



The Sorsogon Experience

BREATHING NEW LIFE
TO LYMPHATIC FILARIASIS PATIENTS

Sorsogon province in the Bicol region was declared by the Department of Health (DOH) lymphatic-filariasis-free in July 2009, ending the decades-long struggle of striving to control and contain the disease in that poverty-stricken province.

For Sorsogon, this was a landmark event, coinciding with another DOH declaration that the province has also been declared malaria-free. The provincial government celebrated the historic announcements with a thanksgiving luncheon, a program and a motorcade.

The success of the program against lymphatic filariasis (LF) will have the following benefits:

- Stop the transmission of the disease to more people.
- Reduce suffering and disability that LF patients face.
- Give a chance for people bearing the disease to be economically productive.
- Improve overall child and maternal health for the entire population.
- Improve reproductive and sexual health for the patients under the program.

This material seeks to share the Sorsogon experience in eradicating lymphatic filariasis (LF), considered one of the world's 13 neglected tropical diseases (NTD).

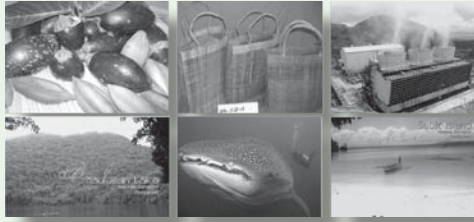



Awarding and ceremonial program at the Provincial Gymnasium

SORSOGON & LF

In spite of Sorsogon's breathtaking natural beauty and the richness of its resources, the province suffers from several endemic diseases. Filariasis in Sorsogon was discovered in the 1950s during an outbreak of malaria in some of its communities. Filariasis was subsequently established as being in fact highly endemic in province. Residents called it either *buyong* or *tibak*.

In 1968 the Department of Health started a Filariasis Control Unit (FCU) in the province, which then undertook casefinding and treatment, entomologic studies and health promotion activities. For over a decade up to 1998, provincial health workers identified almost 3,500 LF cases in Sorsogon. In a 2000 survey, 132 chronic cases were identified.



- Location : 600 kilometers from Manila
- Classification : 2nd class province
- Population : 753,235
- Number of Households: 143,661
- Land Area : 2,141.4 sq. km.
- Composition: 14 municipalities and one city
- Opens to both the Pacific Ocean and the China Sea
- Popularly known as the land of prosperity or "Land of Kasangayahan"
- Industries: production of pili, abaca and coconut, the Bac-Man (Bacon-Manito) Geothermal Power Plant
- Tourist attractions: beautiful beaches, lakes and waterfalls, interacting with whalesharks or the *butanding*, and the Bulusan Volcano Natural Park

Filariasis & other neglected tropical diseases

Lymphatic filariasis (LF), also known as elephantiasis, is a chronic and parasitic infection regarded as the world's second leading cause of permanent long-term disability. Over 120 million individuals have been infected with the disease, with over one-third of this number being seriously incapacitated and disfigured, thus affecting their productivity as well as lifestyle.

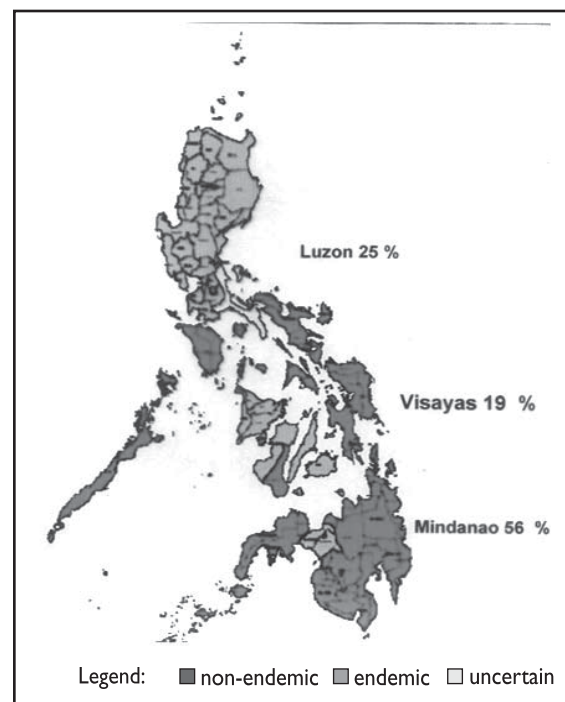
Filariasis is present in more than 80 countries which puts at risk more than one billion people. It continues to spread, with rapid and unplanned urbanization creating new breeding sites for the mosquitoes that transmit the disease.

