot project under the auspices of NICD in Kerala revealed that the vectors of *B.malayi* are amenable to indoor residual spray of HCH at a dose of 0.2 g/m^2 per round, three rounds a year. Integrated vector control approach for control of this infection was being implemented by VCRC Pondicherry in Shertally Taluk of Ernakulum district, Kerala.

The National Filaria Control Programme was evaluated four times by the ICMR assessment committees, once in 1961, the second one 1971, the third evaluation was done in 1982 and the fourth one in January, 1995.On the basis of the out come of the programme, difficulties encountered in its execution, urgency of the filarial situation etc. recommendations were given.

i. First ICMR Assessment Committee (1960): The results of the control measures executed from 1955 to 1960 were assessed by the ICMR Assessment Committee. The major recommendations were:

- Reorganisation of control units on the basis of population, instead of uniform 3 lakhs population (2:1 urban and surrounding rural areas respectively).
- Recurrent Antilarval measures.
- Establishment of new control units
- Prevention of filariogenic conditions in town extensions and new townships
- Adequate provision for disposal of sewage and sullage

ii. **Second ICMR Assessment Committee (1970):** It was appointed to assess the progress made by NFCP till that time. The salient recommendations were as follows:

- Selective mf carrier therapy as a compliment to antilarval measures
- Delimitation of the problem in unsurveyed districts
- Regionalisation of control measures in contiguous areas

iii. **Third ICMR Assessment Committee (1982)**: It assessed the programme for the third time and recommended the following:

- NFCP should be made 100% centrally sponsored scheme.
- In order to cover rural population, the NFCP should be integrated with Primary Health Centres.
- The Village Health Guide (VHG) and Multipurpose Workers (MPW) may treat clinical cases of filariasis with DEC. In order to support, guide and monitor the above activities, a post of District Filaria Officer along with supporting staff be created in each endemic district.
- A filaria unit may be established in a town with minimum 20,000 people and 4% mf rate.
- Survey Unit should be engaged for resurvey of each old surveyed district, if routine survey has been completed.
- Pyrethrum extract can also be provided to NFCP towns by the Centre as per Urban Malaria Scheme to stop transmission.
- *B.malayi* Research Unit under NICD should be made permanent and a project on eradication of *Brugia malayi* infection which is feasible may be launched in 1996.
- Medicated salt may be introduced in a phased manner.

iv. **Fourth ICMR Assessment Committee (1995):** It made the following recommendations:

- Project on eradication of Brugia malayi infection, which is feasible, may be launched in 1996.
- 100% Central Assistance for material and equipment including vehicles be given.
- Integrated vectors control measures be undertaken for all vector borne diseases.
- Model bye-laws for effective control of vectors in domestic situation be adopted.
- Antigen and DNA based detection of microfilaria and operational research may be adopted.
- Fresh delimitation surveys in rural areas may be initiated.
- Community health education through intensified mass media be initiated.
- Training of different categories of workers and trainers training be organised.

Funding and Central Assistance: The NFCP used to be 100 per cent Centrally sponsored programme, but in the Fifth Five Year Plan, only materials and equipments were supplied by the Centre from its share and the entire operational cost was borne by the States. However, from 1978 onwards the Central assistance was further reduced by sharing the cost of materials and equipments on 50:50 basis. Up to Seventh Five Year Plan the NFCP budget was separate and the same was merged with budget of Urban Malaria Scheme during Eighth Five Year Plan continuing the sharing the cost of material and equipment on 50:50 basis. The organophosphorus compounds like

temephos and fenthion and drugs are supplied by the Centre while MLO, etc. are procured by the States.

9.5. Revised control strategy

After affecting many changes in the programme during the last four-and-a-half decades, the country adopted a revised strategy in 1997 for elimination of LF, based on the recommendations by a WHO sponsored workshop held in January 1996. The highlights of the strategy are:

- Single day mass therapy at a dose of 6 mg/kg body wt. annually.
- Management of acute and chronic filariasis through referral services at selective centres.
- IEC for inculcating individual/community based protective and preventive measures for filaria control.
- Anti-vector measures to continue in all the NFCP towns as complimentary to antiparasitic measures and mf carriers detected in filaria clinics and elsewhere to receive the standard dose of 6 mg/kg body wt. per day for 12 days.

The basic principle of the revised strategy for the single dose mass DEC administration is based upon:

1. Interruption of disease transmission and
2. Treatment of problems associated with lymphoedema (disability prevention and control)

Mass drug administration with DEC single dose annually

The International Task Force for Disease Eradication had identified lymphatic filariasis as one of the infectious diseases considered eradicable or potentially eradicable.

The single dose mass therapy has been found to possess the following advantages.

i. It is as effective as 12-day therapy for public health measure.
ii. It has lesser side effects thus enhancing public compliance.
iii. It involves decreased delivery costs.
iv. It does not require complex management infrastructure.
v. It can be integrated into the existing primary health care system for delivery compliance.
vi. Single dose mass treatment annually in combination with other techniques either eliminated or markedly reduced the transmission of lymphatic filariasis in some countries.

National Filaria Day (NFD)

An NFD will be held every year starting in June 2004 in the endemic districts. Besides free drug distribution, there would be additional inputs in the form of IEC, POL expenses, training, monitoring and evaluation of the project. This is necessary to achieve the National Health Policy goal of lymphatic filariasis elimination.

9.6 Organisational set-up

Central

The central organisation for training and research on filariasis consists of a senior level Joint Director with other officers and staff at the National Institute of Communicable Diseases, (NICD), Delhi and its three branches namely the Regional Filaria Training and Research Centres (R.F.T. and R.Cs) at Kozhikode (Kerala), Rajahmundry (Andhra Pradesh), and Varanasi (Uttar Pradesh).

The central organisation for the operational component ie., National Filaria Control Programme is under the Director, National Vector Borne Diseases Control Programme (NVBDCP formerly known as NAMP/NMEP), Delhi since June, 1978 with a Joint Director (Entomology) supported by Deputy/Assistant Director and ancillary staff.

The important functions of the Central organization are:-

1. to plan, coordinate and evaluate as per pattern to offer technical guidance.
2. to train officers and staff for the programme and
3. to undertake research studies on epidemiology, newer methods of filarial control and related aspects.

The first function is undertaken by Directorate of NVBDCP while the other two by the NICD.

The Central Filaria Survey Team established in 1970 and located at NICD, Delhi monitors the filarial transmission in selected areas in non-endemic states. Research on B. *malayi filariasis* was undertaken from 1966 to 1978 by the NICD through its branch, *B. Malayi* Research Unit, located at Shertalli, Kerala.

The present set-up in different States/UTs and the population protected as per reports received from the state health authorities are given in Table 19.

Table 19–Population protected under NFCP and the set-up as on April 2003

Sl. No.	State/UT	Population protected (in Million)	Filaria Control Units	Survey Units	Filaria Clinics
1.	Andhra Pradesh	6.03	29	2	5
2.	Assam	0.31	1	1	0
3.	Bihar	6.72	28	1	31
4.	Chhattisgarh	Nil	0	0	0
5.	Goa	0.37	4	0	6
6.	Gujarat	3.91	9	0	7
7.	Jharkhand	1.88	7	1	7
8.	Karnataka	0.72	6	1	19
9.	Kerala	4.45	16	2	9
10.	Madhya Pradesh	0.74	9	3	8
11.	Maharashtra	6.52	16	6	10
12.	Orissa	2.54	15	2	15
13.	Tamil Nadu	9.44	21	1	42

14.	Uttar Pradesh	7.33	29	2	34
15.	West Bengal	1.53	10	4	3
16.	Pondicherry	0.54	2	0	0
17.	A&N Islands	0.06	1	1	1
18.	Daman & Diu	0.03	2	0	2
19.	Lakshadweep	0.01	1	0	0
20.	Dadra & Nagar Haveli	Nil	0	0	0
	Total	52.93	206	27	199

10. Filariasis and filariasis control in Karnataka

10.1. Filariasis in Karnataka

Karnataka is endemic for lymphatic filariasis. Its control is through a centrally sponsored National Filaria Control Programme. This programme is operative in only 8 districts endemic to the disease, namely, Gulbarga, Bagalkot, Bidar, Koppal, Dakshina Kannada, Udupi and Uttara Kannada. Each district has a Filaria Control Unit, and in selected towns in these districts there are 25 Filariasis clinics. The control programme (FCP) infrastructure is largely urban based though filariasis is equally prevalent in rural areas. Implementation which is supposed to occur through the primary health care system is weak. In addition to the above, there is a Filaria Survey Cell in Raichur.