In the Philippines, LF has been found endemic in 41 provinces, including all provinces in the Bicol region. Most of the established endemic areas are in poor municipalities, so that filariasis is sometimes called a "disease of the poor." Some 650,000 Filipinos were infected with LF in year 2000 (UP-National Institute of Health, 2000), and a total of 25 million Filipinos are at risk of acquiring it. (Photo 4)

The country is estimated to lose as much as US \$4.4 million annually as a consequence of the prevalence of the disease.

LF is one of 13 diseases considered by health professionals as a neglected tropical disease or NTD. NTDs are especially endemic in low-income populations in developing regions of Africa, Asia, and the Americas.

The other NTDs are Buruli ulcer, cholera, cysticercosis, dracunculiasis (guinea-worm disease), foodborne trematode infections (such as fascioliasis),



hydatidosis, leishmaniasis, lymphatic filariasis, onchocerciasis, schistosomiasis, soil-transmitted helminthiasis, trachoma and trypanosomiasis.

NTDs are considered *neglected* because ways have been found to control or even eliminate them but the programs get inadequate support in terms of policy, funds and research.

Some NTDs stay with the sick individuals all their lives, disabling and sometimes disfiguring them. These diseases sometimes lead to acute and fatal infections.

NTDs account for over 500,000 deaths, 56.6 disability-adjusted life years and \$10 B loss in productivity. They cause immeasurable personal suffering and ill-health and add to the economic burden of populations already counting

themselves among society's most marginalized. They push people into deeper poverty from which escape becomes more and more impossible.

Because NTDs are not obvious killer-diseases, poor people give them very little attention. Yet NTDs severely damage a person's capacity to meet his or her basic needs and drastically reduce a community's capacity for sustainable development.

How filariasis develops

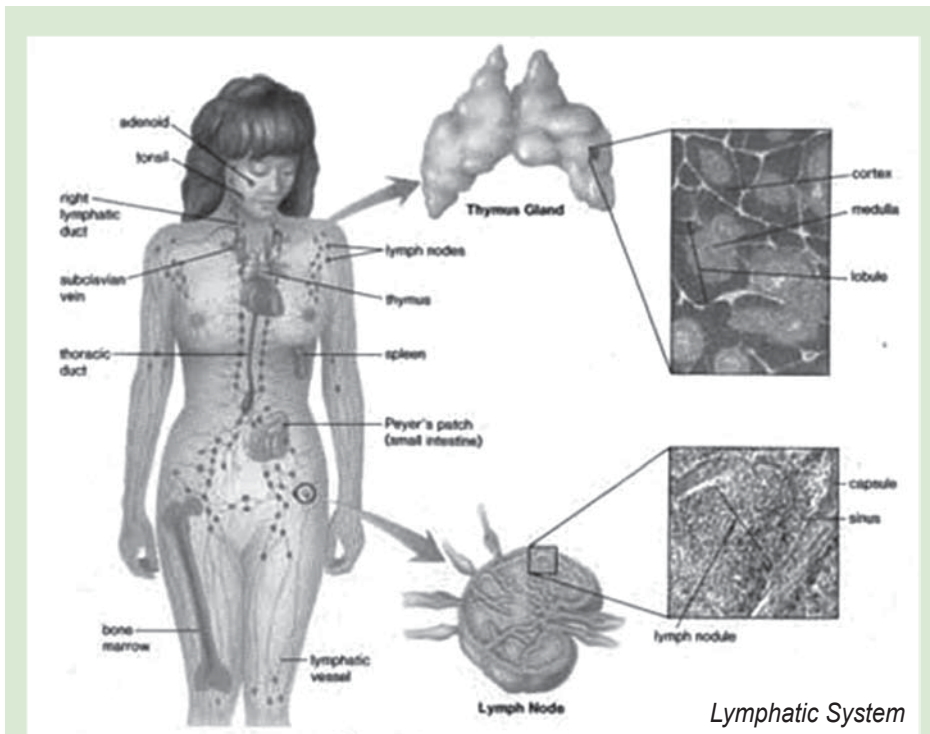
- A person is bitten by an infected female mosquito.
- The mosquito deposits very small larvae (called immature microfilariae) in a person's blood. The larvae circulate in the lymphatic system, a system made up of organs, ducts, and nodes that transports a watery clear fluid called lymph, picking up excess fluid released by the circulatory system (capillaries) into the tissues.
- Parasites can last in the lymphatic system for 5 up to 15 years.
- LF results when lymph vessels are blocked by parasites such as the roundworm, *Wuchereria bancrofti*. As the name implies, the portion of the body affected, especially the lower extremity, reaches elephantine size.
- Plants such as the abaca (*Musa textilis*), gabi or tari (*Colocasia esculenta*), and water lilies are mosquito breeding sites.



Thread-like, parasitic filarial worms Wuchereria bancrofti and Brugia malayi

“Where the road ends, filaria begins”

-Doctor Nap Arevalo, Provincial DOH Health Team leader



Signs and symptoms of filariasis

- Fever
- Inflammation of the lymph nodes
- Inflammation of the lymph vessels
- Body and leg pains
- Rice-water colored urine (*Chyluria*)
- The most obvious manifestation of LF is the enlargement of arms, legs, breasts and the genitals.

Effects of LF on a sick person include:

- wounds
- pain in the affected body parts
- affected mobility
- affected ability to work; and
- shame and stigma



Early case of scrotum enlargement, circa 1950s

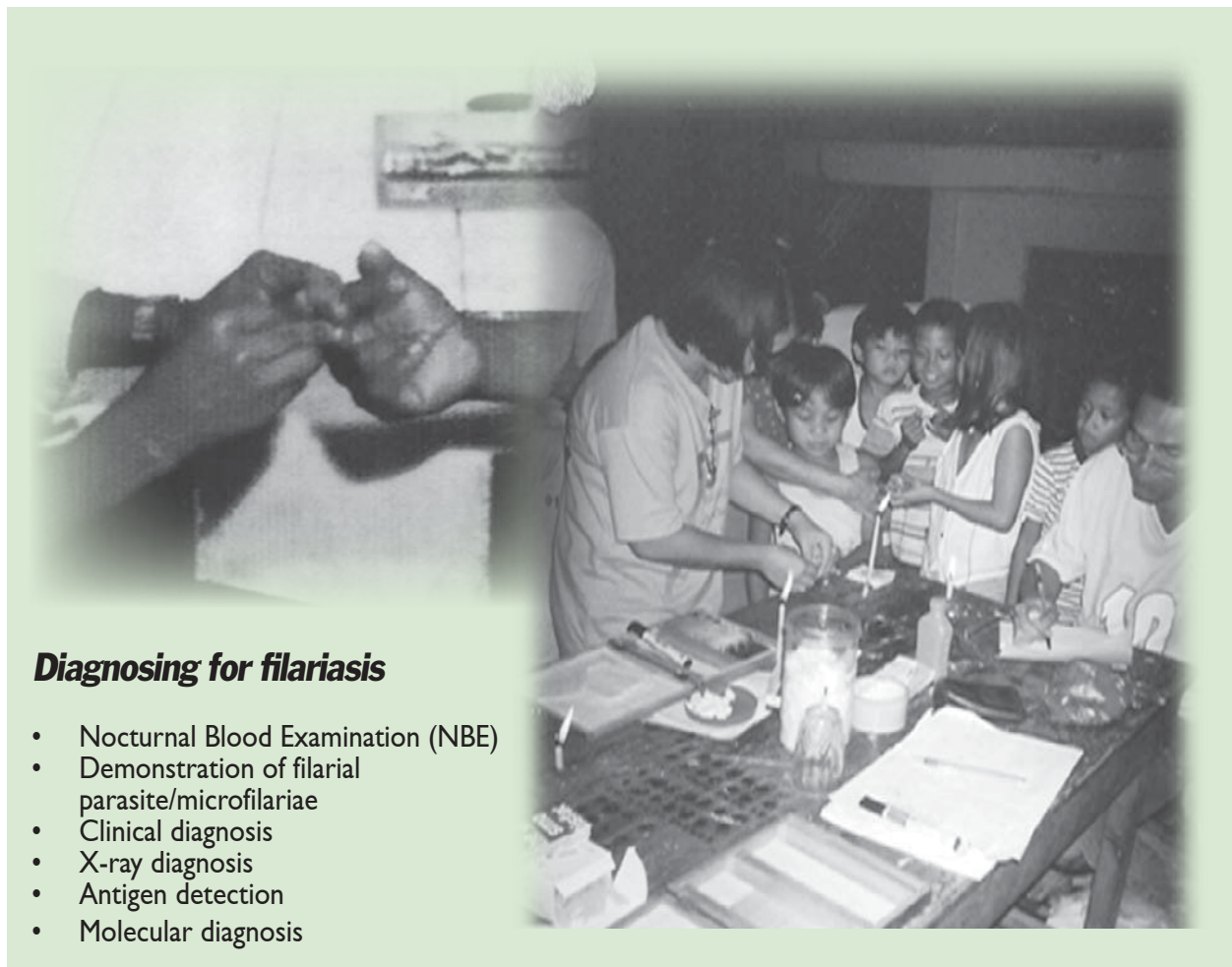
PHILIPPINE FILARIASIS ELIMINATION CAMPAIGN

From modest control to decisive elimination

In 1995, the World Health Assembly declared LF as one of six eradicable diseases in the world, and the World Health Organization in 1998 launched a long-term campaign for its global elimination.

With this development, in the Philippines, LF targets shifted in year 2000 from modest *control* to the bolder and more decisive *elimination*. With this, government's main strategy shifted

in 2001 from selective treatment of individual patients to mass drug administration or MDA in certain pilot areas. The national government



Diagnosing for filariasis

- Nocturnal Blood Examination (NBE)
- Demonstration of filarial parasite/microfilariae
- Clinical diagnosis
- X-ray diagnosis
- Antigen detection
- Molecular diagnosis

launched a national filariasis program in 2004, setting November as LF mass treatment month.