The burden of disease and infection may be seen from the Table 20.

Table 20: Epidemiological situation and prevalence of microfilarial / filarial diseases in Karnataka [15]

Year	No. of Microfilarial cases	No. of disease cases	Microfilarial Rate
1991	1400	5700	1.35
1992	1700	2800	1.38
1993	1600	5200	1.1
1994	1000	4300	0.75
1995	1000	3500	0.8
1996	1100	4900	0.8
1997	1400	5700	0.65
1998	1300	5800	0.95
1999	1200	8600	0.91
2000	1350	7200	1
2001	1150	7000	0.71
2002	950	6400	0.68
2003	1000	6100	0.69

[15] Regional office for Health and Family Welfare, Government of India, Annual Report 2003

Fig 1: Chart showing the changing microfilarial rate in Karnataka (1991 – 2003)

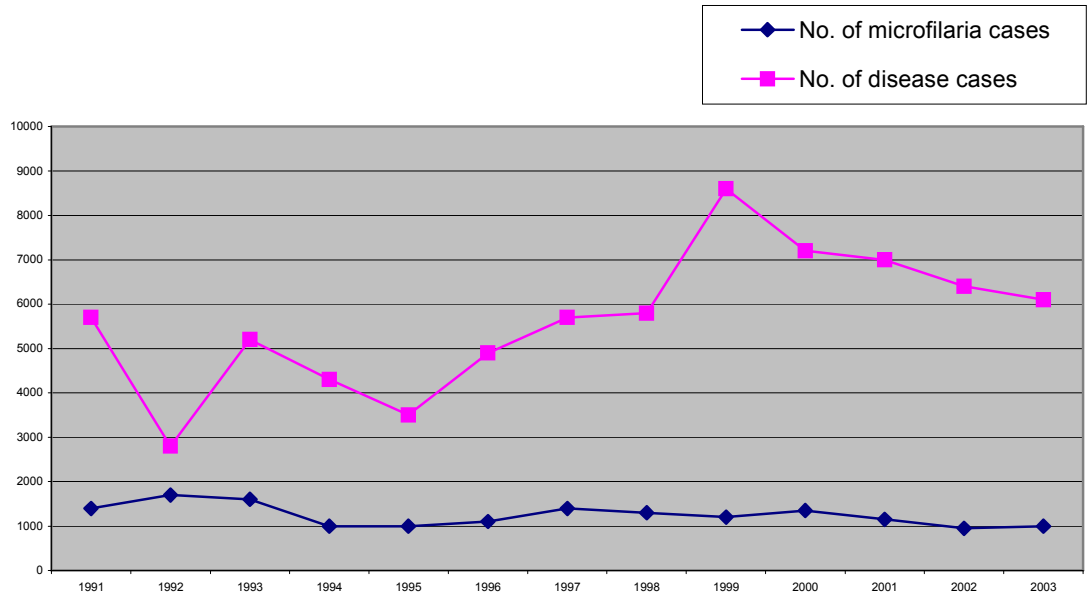
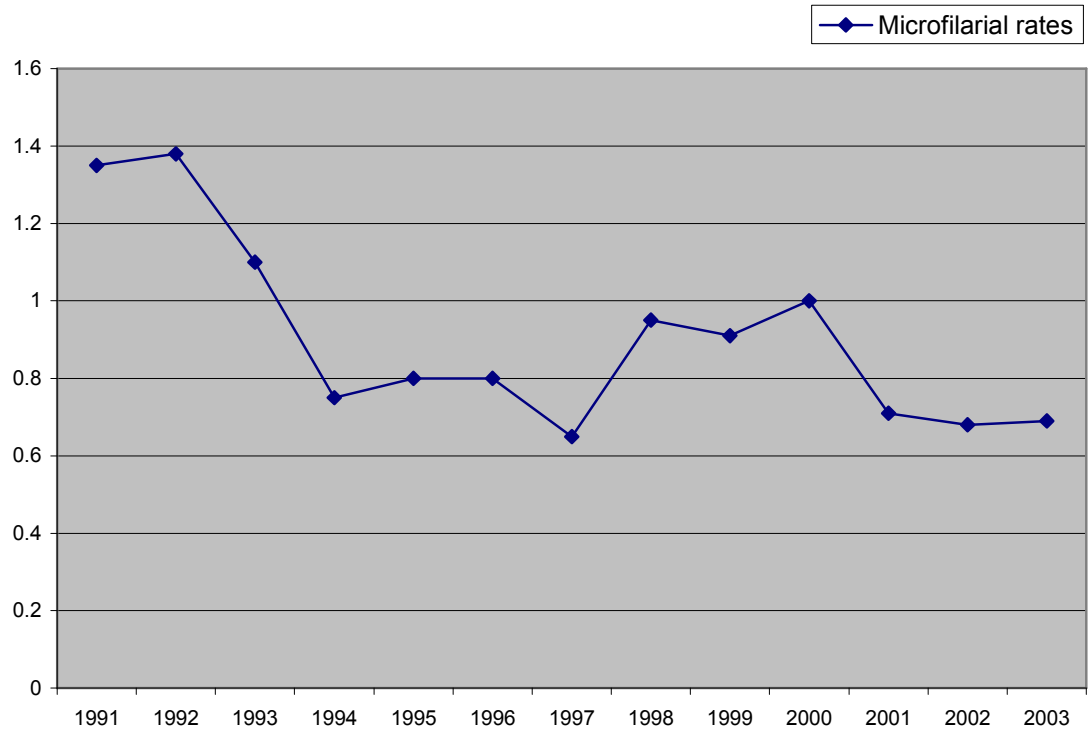


Fig 2: Chart showing the changing number of microfilarial and disease cases in Karnataka (1991 – 2003)



Source: ROHFW, GOI, Annual Report 2003

The personnel under the National Filaria Control Programme are supposed to be involved in collection of blood smears, looking exclusively for microfilariae (but not for malarial parasites); they treat people with microfilaria with the antifilarial drug diethylearbamazine (in parallel with malaria workers treating fever patients with antimalarial therapy); and they carry out anti-mosquito larval measures. Under the centrally sponsored programmes of malaria and filariasis, such vertical, parallel and exclusive operational schemes may be justified, but nothing prevents the State from utilizing these inputs and resources and to weave them into one holistic vector-borne disease control strategy. The Karnataka Task Force on Health and Family Welfare in 2001 recommended on integrated vector-borne disease control programme which is yet to be implemented. [16]

10.2 Organisational set-up in Karnataka

The organisational set-up under the National Filaria Control Programme (NFCP) works with the Joint Director (Malaria & Filaria), Deputy Director (M&F) and Senior Entomologist of the Directorate of Medical and Health Services at the state level. At the divisional level, the Deputy Director of the NAMP zone is responsible. The overall in charge at the district level is District Health and Family Welfare Office, assisted by the District Malaria Officer and the Filaria Officer of the Filariasis Survey Cell. At the peripheral level, there are different bodies. The Filaria Control Unit at Mangalore and Udupi are attached to the local bodies. The Filaria Control Unit at Gulbarga and Bidar are attached to the District Malaria Officer, while the remaining Control Units and Clinics are attached to the Medical officer of the concerned General Hospital or Primary Health Centres or the Leprosy Control Units.

Table 21: Filaria Institutions Functioning In Karnataka State

Sl.No.	District	Filaria Control Unit Established	No. of Filaria Clinics Established	Survey Units Functioning
1	D.Kannada	1	2	-
2	Udupi	1	2	-
3	Gulbarga	3	11	-
4	Bidar	1	4	-
5	Bagalkot	2	3	-
6	U.Kannada	-	2	-
7	Raichur	-	1	1
	TOTAL	**8**	**25**	**1**

These above institutions are responsible for covering more than 15.3 million people.

[16] The above information has been taken from the Karnataka State Integrated Health Policy , first drafted by CHC for the Karnataka Task Force on Health and Family Welfare (KTFHFW), and Government of Karnataka) and from the Final Report of the KTFHFW.

Table 22: Population at Risk and Protected Under the Filaria Control Programme

Sl.No.	District	Population at risk	Population protected
1	D.Kannada	1895403	354744
2	Udupi	1109494	213039
3	Gulbarga	3124858	582013
4	Bidar	1501374	207313
5	Bijapur	1808863	-
6	Bagalkot	1652232	89977
7	U.Kannada	1353299	47775
8	Raichur	1648212	14956
9	Koppal	1193496	-
	TOTAL	**15287231**	**1509817**

The incidence of Filariasis in selected districts of Karnataka is given below.

Table 23: District-wise Incidence of Filariasis in Karnataka (Year: 2001)

District	No. examined	No. Positive for Mf	Mf rate%	Diseased	Treated
Bidar	24419	105	0.43	1815	1920
Bagalkote	21381	51	0.24	396	404
D.Kannada	6124	32	0.52	104	136
Gulbarga	58993	742	1.26	4017	4759
Raichur	15114	89	0.59	79	168
U.Kannada	26319	38	0.14	541	871
Udupi	6481	78	1.20	17	95

Table 24: District-wise Incidence of Filariasis in Karnataka (Year: 2002)

District	No. examined	No. Positive for Mf	Mf rate%	Diseased	Treated
Bidar	21805	148	0.68	1244	1392
Bagalkot	20136	18	0.09	496	514
D.Kannada	4106	23	0.56	140	163
Gulbarga	47197	292	0.62	4022	4314
Raichur	11085	33	0.3	60	93
U.Kannada	24253	228	0.94	380	608
Udupi	9812	162	1.65	54	216

Table 25: District-wise Incidence of Filariasis in Karnataka (Year 2003)

District	No. examined	No. Positive for Mf	Mf rate%	Diseased	Treated
Bidar	23314	187	0.8	575	762
Bagalkote	19094	6	0.03	656	662
D.Kannada	3065	5	0.16	107	112
Gulbarga	33315	218	0.65	3352	3555
Raichur	11824	122	1.03	27	149
U.Kannada	18501	157	0.85	317	474
Udupi	9562	94	0.98	12	106

10.3. Process of implementation

The Director General of Health Services, Government of India has for several years not agreed to introduction of albendazole due to insufficient scientific evidence about increased reduction of microfilaremia when given along with DEC. Pilot programmes of Mass Drug Administration (MDA) of DEC have been introduced in 9 districts of 3 states (Tamil Nadu, Kerala and Orissa), endemic for filariasis. In the state of Orissa, the occurrence of a few deaths after the first round of MDA resulted in a Public Interest Litigation in the High Court followed by a stay order that prevents further use of MDA. The Department of Health requires approximately 3 months of planning to execute the one-day Mass Drug Administration. Given the other field problems and competing interests, the level of training and extent of public awareness, the actual consumption of DEC is therefore lower than what is distributed and may not reach the 80% required to have an effect on disease transmission.

Karnataka an endemic state for LF reportedly has 8 Filariasis Control Units**,** 25 Filariasis Clinics and 1 Survey Unit. The population at risk in more than 15.3 million people, however the population protected through current intervention under the NFCP is only 0.72 million.

Every year 0.12 – 0.15 million people are examined for Filariasis in the state. The MF rate among the examined persons ranged from 0.7 – 1.0% during the last six years. Annually about 7000 – 8600 peoples have been given treatment during that period. The mf rate is high in the Northern Karnataka districts of Bidar, Gulbarga, Raichur, etc. and in the coastal districts of Uttara Kannada, Dakshina Kannada and Udupi. The average endemicity in Karnataka is estimated to be 3.26.[17]

The officials at the central government office on Health in Karnataka were very uncooperative and denied having any concrete data on the actual situation of filariasis in the state. The meeting with Dr. S. Subbaiah, Senior Regional Director of Health at Kendriya Sadan, Bangalore on 17th February 2004 indicates the difficulties faced in obtaining data or on the GAELF programme.

[17] Filariasis in India: Epidmiology and Control, P.K.Das and S.P.Pani

An appointment was fixed with an officer who is in charge of Malaria and Filariasis programme at the Central Government regional office in Bangalore on 17th February 2004 at 11.00 a.m. The researcher met her at the appointed time and asked questions regarding the Global Alliance to Eliminate Lymphatic Filariasis (GAELF) and its functioning in the state of Karnataka. Dr. Narayan claimed that she did not know anything about the programme. She did not answer any further questions, even regarding the existing National Filariasis Control Programme. She asked the researcher to meet a senior officer at the Regional office. She accompanied the researcher to his office. She went in alone to officer chamber. After about 10 minutes, the researcher was called in. The senior officer told the researcher that he did not know anything about GAELF or the existence of the programme. He also said that their only function was to ensure that the state governments sent their reports to the Central government on time, and that it was the responsibility of the state governments to implement the programmes. He also denied having any information on the Filariasis prevalence or control measures in the state.

The officers were very uncooperative and shifted the responsibility squarely on the state government. They refuse to divulge any figures, either on the prevalence, or the budget or the source of funding. If the senior officer's claim that the only function of the Central Regional Office on Health is to ensure that the state governments send their reports on time is correct, then the Office amounts to a colossal waste of money and human resources. The lack of relevant information (or denial of possessing information) by a Regional Office of the Central Government amounts to negligence and needs to be dealt with firmly.

In spite of the reluctance of the Central Government Office to part with data or reveal the extent of corporation with GAELF, some figures were obtained from the state government sources (and later from the Central Government Office Annual Report). Official figures claim that over 6,100 cases of filariasis have been reported in Karnataka over the last 10 years in the State and 156 of them this year alone (upto May 2004). Under the latest drive, which includes Mass Drug administration, more than 20.79 lakh people were administered over 76.33 lakh di-ethyl carbamazine (DEC) tablets – an antibiotic given as preventive drug for filariasis in eight districts of the state, covering a total of 31 taluks, as part of a Centrally-sponsored mass drug administration (MDA) programme to wipe out filaria. The MDA aimed at distributing 94 lakh tablets in these districts. The mass drug administration programme was done under supervision of the NICD (National Institute of Communicable Diseases).

The districts where MDA was carried out were, Bidar, Bijapur, Bagalkot, Raichur, Dakshina Kannada, Uttara Kannada, and Udupi districts. Considering the gravity of the spread of the disease, all the 10 taluks of Gulbarga district had been included under the programme. This would amount to nearly 69.3 per cent of the total targeted people. The intensive mass distribution programme was held between 5th and 7th June 2004, but deaths after consuming drugs were reported soon after. Those between the age of two and five years were given 100 mg of these tablets, those between five and 14 years 200 mg, and 300 mg tablets to those above 14 years of age.

Five persons died in north-Karnataka after consuming Government-sponsored anti-filaria drugs. Four of them were children, while one was a youth. The deceased are: 21-year-old youth Manjunath of Raichur, 12-year-old Sangeeta of Bidar, seven-year-old

Jayakka of Mashal in Afzalpur taluk and six-year-old Ramu Chandrakanth of Roila Thanda (hamlet) in Chincholi taluk, Gulbarga district and eleven year old Shiva.

The Government claims that they were all suffering from other ailments when the drug was administered. A senior officer of Health (Malaria and Filaria) said that the inquiry report of the Central Government team had found that all five persons were suffering from other health problems.

The officer claims that 21-year-old Manjunath was suffering from heart disease, while 12-year-old Sangeeta, seven-year-old Jayakka and six-year-old Ramu had diarrohea and 11 year old Shiva was suspected to have been bitten by a snake. The District health Officer (DHO) stated that the boy had 'fits' right from childhood. He said, the boy had taken the DEC tablets on June 7 and after consuming, he had developed vomiting, fever, and weakness. He was rushed for treatment to the Chitaguppa Primary Health Centre (PHC) in Bidar district, which is close to the Thanda. After treating the boy, he was referred to the Government Taluk Hospital at Humnabad. However, the DHO stated that the boy's parents, instead of taking him to the Humnabad hospital, took him back to their home. On Wednesday evening the boy died.

In Gulbarga district alone about 20,79,361 people were administered with these DEC tablets and official figures indicate that 19,148 had experienced vomiting, giddiness and nausea. In all, 90,400 health workers and volunteers were designated to distribute these tablets door-to-door, and 976 supervisors were appointed for this. Newspapers carried stories of how the complications in some people had come up were mainly due to the inefficiency of the health workers and volunteers who were to give the tablets. They claimed that the tablets should not have been administered to people with serious illness, pregnant women, and those with blood-pressure, and heart ailments. Moreover, these tablets should not be taken on an empty stomach, and should be taken only after consuming food. But, as the health workers and volunteers, in some cases, failed to convey this direction, many fell sick.

The Study team which visited the above districts, found the following:

- The Mass Drug Administration was viewed, both by the Government staff as well as the community, as just another Government programme which needed to be carried out on a mass scale.
- None of the staff (doctors/ paramedics/ administration) at the health department had heard about Global Alliance for Elimination of Lymphatic Filariasis (GAELF), though they were implementing the Mass Drug Administration.
- The Filariasis Control programme unit was under-staffed.
- The National Filariasis Control Programme (NFCP) covered only the urban and peri- urban areas.
- The Government Health machinery at all levels are not effectively involved with NFCP.
- Medical officers at local heath centres do not treat people with symptoms of Filariasis, nor are they given drugs. The people are referred to the nearest Filariasis clinics, which could be quite far away, and the clinics may or may not be functional.