Since then, with cooperation among national agencies, local governments and non-government organizations, the program has gained much ground. Southern Leyte and Sorsogon were declared in 2009 as having eliminated LF as a public health threat in their areas, with Romblon, Biliran, North Cotabato, Agusan del Sur and Dinagat Islands, also expected to be declared similarly in the near future.

As long as there remain LF-infected individuals in a community, these untreated individuals

serve as *reservoirs* of the infection, ensuring that the disease continues to be transmitted in a community. Hence although the government has gone after LF for four decades using intensified prevention and control measures, *microfilaria rates* (MFRs) have not significantly decreased. In surveys conducted late in 1992, microfilaria rates in sentinel sites* continued to be high.

(*areas or barangays where dose surveillance is conducted every two years after massive drug administration.)

Baseline Microfilaria Rates in Sentinel Sites, Sorsogon Province, 1997

| SENTINEL SITES | BASELINE DATA | | |
|--------------------------------|---------------|---------|-------|
| | Year Surveyed | MFR (%) | MFD |
| 1. Sta.Cruz, Barcelona | 1997 | 9.71 | 11.29 |
| 2. Daganas, Bulan | 1995 | 9.90 | 9.10 |
| 3. Tinampo, Bulusan | 1997 | 8.40 | 7.20 |
| 4. Tigbao, Casiguran | 1995 | 11.01 | 9.33 |
| 5. La Union, Castilla | 1990 | 6.38 | 3.93 |
| 6. Gogon, Donsol | 1997 | 4.84 | 13.33 |
| 7. Tagaytay, Gubat | 1995 | 16.40 | 17.00 |
| 8. Patag, Irosin | 1996 | MF +=14 | * |
| 9. Caruhayon, Juban | 1992 | 10.63 | 7.70 |
| 10. Pili, Magallanes | 1998 | 13.90 | 2.26 |
| 11. Sinebaran, Matnog | 1998 | 10.80 | 11.60 |
| 12. Lumbang, Pilar | 1997 | 5.98 | 5.42 |
| 13. San Antonio, Pto. Diaz | 1996 | 12.40 | 13.40 |
| 14. La Esperanza, Sta.Magdalen | 1996 | 20.66 | 12.44 |
| 15. San Juan, Bacon | 1994 | 2.25 | 3.00 |
| 16. Salvacion, Sorsogon | 1987 | 14.89 | 20.00 |

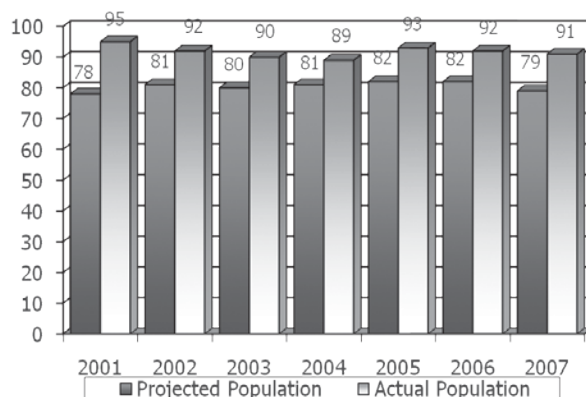
LF program in Sorsogon

Sorsogon was one of several pilot areas selected when the Department of Health started the anti-LF mass drug administration in 2001 after which a combination of programs was implemented. It was declared filaria-free by the World Health Organization in 2009. The latest record show more than 200 hydrocoele cases (genital enlargement; locally, *buyong*) and 28 cases of leg enlargement (or LE; locally, *tibak*).

Today, the LF program in Sorsogon employs two types of programs: (1) those directed towards eliminating the disease; and (2) those directed towards helping patients and their families manage the disease, including if possible, resuming productive and economic endeavors.

Elimination campaign

The target was for every single person except the severely ill and severely malnourished, pregnant, and children below two years old to take a single dose of medicine. By 2007, the campaign's coverage has even exceeded projections, with average coverage of 91.7%, surpassing the 85% MDA coverage benchmark set by WHO. (See Figure below)



Filariasis MDA coverage in Sorsogon Province 2001-2007

Strategies used

- 1. Sustained mass drug administration --** Single doses of the drug diethylcarbamazine (DEC) administered with another drug, albendazole, is 99% effective in removing microfilariae from the blood for a full year after treatment. These anti-LF drugs are very effective, readily available and requires a minimum of resources. GlaxoSmithKline (GSK) Foundation has donated over 99 million doses of albendazole to affected areas in the country.
- 2. Capability building programs** for barangay health workers who were the main implementing force in the program
- 3. Interlocal health zones and clustering** encouraging joint activities and regular exchange of information and resources locally, as well as speedier decision-making in the local areas
- 4. Resource-sharing** – the anti-LF program coped with very limited resources available for its use by partially integrating the LF program with other programs, such as those for malaria, schistosomiasis and other NTDs. In effect, budgets and other resources, most especially the health workers who will implement the program at the ground level, were shared by several programs.

Patient management

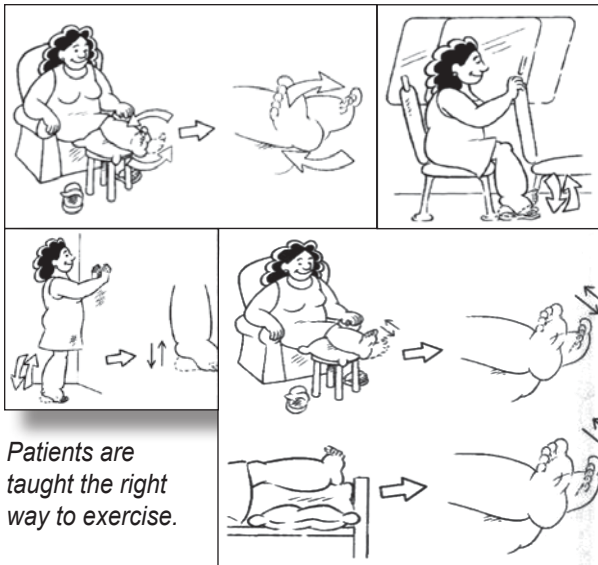
Strategies used

1. Access to surgical intervention

-- patients with enlarged scrotums are encouraged to undergo surgery. Surgery often improved patients' condition so much many could resume regular physical activities.