- Community awareness on the causes of Filariasis, and the government programmes for filariasis control was extremely limited. They did not have any information on the reasons for which MDA was being conducted.
- The problem of Filariasis was quite severe in the endemic regions. However, neither Government programmes nor GAELF supported initiatives seem to have made any impact. Cases where people have deserted their spouses with Filariasis still continue.

The existing infrastructure to tackle Filariasis is highly inadequate. In addition to being inadequate, it is also non-functional in many parts. The following case depicts the functioning of many of the filaria-specific health centres.

The National Filariasis Control Programme (NFCP) in Gulbarga district has sanctioned strength of 55 staff in the units and 36 staff in night clinics. By the Government's own estimates, only 47 people are working in the units, while 26 people work in night clinics. However the real situation in the far removed from the official statistics.

Take the case of NFCP Unit in Gulbarga. According to official figures, the NFCP has 41 staff, all of whom are supposedly working. The staff ratio was fixed according to the population in 1971. Our visit to the unit revealed that only 12 people are actually working in the unit, with the remaining posts were either vacant or the staff have been deputed on duty in other units.

The situation of night clinics are much worse. The staff who work during the day are asked to work in the night clinics too. All the night clinics are supposed to have a Junior Health Assistant, Junior Lab technician and an Attender. However, our visit to the Sedam Night Clinic revealed that the night clinics were practically non-functional. The Jr. Health Assistant who was deputed for the night clinic said that he worked during the whole day in the field, and being the only Jr. Health Assistant, the entire field related responsibilities were laid on him, and it was not possible to work during the night too, after the day's work.

The visit to NFCP Unit in Gulbarga visit has shown that the only work being done by the NFCP unit is to disperse tablets to infected individuals. There was absolutely no vector control programme or provisions for management of disability among infected individuals.

Another aspect that hinders the work of filariasis control is the lack of trained personnel. In Karnataka there are eight NFCP units, of which three are in Gulbarga district. In the entire Gulbarga district, there is only one person trained in filariasis control. He underwent a twenty-two day training at Rajamundry, Andhra Pradesh, where one of the regional training centres for filariasis control was established.[18] The lack of training and growth options have made the staff in the NFCP units a demoralised lot. They claimed that filariasis was not on the priority-agenda of the government and that programmes were not carried out on a planned basis. For instance they pointed out that the health communication and promotion team, do not cover filariasis when they conduct awareness camps or visits to the villages. The

[18] The other two centers are in Varanasi in UP and Calicut in Kerala.

exasperation of the staff was evident, when one of them remarked, *"The health promotion teams do not even mention 'filariasis' by mistake when they conduct IEC (*health education) *in the community".*

The necessity for need-based intervention was expressed by the staff of NFCP, who were interviewed during the field visits. In Gulbarga district, 90 persons suffering from filariasis were discovered in just one village of Chincholi taluk. The village falls in a forest area and no filariasis control or treatment activities are carried out there. Claiming that they are not able to reach out to the rural areas, where there was a great need for intervention through the existing health centres, they lamented that sporadic activities only disrupted their regular work, while they are not able to respond to the actual need.

The GAELF initiative is largely regarded as an externally imposed, techno-managerial exercise, which is far removed from the reality. The NFCP staff said that the need of the hour was to equip the existing health centres to tackle filariasis as they were directly in touch with the affected population on a regular basis. And hence, all efforts must be made to ensure that rural health infrastructure function optimally and the staff are trained to treat patients with filariasis and to conduct preventive and promotive care for vector transmitted diseases. The trutjh in the above statements were clearly visible when we visited some health centres in the area.

Mudhol Community Health Centre is about 80 kilometres from Gulbarga city. We reached the centre at 10.20 a.m. The timing of the OPD was displayed on the wall as 9 a.m. - 1 p.m. and 2 p.m. - 5 p.m. However, the doctor, who lives in the same campus had still not arrived. There were three patients waiting in the corridor to see the doctor. Later, we found out that all the patients were examined in the corridor of the Community Health Centre. There was a table and a chair for the doctor and a chair for the patient. Some staff from the centre went to call her when we arrived. The centre was an old building which was poorly maintained. We were told that it was a 30 bedded heath centre, but only 10 beds were available. There were three doctors appointed for this centre - one doctor was on leave, while another was expected from Sedam, a nearby-by town which was about 30 kilometres away. The pharmacist was on deputation from another centre and there was no staff nurse.

While this was the pathetic condition of the Community Health Centre, our visit to another health centre (PHC) reinforced the staff's views that optimising the functioning of rural health infrastructure and using them to tackle the various health problems in an integrated manner was the need of the hour. The next health centre visited was the Kokonda PHC. This PHC covered a population of about 25000 population through five subcenters. The situation of this PHC was no better than the Community Health Centre which we had visited.

An Officer of the PHC said that the PHC had twenty-one sanctioned posts of which only six were filled up. The following staff were working at the centre; one medical officer, one male health worker, one pharmacist, one lab technician (on deputation), an attainder and a clerk. Theofficer said that they are under pressure form the Deputy Commissioner of the district to carry on Pulse Polio Programme. Explaining about the measures used to ensure compliance, he said, "we use all pressure-tactics except beating, including stop of rations (from the public distribution system) to persuade people to immunize their children with polio vaccine".

Regarding Filariasis the officer said that they have no instruction to include it under their services. He said he has been seeing suspected cases of filariasis since the past nine years when he took charge at the PHC. However he could not treat them, as they did not have drugs for the same. He had been prescribing drugs and asked the people to procure them from private chemist shops. He said that he saw 10 - 15 new cases of filariasis in his own area, every year. He said that the only way filariasis could be prevented was through public awareness about controlling mosquitoes. He claimed that he was seeing a lot of young people with the symptoms of filariasis. Lamenting the indifference to filariasis and not including the same under PHC's charter of services, the officer said, "I do not know why the government is not concerned about Filariasis".

Having learnt about the total lack of facilities for filariasis control, we visited the Sedam taluk hospital, which supposedly housed a filariasis clinic and a night clinic. A senior officer of the hospital was interviewed. [19]

He had not heard about GAELF. He said that the paramedical worker's post was vacant while the lab technician was on deputation. Commenting on the difficulty in running a night clinic, he said that no lab technician was ready to go for night sample collection for which he was planning to issue a memo to the staff. He said that every Friday they are conducting night clinic since January 2004[20]. The Taluk Health Officer was away on pulse polio duty.

The taluk hospital is the nearest, and in many cases, the only accessible hospital for many of the villages in Northern Karnataka. The failure of filariasis control and treatment at this level points to a complete lack of any care for filariasis affected people. In such a situation, a one-time Mass Drug Administration seems completely out of place. A one-time drug infusion into a community at a mass-level, where the basic health infrastructure is not developed, is bound to be a failure, because of the lack of a preventive-medical approach to people's health problems. This visit to Bagalkot, Bijapur and Raichur district showed that while many people received the drug, the actual compliance of taking them as per the instructions was very poor. These facts do not show up on the Government reports, since the records only mention about how many drugs have been distributed. Hence, spending huge amounts of resources and energy on a sporadic intervention may not help the system in any way. The case of Bijapur adequately reveals the need to have a longer-term vision in developing programmes, than mass scale interventions, based on the easy availability of funds or following the dictates of external coalitions.

Bijapur is a district in the Northern part of Karnataka, with a population of 18,08,863 according to the Census of India, 2001. More than 78% of the population lives in rural areas. 104 cases of filariasis were reported from Sindgi Primary Health Centre (PHC), Mooratugi PHC, Almel PHC and Balaganoor PHC of Bijapur distrcit. (These are just the officially reported figures. The actual figures may be much higher, as the area falls in the filariasis endemic zone). However Bijapur does not even have any public facility for treatment of filariasis. People suffering for the disease have to go to Gulbarga district (Gulbarga or Hungund) or Bagalokot (Khamatagi or Ilkal).

[19] The officer was interviewed in his private clinic.
[20] However in the five months since the night clinic started, there were only nine people whose names were recorded on the register. This was highly improbable in a fully functioning filariasis night clinic since the area is endemic for filariasis.