2. Morbidity control – Family members are taught how to clean the patients' infected extremities properly, in order to reduce further swelling and prevent new infections. Leg exercises were introduced to encourage blood circulation and mobility of patients.



Patients are taught the right way to exercise.

3. Disability management and prevention – Patients and their families are taught how to treat the disease at home.

Patients with swollen legs are given a Disability Management Kit, provided for free by the WHO-DOH. The kit contains basic medical requirements such as alcohol, cotton, towelette, cotton buds, gauze, soap, topical antibiotic ointment, bandage, pail, basin and a dipper.



Regular and thorough washing is a must in order to prevent or reduce infection.

4. Community-based rehabilitation

- A new strategy is being pilot-tested for the opening of community-based counseling centers to provide psychosocial counseling, and to cater to other patients with other debilitating illnesses, such as stroke and diabetes patients.



Specialized footwear is also an important element in morbidity control.

5. Socioeconomic development – One of the most innovative strategies has been the support given to patients who want to start livelihood programs. Two partners, the Lingap para sa Kalusugan ng Sambayanan (LIKAS) and the Peace and Equity Foundation (PEF), launched a Revolving Loan Fund to encourage LF patients to carry out home-based livelihood programs to help them resume a productive life and earn livelihoods. The program had training support from the Department of Trade and Industry (DTI)'s *Asenso Negosyo* program.

‘If the LGUs are supportive, everything will fall into place.’

– Ester H. Lastrilla, Project Coordinator, LIKAS

* 24 patients took out loans from LIKAS to start projects such as hog raising, starting sari-sari stores, buy-and-sell of agricultural products, rice trading and food vending. Others used the loan to buy fertilizers and other agricultural inputs.



Two other effective strategies have been:

Communication Advocacy – Awareness about the LF program was spread not only through brochures but many other promotion strategies.



Strengthening multisectoral partnerships - The program has sought to involve or invite the involvement of as many organizations and institutions as possible. Those that have been involved in the program include local government agencies, national line agencies, non-government organizations and civil society groups and business groups:

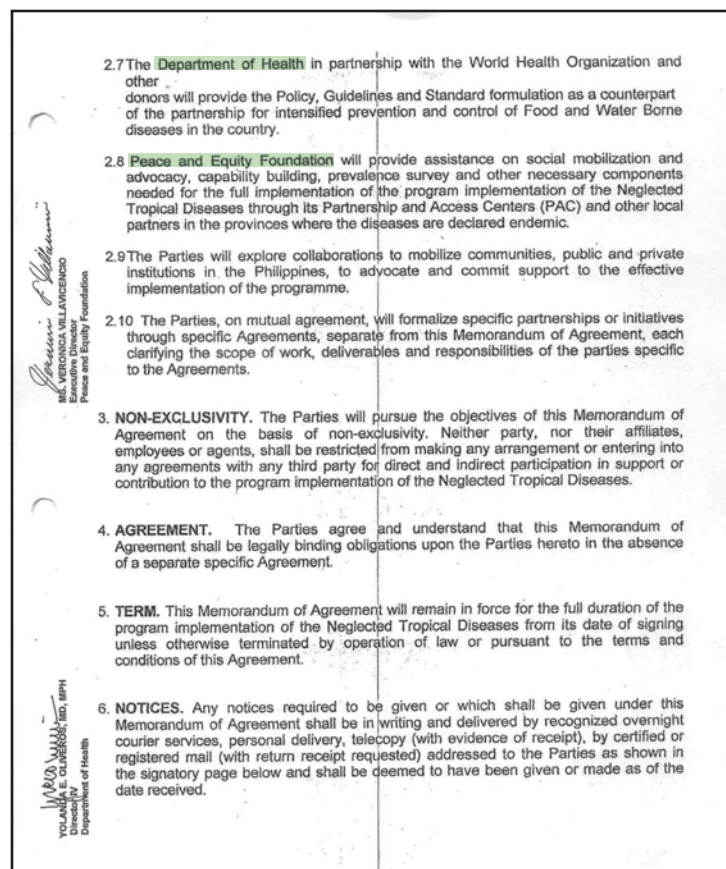
| National Offices & Line Agencies | Local Government | CSOs, NGOs and business groups |
|--|--|---|
| Department of Health, National and Regional Offices World Health Organization Department of Education, Division of Sorsogon Philippine Health Insurance Corporation (PHIC) -Sorsogon Department of Trade and Industry - Sorsogon | Sorsogon Provincial Government Department of Health – Sorsogon Provincial Health Team Provincial Health Office – Technical Services Sorsogon Provincial Hospital Municipal Local Government Units Municipal Rural Health Units Barangay Local Government Units BBarangay Health Workers | Peace and Equity Foundation (PEF) Lingap para sa Kalusugan ng Sambayanan, Inc (LIKAS) Belo Medical Group Christian Mobile Medical Services Shell Foundation GSK Bicolanos and Friends. St. Therese Hospital in Bacon, Sorsogon |