The District Health Supervisor (Communicable Diseases) of Bijapur sent a report on the suspected cases of filariasis to the Joint Director (Malaria & Filariasis) seeking adequate support to tackle the disease. However, the District Health Supervisor was advised to ask patients to go to the nearest centres which were in the neighbouring districts. [21]

For many of the patients with advanced conditions, travelling to neighbouring districts was not possible. In addition, the cost of travel also deterred the others from visiting the health centres in neighbouring districts for treatment.

All the above cases have indicated a need for a locally responsive, functioning primary healthcare system to identify and respond to the health needs of the people. All programmes that are taken up by the health system must be geared to this end. A pro-active health system which gives as much importance to preventive and promotive care as much as to curative care will help in improving the health situation of the people.

PART IV

11. CRITICAL ISSUES IN REGARD TO GAELF

While the intentions of GPPIs may be good, the case study the Global Alliance to Eliminate Lymphatic Filariasis (GAELF) raises many questions. GAELF has been driven strongly by a very small group of international players. Even at the global level there is unevenness between WHO and the companies on the one hand and national government representatives on the other. The possibility of getting some additional funds and technical support may override other factors in decision making. Doubts about inadequacies of the technical component of the approach were muted and even dismissed. The capacity of national health systems to undertake such an exercise was not adequately thought through. Dissent was nor seriously considered. A variety of methods was used to influence decision making. Consequently a narrowly focused, rigid vertical, top-down, strategy was adopted.

The positive impact of the Global Alliance to Eliminate Lymphatic Filariasis (GAELF) is that it has helped to bring the issue of filariasis back on the health agenda of the government. Karnataka is an endemic state for lymphatic filariasis. The only existing programme is that of the centrally sponsored National Filaria Control Programme. The Task Force on Health and Family Welfare[22], instituted by the Government of Karnataka, had commented on the bad state of filariasis control in the state. In its final report[23], the Task Force commented, "On the whole, filariasis control is neglected as compared to malaria, both in planning and implementation. It needs priority in districts where its prevalence and incidence are high." The alliance has definitely spurred the Government of India through the World Health Organisation (WHO) and other central institutions like the Vector Control Research Centre (VCRC), Pondicherry, India to relook at controlling the disease, through initiatives like the Mass Drug administration.

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[21] As reported by the senior health worker at the District Health Office. Name and location of work withheld on request.

[22] Dr. Thelma Narayan of Community Health Cell, along with Dr. C. M. Francis were members of the Task Force.

[23] Karnataka - Towards Equity, Quality and Integrity in Health, The Task Force on Health and Family Welfare, Government of Karnataka, April 2001

However the means advocated by the Alliance are debatable. There has been a long-standing debate on the use of Mass Drug Administration (MDAs) to tackle the problem of filariasis. The wisdom in using the drug on such a mass scale has been questioned in various forums, and in public debates generated by the government's plan to introduce MDA. Some of the issues pertaining to the MDA which came up in the public debate were:

- Why should the Health Department follow the recommendations of the World Health Organisation (WHO) and the Central Government in this regard and administer the drug to millions of people, majority of whom are not even carriers of the disease.
- Whether the department could not have looked into alternatives and the special conditions prevalent in the State before adopting the national programme.
- Concerns have also been raised over the risks associated with the mass administration of the drug by doctors and voluntary groups.
- Several people including faculty of the local medical college have categorically stated that WHO would not have recommended mass administration of the drug in a developed country. "In a developed country, its approach would be different. It appeared that the WHO is willing to take a few casualties in less developed countries for eradication of lymphatic filariasis."
- They explain that the drug could cause severe anaphylactic shock that could be fatal in patients with high levels of microfilaria in the blood stream. Allergic reaction occurs on account of the toxins released by the microfilaria killed by the medicine. The drug is administered to patients with absolute eosinophyl count of more than 2,000 cells per cubic millimetre under steroid cover. This was the consensus medical opinion, and that meant the drug should be administered under medical supervision after a blood test.
- According to documentation available with Medline (Online Medical Information System), the risks of taking the medicine should be weighed against the good it would do and this is a decision "you and your doctor will make". It also says that mothers who take the medicine and who wish to breastfeed should discuss this with their doctor. Care should be taken to see that its administration does not conflict with other medicines one is taking. There is also a warning against double doses. The Health Department has virtually not taken any precaution to avoid mishaps occurring from volunteers, administering the medicine.

1) **Epidemiological Trends of Filariasis:** Despite a relatively poorly functioning National Filariasis Control Programme, which also has incomplete coverage, there appears to be a decline in the mf+ve prevalence rate over time in India. The natural history of the disease also needs to be looked at more closely. Therefore, before embarking on an ambitious and expensive Mass Drug Administration Programme, the risks and benefits of this approach need careful consideration and debate with contribution from a wide range of stakeholders, not just the filariasis control community. While their expertise and concerns are valuable, their special, if not vested interest in the course should be balanced by inclusion of public health specialists, social scientists, health economists and others.

2) **Prioritisation:** We have experimental learning from another GPPI in India – the GPEI (Global Polio Eradication Initiative) called *Polio Plus* in India and its adverse impact on routine immunizations. Estimates (yet unpublished) of

total immunization coverage of under-fives from a recent RCH survey indicate that only 50% of children are totally immunized. Problems of much wider public health significance such as anaemia, under-nutrition of under-fives and low birth weight are not even addressed. Access to mental health services and rehabilitation is extremely limited.

3) **Resource Analysis:** A proper costing of the MDA approach was required – not just of the drugs but of the entire exercise along with an estimated analysis of what impact this exercise would have on the health system and access to general primary health care.

4) **Programme Oriented:** The filariasis control programme, with MDA as a one-stop solution has turned out to be programme-oriented approach, rather than a community and person-oriented one, which has resulted in the lack of ownership and participation of the community.

5) **Limited Focus:** The programme has turned a blind eye to the needs and problems of the people who are already suffering from filariasis. Steps to manage the disability caused, or rehabilitation of those severely affected has not taken place. Due to the high profile nature of the GAELF and its decision-making bodies, countries which agree to the programme spend a lot of resources and energy on the MDAs, thereby leaving hardly any resources for the regular care of the affected people. This denies them even the normal care which they would have received, if the programme had not come into being.

6) **Vector Control Absent:** During the public debate on filariasis, a point which came out strongly was that vector-borne disease would continue to exist as long as mosquitoes were around. The GPPI has unfortunately only concentrated on providing drugs as the solution leaving the cause untouched.

7) **Context Blind:** North Karnataka is a drought-prone, under-developed area, where poverty and migration are perennial problems. A sporadic MDA of one day cannot meet the needs of a mobile population. A lot of efforts have earlier gone into strengthening of the health systems. In addition there is an existing National Filariasis Control Programme. The GPPI induced MDA has gone ahead as a stand-alone programme, as though no other systems exist.

8) **Decision Making:** The decisions about eliminating diseases and the methodology for accomplishing it is planned in an extremely centralised manner, with the staff and lower level officers not even being consulted. During interviews, all the state and central government officers denied any knowledge of the Global Alliance to Eliminate Lymphatic Filariasis. They also did not know who was behind the decision to conduct the MDAs. When the Government machinery at the field level was not involved in planning and designing of the MDA activity, how could they involve the community on whom it was being tried out.

9) **Introduction of Albendazole with DEC:** The co-administration of these two drugs is a debatable issue. Public health authorities including the Director-General of Health Services (DGHS), Government of India, have

resisted it. GAELF in India started only as a pilot strategy because the DGHS of the Government of India (GOI) did not agree with the two drug strategy namely of adding Albendazole to DEC.

A recent Cochrane review also reportedly has not shown any positive effect of adding Albendozole to DEC. GAELF is making the two-drug regimen conditional to any support even for a research study, raising the question of its own interests – in filariasis control or in its major partners. This is one of the controversies. One of major problems of the drugs is the anaphylactic shock experienced by some people who take the drug, due to the microfilariae present in their body. It is also known to be teratogenic in early pregnancy. When a drug administration is done on such a mass scale, it would be difficult to identify women in their early stages of pregnancy.

10) **Lack of Choice:** Unfortunately the decisions taken at extremely high levels, often bypassing even national governments minutely affect the personal choice of millions of people. In the case of filariasis control efforts, the risk-benefit analysis done by experts suggested that MDA was a useful method. However the people who had to take the drug were not given a choice. The power of the state machinery was used to implement the programme.

11) **Public Health Systems:** The filariasis control programme, which is a centrally decided and vertically executed programme has diverted resources and attention from people's problem and narrowed it down to distribution of drugs. The health system is weak and fragmented with several problems like large numbers of staff-vacancies especially in areas of need, corruption, political interference, poor supervisory systems, apathy and poor work ethic. Adding MDA for filariasis to this will be an additional burden and a task that it will not be able to deliver.

12) **Poor Implementation:** A common complaint in mass campaigns like immunization, pulse polio and mass drug administration, especially in a country like India, with a large population and under-prepared health system is that the coverage, compliance, implementation and contingency preparedness is poor. MDA being a massive logistical exercise often misses out on crucial requirements. For instance, in a district like Gulbarga, with a population of more than 31.25 lakhs, 2079361 people were administered DEC tablets and official figures indicate that 19148 had experienced vomiting, giddiness and nausea. With coverage of less than 80%, the very purpose of MDA, which is bringing down the microfilarial load and reducing transmission is defeated. In all, 90,400 health workers and volunteers were designated to distribute these tablets door-to-door, and 976 supervisors were appointed for this. The training and support to the army of volunteers was not adequate, as they were not prepared to handle adverse reactions, or to explain the reasons to the people falling ill after taking the drugs.

13) **Drug Industry Manipulation:** India is a drug manufacturing country and several local pharmaceutical companies produce Albendazole. Glaxo-SmithKline (GSK)'s donation of Albendazole in huge quantities will affect the local market. While GSK gets a global benefactor image, public goodwill

and publicity, it can also in due course of time, take over the Albendazole market.

14) **Partnership:** The system of GPPI's in the filariasis control process brings up the question of partnership - what kind of partnerships, and partnership for whom? In the filariasis control programme, the entire decision making body is far removed from the realities and needs of the people on whom it seeks to implement the decisions. Even the administrative structures at the local level through whom the programme is implemented are unaware of the partnerships, let alone the people. The only kind of partnership seen are economic and political in nature at the highest global level, where money is spent on a particular programme based on the decisions of an influential few.

15) **Accountability**: In a system where the decision-makers and the implementers and the "subjects" have no apparent link, the concept of accountability is thrown to the winds. In the mass drug-administration in North Karnataka, when deaths occurred after the MDA, the local administration washed its hands giving frivolous excuses, while the real decision makers of the programme remained untouched. This lack of accountability creates a system where a powerful few make decisions, for which others bear the consequences.

The above issues concerning the implementation of the GAELF supported filariasis control programme also raise larger concerns regarding violation of rights:

- **Right to Life:** The right to life and health for all as promised by the Indian Constitution and various international instruments on human rights, was violated, first by the lack of proper living conditions and secondly by the lack of accessible health systems for the treatment of diseases. The programme did not add to this right in any way, and in fact further alienated people's life by exposing them to the inherent risks in MDA of the specific drugs. [24] The intensive mass distribution programme was held between 5th and 7th June 2004, but deaths after consuming drugs were reported soon after. Five persons died in north-Karnataka after consuming Government-sponsored anti-filaria drugs. Four of them were children while one was a youth. Deaths had occurred earlier too in Orissa, after the MDA of filariasis drugs. The issue of 'Right to Life' came into question then, and the judiciary had stayed the mass drug administration in Orissa state, where this was being pilot tested. This was also the reason why Government of India dropped MDA a long time back. However, it has crept back into the public health system again.

- **Right to Know:** Since the MDA was an initiative taken by the state due to the influence of largely centralised institutions, very little effort was made to take the opinion or consent of any of the participating communities. And since the MDA was implemented soon after the Pulse Polio campaign, which is another centralised vertical programme, the staff did not have time (or the practical mandate) to create an awareness among communities about the

[24] DEC (and Albendezole in some areas) was administered as a part of the MDA drives.

cause or treatment for the treatment of filariasis. In fact, they did not even inform all the communities about the proposed MDA.

- **Right to Informed Consent:** In actual practice, the volunteers of the Government Health Department appeared at the doorsteps of houses in selected areas and asked people to swallow tablets, as they were Government orders. People did not have the choice of either knowing what they were swallowing or the side-effects or the actual uses. Neither was information provided nor consent taken for the administration of the drugs.

- **Right to Health Care:** When the state takes up an initiative to improve the public health of the people, it should not adversely affect the systems that provide regular health care to the people. Unfortunately, the present intervention by the state, with support of the external bodies has done little to support the regular functioning of the health system. In fact, it has affected the normal functioning of the health services at all the levels. When the interviewers went on field visits to four districts of North Karnataka (Gulbarga, Bijapur, Bagalkot and Koppal), they found health personnel missing in all the centers, as they were out on Pulse-Polio duty. They saw people waiting outside all the centers for treatment, not knowing when the health personnel would turn up. Secondly, the health centers, which are incidentally the only centers for follow-up of the people in the area, was not being equipped to provide sustained care or treatment, leave alone disease control, to the people suffering from filariasis.

12. CONCLUSION

The twenty-fifth anniversary of the historic Alma Ata Declaration went by quietly in 2003 with the promise of 'health for all' remaining a pipe-dream for majority of the people in the country. The situation has changed a lot since 1978, when the declaration was made. The Tenth Five Year Plan of the Planning Commission of India shows that the cost of private health care can be even more than 19 times the cost of what is provided by the State. [25] Studies across the country have shown that health–related expenditure is among the leading causes of impoverishment and rural indebtedness. The Supreme Court of India, in its various judgements has made it clear that the 'Right to Life' enshrined in the Constitution indicates a 'Right to Life with Dignity', which also implies provision of basic services to sustain a life with dignity. It is in this context that GPPIs are being implemented in the country. Any programme that is implemented should take forward these carefully thought-out pronouncements and processes. However GAELF has contravened these principles and as seen in the study, have even taken away few of the gains made in the effort to provide 'right to life with dignity' for all its citizens.

From an ethical perspective, principles of fairness in decision-making and autonomy of individuals, groups or of the health system as a whole are not met through GPPIs in health. The principle of 'do no harm' is also incompletely met in the GAELF. Occurrence of deaths, teratogenecity, and a significant proportion of people suffering side-effects, along with unintended adverse impacts on the health system, point to the problems in this area.

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[25] *Draft Tenth Five Year Plan,Vol. II, Planning Commission* quoted in Social Watch India, 2003.

From a public health perspective too the gains are limited. The health system is not strengthened, but is disturbed and distracted. A comprehensive approach with focus on primary health care, that could mobilize community participation more effectively was not used. Use of bioenvironmental methods of vector control, which could benefit other prevalent vector borne diseases, was not recommended. An expert driven, drug dependant, narrow top-down approach is unlikely to strengthen the health system or to empower communities or health workers.

The GPPIs in this case has not been effective and may not be sustainable. It therefore does not seem to offer much in terms of an alternative.

13. RECOMMENDATIONS

1. Discussion with WHO

Following the WEMOS study of GPPIs in the health sector it is important to have a presentation and discussion with key decision-making staff from across the World Health Organization, not just from the particular GPPIs.

2. Stakeholder Involvement

A process of discussion, debate and dissemination of research findings among all stakeholders at international and national levels is also required.This could help start debate and practice about public-private initiatives in health.

3. Core Values

A set of core values need to be identified and made widely accepted as a framework for global public policy action. This would include:

a) Strengthening community participation, involvement and autonomy in decision making, with community capacity building. There is a need to ensure community voice in all levels of decision making – local, national and global.

b) Respect for local health traditions and systems of medicine.

c) Respect for the basic human right to health and health care, with focus on the determinants of health and disease transmission.

d) Strengthening of public health systems with local capacity building for public health. Ensuring that a community health perspective is maintained, and that disease specific interests do not override the balanced development of the health system.

e) Checks and balances for decision making in public health, with adequate informed public debate. This will ensure transparency and place conflicts of interest in the open.

4. Research and Advocacy

Increased research and advocacy on GPPIs in health. There is a need to study impact on health system, unintended effects and also to get to community and social perspective.

5. Alternative Approaches to Public Health Problems

Increased openness to alternative approaches to public health problems with affirmation of diverse local solutions.

Recommendations Regarding Filariasis Control

1) Integrated Vector Control

Alternative approaches of integrated vector control including use of bioenvironmental methods in rural areas; and using MDA only in clusters where prevalence is high could be considered.

2) Health System & Vertical Programmes

Vertical programmes like Malaria Eradication, Filariasis Control, *P. falciparum*, etc. work as segregated, stand-alone programmes of the health department. Though they all deal with the same problem of vector-borne diseases, they are dealt with as separate issues, each with their own strategies, health personnel and targets. Each of them draw on the existing health system, thereby fragmenting it further. Coalitions like GAELF bring about further resource-draining policies and strategies.

A comprehensive, integrated framework to improve the health situation of the country is required, under which different programmes would be undertaken. Ad-hoc plans which adversely impact the health system, should not be taken up, just because they are promoted by powerful international bodies and coalitions.