Peace and Equity Foundation

The Peace Equity Access For Community Empowerment Foundation, Inc., (Peace & Equity Foundation, Inc. or PEF), is one of the private agencies supporting the campaign to eliminate NTDs particularly lymphatic filariasis in the Philippines. One of PEF's thrusts is the promotion of poverty reduction through various programs, including a Health and Education Program. PEF supports LF-related projects by entering into partnerships with LGUs and organizations that implement health programs and projects contributing to the elimination of neglected tropical diseases. (See table following page.)

PEFs' current partners are:

- Lingap para sa Kalusugan ng Sambayanan, Inc. (LIKAS) in Sorsogon province;
- Center for Social Concerns and Development (CESCODE) and Zamboanga Coalition of Development NGOs (ZAMCODE) in Zamboanga del Norte;
- Marinducare Foundation, Inc. in Marinduque;
- Nagdilaab Foundation and Christian Children's Fund in Basilan;
- Iloilo Caucus of Development Non-Government Organization, Inc. (ICODE) in Iloilo; and the
- Palawan NGO Network, Inc. (PNNI) in Palawan.



PEF entered into an agreement with the Department of Health in 2005, committing itself to work with the DOH for the elimination of NTDs in the Philippines.

Table. Other Lymphatic Filariasis Endemic Provinces with PEF support

| Data | Marinduque | Zamboanga del Norte | Basilan | Iloilo | Palawan |
|---|--|---|---|---|--|
| LF Prevalence rate ¹ | 13.6% | 13.38% | 2.2% | 5% | 19.4% |
| Population at risk (2007 NSO Census) | 229,636 | 907,238 | 408,520 | 1,691,878 | 682,152 |
| Ranking in Poverty Incidence (PEF Poverty Incidence) ² | 23 | 1 | 40 | 43 | 16 |
| Prevalence of other NTDs | Soil transmitted helminthiasis | Soil transmitted helminthiasis, Schistosomiasis, Food and water borne diseases | Soil transmitted helminthiasis | Soil transmitted helminthiasis | Soil transmitted helminthiasis |
| Partner NGOs | Marinducare Foundation, Inc. | Center for Social Concerns and Development (CESCODE), Zamboanga Coalition of Development NGOs (ZAMCODE) | Nagdilaab Foundation, CCF Basilan | Iloilo Caucus of Development Non-Government Organization, Inc. (ICODE) | Palawan NGO Network, Inc. (PNNI) |
| Partnership Objective | Increase 2008 MDA coverage | Conduct urogenital surgery to at least 15 patients with hydrocele due to Filariasis | Provide support for a high MDA coverage in 2007 | Assistance in conduct of social mobilization and advocacy to Local Chief Executives (LCEs) for province wide program implementation in 2008 | Assistance in conduct of social mobilization and advocacy in NGO sector for a province wide program implementation in 2007 |
| Partnership Accomplishment | Increase in MDA coverage from 68% in 2007 to 96% in 2008 | Project on-going | Provincial/ municipal implementation plans for the 2 nd MDA round on November 2009 | Increase in community awareness on LF program | Increase in community awareness on LF program |

1 Prevalence means incidence or occurrence in the population

2 The PEF Poverty Map was published in 2008 with affixed poverty statistics to determine the priority areas for different poverty-related project. In this case, Zamboanga del Norte is ranked 1 meaning it is the poorest among the provinces in the Philippines based on poverty indicators.