3) Human Resources

All vacant posts under the National Filariasis control Programme needs to be filled up. The practise of undermining filariasis related work and deputing them for other work and under other programmes need to be stopped. Creative use of human resources to cover various aspects of filariasis control needs to be adopted.

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Annexure 1: Health in Karnataka –Some Statistics

A. Karnataka Demographic Features *

1. Total Population*		52,733,958
	Males	26,856,343
	Females	25,877,615
2. Decadal Growth Rate (1991 – 2001)*		+17.25%
3. Annual Growth Rate(1981 – 91)		1.9%
4. Population density (2001)*		275/sq km
5. Sex (Gender) Ratio*		964 females / 1000 males
6. Percentage of population in the 0.6 age group*		12.94
7. Percentage of births registered (1997)		
Rural		63.3
Urban		163.4
Combined		92
8. Literacy*	Total	67.04%
	Males	76.29%
	Females	57.45%
(Population in age group 0-6 is excluded)		
9. Percentage of SC/ST population to		
Total Population (1991 Census)	SC	16.38
	ST	4.26
10. Per capita income at current prices (1997-98)		Rs. 13,621.00

B. Trends in Karnataka

i) Crude Birth Rate, Crude Death Rate and Infant Mortality Rate, 1971 to 1999

	Crude Birth Rate			Crude Death Rate			Infant Mortality Rate		
	Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban
1971	31.7	34.6	25.3	12.1	14.0	7.2	95	105	54
1980	27.6	28.9	24.4	9.6	10.7	6.6	71	79	45
1990	28.0	29.0	25.0	8.1	8.8	6.1	70	80	39
1999	22.3	23.7	19,2	7.7	8.7	5.5	58	69	24

* Census of India 2001, Provisional Population Estimates

ii. Population distribution, percentage decadal growth rate, sex ratio and population density [26]

Sl. No.	State/ District	Population 2001			Percentage decadal growth rate		Sex ratio		Population density	
		Persons	Males	Females	1981-91	1991-01	1991	2001	1991	2001
1.	Belgaum	4,207,264	2,147,746	2,59,5218	20.30	17.40	954	964	235	275
2.	Bagalkot	1,652,232	835,684	816,548	20.79	18.84	982	977	211	251
3.	Bijapur	1,808,863	928,550	880,313	22.94	17.63	948	948	147	172
4.	Gulbarga	3,124,858	1,591,379	1,533,479	24.10	21.02	962	964	159	193
5.	Bidar	1,501,374	770,679	730,695	26.12	19.56	952	948	231	276
6.	Raichur	1,648,212	832,352	815,860	30.53	21.93	978	980	198	241
7.	Koppal	1,193,496	602,026	591,470	28.05	24.57	981	982	133	166
8.	Gadag	971,955	493,795	478,160	15.56	13.14	969	968	184	209
9.	Dharwad	1,603,794	823,415	780,379	19.64	16.65	935	948	333	376
10.	U.Kannada	1,353,299	687,026	666,273	13.66	10.90	966	970	119	132
11.	Haveri	1,437,860	740,307	697,553	20.53	13.29	936	942	263	298
12.	Bellary	2,025,242	1,028,481	996,761	26.84	22.30	966	969	196	240
13.	Chitradurga	1,510,277	772,649	737,578	20.51	15.05	951	955	156	179
14.	Davangere	1,789,693	917,320	872,373	23.07	14.78	942	951	263	302
15.	Shimoga	1,639,595	829,365	810,230	15.11	12.90	964	977	171	193
16.	Udupi	1,109,494	521,541	587,953	9.42	6.88	1134	1127	268	286
17.	Chikmagalur	1,139,104	574,275	564,829	11.57	11.98	977	984	141	158
18.	Tumkur	2,579,516	1,311,941	1,267,575	16.58	11.87	959	966	218	243
19.	Kolar	2,523,406	1,281,153	1,242,253	16.34	13.83	965	970	270	307
20.	Bangalore	6,523,110	3,422,797	3,100,313	38.44	34.80	903	906	2210	2979
21.	Bangalore (Rural)	1,877,416	961,335	916,081	15.23	12.21	945	953	288	323
22.	Mandya	1,761,718	887,307	874,411	15.96	7.14	963	985	331	355
23.	Hassan	1,721,319	858,623	862,696	15.67	9.66	999	1005	230	253
24.	D.Kannada	1,896,403	937,651	958,752	15.98	14.51	1020	1023	363	416
25.	Kodagu	545,322	273,210	272,112	5.75	11.64	979	996	119	133
26.	Mysore	2,624,911	1,335,841	1,289,070	24.84	15.04	953	965	333	383
27.	Chamrajnagar	964,275	489,895	474,380	14.99	9.16	963	968	173	189
Karnataka		**52,733,958**	**26,856,343**	**25,877,615**	**21.12**	**17.25**	**960**	**964**	**235**	**275**

iii) Prevalence of Vitamin A deficiency (Percentage of Bitot's spots in the age group 12-71 months)

Year	Rural	Urban
1975-79	2.3	7.1
1996-97	0.5	1.1

[26] Census of India 2001, Provisional Population Estimates

iv) Nutrition Status: Percentage Weight for Age: (12-71 months by Sex and Time

Year	Sex	<60	60-75	75-90	>=90
1975 -79	M	5.7	45.2	37.9	11.2
	F	6.8	45.5	40.1	7.6
1996 -97	M	13.9	52.1	30.3	3.7
	F	12.5	47.8	31.9	5.6

C. Health and medical institutions in Karnataka [27]

Sl. No.	Institutions by Manage-ment	Rural		Urban		Total	
		Institu -tions	Beds	Institu-tions	Beds	Institu-tions	Beds
I. Hospitals							
1.	State Government	8	417	168	22806	176	23223
2.	Central Government	1	25	12	1829	13	1854
3.	E.S.I.	-	-	7	1125	7	1125
4.	Autonomous	-	-	4	1228	4	1228
5.	Other Departments	2	26	7	310	9	336
6.	Local Body	-	-	28	714	28	714
7.	Private	14	2547	42	7452	56	9999
Total		25	3015	268	35464	293	39485
II. Dispensaries							
1.	Central Government	2	-	11	-	13	-
2.	E.S.I.	11	-	118	-	129	-
3.	Other Departments	25	48	5	4	30	52
4.	Local Body	3	21	22	44	25	65
5.	Private	7	4	4	-	22	4
Total		48	73	160	48	208	121
III. Primary Health Units (PHUs)		511	786	72	336	583	1122
IV. Primary Health Centres (PHCs)		1591	12702	85	2384	1676	15086
V. Urban Primary Health Centres		-	-	9	54	9	54
Grand Total		**2175**	**16576**	**594**	**38286**	**2769**	**54862**

[27] As on 31st March 1998

D. Other Health Centres

Sl. No.	Type of Centre	Units
1.	Urban Family Welfare Centres (UFWCs)	87
2.	Rural Family Welfare Centres	269
3.	ANM Subcentres	8143
4.	CHs	249
5.	Post Partum Centres (16 merged with UFWC)	103
6.	MTP Centres: Government	325
7.	Health & Family Welfare Training Centres	5
8.	District Training Centres	27
9.	ANM Training Centres	19
10.	No. of ICDS projects	185

E. Rural Health Services

Particulars		Karnataka	Andhra Pradesh	Kerala	Tamil Nadu	All India
Average Rural Area (Sq. KM) covered by a	Sub Centre	23.03	25.54	6.97	14.27	22.89
	PHC	117.13	202.18	36.98	86.27	136.22
	CHC	774.88	1303.93	443.76	1720.58	1,154.82
Average Radial Distance (KM) covered by a	Sub Centre	2.71	2.85	1.49	2.13	2.70
	PHC	6.10	8.02	3.43	5.24	6.58
	CHC	15.70	20.37	11.88	23.40	19.17
Average Number of Villages covered by a	Sub Centre	3.32	2.52	0.27	1.82	4.29
	PHC	16.91	19.91	1.44	11.02	25.54
	CHC	11.94	128.43	17.30	219.75	216.53
Number of Sub Centres per PHC		5.09	7.92	5.31	6.05	5.95
Number of PHCs per CHC		6.62	6.45	12.00	19.94	8.48
Number of MPW (M) per HA (M)		5.0	5.3	3.9	1.3	3.3
Number of MPW(F) per HA (F)		8.1	7	5.3	6	6.9
Average Rural Population (1991) covered by a MPW(F)/ ANM		3837	4466	4748	4305	4707

F. District-wise Selected Key Indicators of Karnataka [28]

Sl. No.	District	Female Literacy %	Girls Married below 18 years %	Current users of FP Method %	Birth order 3 & above %	Safe Delivery %	Complete Immuni zation %	Composite Index %
I. GOOD PERFORMING DISTRICTS*								
1	HASSAN	59.32	15.2	75.1	19.7	69.7	92.8	81.55
2	SHIMOGA	67.24	16.5	69.3	22.8	83	92.9	80.37
3	KODAGU	72.53	22	70.6	18.8	79.4	94.8	80.06
4	D.KANNADA	77.39	4.5	63.7	32	91.5	86	78.77
5	U.KANNADA	68.48	15	66	27.2	86.1	89.9	76.11
6	UDUPI	74.02	4.5	63.7	32	91.5	86	75.97
II. AVERAGE PERFORMING DISTRICTS*								
7	MANDYA	51.62	37	71.7	26.1	61.9	88	75.86
8	MYSORE	55.81	47.9	65.4	23.9	69.7	92.7	75.7
9	BANGALORE ®	78.98	21.05	63	16.4	79.1	83.7	75.34
10	BANGALORE (U)	78.98	37	60.1	26.1	90.6	77	75.19
11	CHITRADURGA	54.62	30.05	59.9	34.4	53.8	88.4	73.98
12	TUMKUR	57.18	27.1	61.3	27.3	63.5	88	73.97
13	DHARWAD	62.2	36.5	61.2	37.4	65.3	74.8	73.03
14	CHAMARAJNAGAR	43.02	47.9	65.4	23.9	69.7	92.7	72.18
15	CHICKMAGALORE	64.47	37	71.4	26.1	78	83.5	72.13
16	KOLAR	52.81	33.5	57.1	29.7	59.2	90.6	71.92
17	GADAG	52.58	36.5	61.2	37.4	65.3	74.8	69.72
18	BELGAUM	52.53	55.8	61.8	36.7	68.6	64.8	68.75
19	HAVERI	57.6	36.5	61.2	37.4	65.3	74.8	65.66
III. POOR PERFORMING DISTRICTS*								
20	BELLARY	46.16	44.2	50.4	48.6	54	52.6	65.54
21	DAVANAGERE	58.45	35.5	59.9	34.4	53.8	88.4	65.43
22	BIJAPUR	46.19	64.8	47.1	43	50.1	53.2	62.86
23	BIDAR	50.01	67.60	50.60	52.90	52.50	50.30	60.55
24	RAICHUR	36.84	57.1	45.4	52.8	48	37.2	58.34
25	GULBARGA	38.4	47.7	39.2	53.7	47.7	25.3	58.31
26	BAGALKOT	44.1	64.8	47.1	43	50.1	53.2	54.71
27	KOPPAL	40.76	57.1	45.4	52.8	48	37.2	53.09

[28] *Source*: National Commission on Population, GOI, 2001 - *Note:* * The classification is based on the composite index.

Annexure 2: Newspaper Report on MDA in Karnataka

THE NEW INDIAN EXPRESS
BELGAUM

BELGAUM • WEDNESDAY • JUNE 9, 2004 • LATE CITY

BJP threatens agitation over 2 reported deaths in Gulbarga, Bidar

Anti-filaria drive leaves hundreds sick

EXPRESS NEWS SERVICE

Gulbarga, June 8: A campaign against filaria launched by Gulbarga and Bidar's district administrations in conjunction with the Health Department has turned counter productive. Apart from hundreds of complaints of people developing complications after taking the anti-filaria drug, diethyl carbazine (DEC), there are unconfirmed reports of two deaths – one in each district.

There have been reports of hundreds of people getting admitted to hospital after consuming DEC. Speaking to this paper over phone from Gogi in Shahapur taluk, well-known writer D.N. Akki said that he along with many other people there had developed complications after taking the DEC tablets. He said that included severe headaches, body aches, vomiting, nausea, giddiness, loss of appetite, etc.

"Though I took the tablets on Saturday, I have been suffering from its side effects even three days later," said Akki. On the eve of the anti-filaria drive, Gulbarga DC Anjum Perwez and District Health Officer Basavaraj Danappa had claimed that the DEC drug was completely free of side effects and 100 percent safe.

However, they had warned that people suffering from chronic diseases like diabetes, heart ailments, nephro complaints, etc., should not take the drug. Similarly, pregnant women and children below the age of two years were also asked to avoid the drug.

People complained of complications such as headaches, body aches, vomiting, nausea, giddiness, loss of appetite, etc.

The crisis now threatens to snowball into a political issue with senior BJP leader Aravind Guruji coming down heavily on the district administration and the Health Department for allegedly causing the deaths of Jayakka Hadapad of Mashyal village in Gulbarga district, and Sangeeta of Bidar.

Guruji held the Health Department responsible for the deaths of these two girls and has demanded a high-level inquiry into the matter, apart from immediate payment of compensation to the families of the victims. He said it was highly irresponsible on the part of the health authorities to go in for en masse administration of anti-filaria drugs without knowing the consequences.

Aravind Guruji said his party would launch an agitation and resort to other courses of action if the Health Department and district administration did not come up with an explanation for this public health crisis.

Annexure 3: Abstract of Cochrane Review on use of Albendezole

Albendazole for lymphatic filariasis (Cochrane Review)

International Filariasis Review Group (David Addiss, Julia Critchley, Henry Ejere, Paul Garner, Hellen Gelband, Carrol Gamble)

ABSTRACT

A substantive amendment to this systematic review was last made on 24 October 2003. Cochrane reviews are regularly checked and updated if necessary.

Background: Mass treatment with albendazole, co-administered with another antifilarial drug, is being promoted as part of a global programme to eliminate lymphatic filariasis.

Objectives: To assess the effects of albendazole on patients or populations with filarial infection, and on morbidity in patients with filarial infection; and to assess the frequency of adverse events for albendazole both given singly or in combination with another antifilarial drug (diethylcarbamazine or ivermectin).

Search strategy: We searched the Cochrane Infectious Disease Group's trial register (September 2003), the Cochrane Central Register of Controlled Trials (The Cochrane Library Issue 3, 2003), MEDLINE (September 2003), EMBASE (September 2003), LILACS (September 2003); and checked the reference lists and contacted experts, international organizations, and a pharmaceutical company.

Selection criteria: Randomized and quasi-randomized controlled trials of albendazole singly or in combination with anti-filarial drugs in people or populations with lymphatic filariasis.

Data collection and analysis: Two reviewers assessed eligibility and trial methodological quality. We calculated relative risks (RR) with 95% confidence intervals (CI) for binary outcomes, and where appropriate, combined them in a meta-analysis using the fixed effect model or random effects model.

Main results: Four small studies met the inclusion criteria (a total of 2473 children and adults, of whom 536 had detectable microfilariae). No effect of albendazole on microfilaraemia was demonstrated in two studies (placebo controlled, RR 0.97, 95%CI 0.87 to 1.09, n = 195). When compared to ivermectin, albendazole performed worse (RR 0.84, 95% CI 0.72 to 0.98, 2 studies of patients initially microfilariae positive, n = 198). When compared to diethylcarbamazine, no statistically significant difference was detected, but numbers were small (n = 56).Two studies compared albendazole plus ivermectin to ivermectin alone on the presence of microfilaraemia. Results were mixed: one study showed the combination to be more effective (RR 0.27, 95% CI 0.11 to 0.70, n = 52), but the other did not demonstrate a statistically significant difference (RR 1.04, 95% CI 0.87 to 1.25, n = 145). A further study compared albendazole plus diethylcarbamazine to diethylcarbamazine alone and did not demonstrate a difference on microfilaraemia prevalence (RR 1.57, 95% CI 0.44 to 5.60, n=35). No study examined the effects of the drugs on adult worms.

Reviewers' conclusions: There is insufficient reliable research to confirm or refute whether albendazole alone, or co-administered with diethylcarbamazine or ivermectin, has an effect on lymphatic filariasis.

Citation: International Filariasis Review Group (David Addiss, Julia Critchley, Henry Ejere, Paul Garner, Hellen Gelband, Carrol Gamble). Albendazole for lymphatic filariasis (Cochrane Review). In: *The Cochrane Library,* Issue 2, 2004. Chichester, UK: John Wiley & Sons, Ltd. This is an abstract of a regularly updated, systematic review prepared and maintained by the Cochrane Collaboration. The full text of the review is available in *The Cochrane Library* (ISSN 1464-780X).

Source: http://www.update-software.com/cochrane/abstract.htm (accessed on 7th June 2004)