PEF is a non-stock, non-profit corporation duly organized and existing by the virtue of the laws of the Republic of the Philippines. It supports best practices as well as innovative and trailblazing development projects to alleviate poverty by providing financing and technical assistance and promoting appropriate technology and networking. PEF has been supporting and cooperating with organizations in attaining its development objective by promoting opportunities for the poor to liberate themselves from poverty.

Challenges faced by the program

The anti-LF program in Sorsogon faced several major obstacles:

- Lack of awareness of the community and even of the health authorities - Most of the afflicted patients are in far-flung areas, largely uninformed about their disease as well as ashamed of it. Health professionals in the province, as well as the barangay health workers who have access to the patients and were the lead implementers of the program, were uninformed of its manifestations and its effects on the patient and the community as a whole. A major thrust had to be made towards reorienting and retraining health staff, also especially because trained health workers often moved to other jobs or locations. Even then, the communities also needed to be informed, misconceptions and suspicions faced, and then convinced about the program.
- Lack of funds and other resources to implement the program and fully cover all endemic areas – LF and other NTDs are not priority projects by the health department, so that funds are usually never enough for a full program.
- Sorsogon’s specific characteristic – target areas are often remote, where insurgent groups operate, and access roads and transportation is very difficult. Health workers implementing the program have to stay at least overnight because they need to conduct blood examinations at night.

However, with the strategies used above, solutions to these obstacles were provided.

The biggest challenge that remains is of course preventing the reemergence of lymphatic filariasis. Although the disease is no longer considered as a public health threat in Sorsogon, it could still reemerge if vigilance is relaxed. Thus, for Sorsogon, a new program phase has just started and work must continue.

“The local governments taking responsibility for the program was crucial in the program’s success.”

– Dr. Leda Hernandez, Division Chief of the Infectious Diseases Office, DOH National Office



Republic of the Philippines
Department of Health
OFFICE OF THE SECRETARY

MESSAGE

Nine years ago, the National Filariasis Elimination Program in the country started with very minimal resources, piloting implementations in 5 municipalities in different provinces including Sorsogon. Since then, the people of Sorsogon have proven to the country & global community that they can eliminate filariasis and combat the disabling effects of the disease.

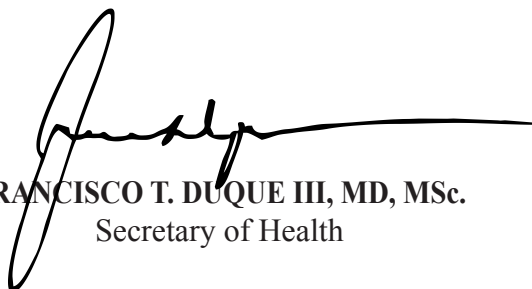
The history of Sorsogon's success is a story we want to share to the implementors, program partners and other stakeholder in the endemic filariasis provinces with the hope that they will learn from the challenges, strategies and innovations that can lead to a "Filariasis Free Philippines" in 2015.

In this endeavor, the Department of Health is one with the province of Sorsogon in thanking Peace and Equity Foundation for its support to the implementation of the National Filariasis Elimination Program (NFEP) and other Neglected Tropical Diseases in the country. Peace and Equity Foundation is among the strongest allies of the NFEP, A genuine partnership bonded by a common goal to improve the health of the Filipinos.

My deepest appreciation to all the frontline health workers who serve as the pillar of success with their outstanding performance and dedication at work. The program and its resources would be of no use to the people without the active involvement of the health workers who are envoys of the program to the community.

Congratulations Sorsogon! May your stories serve as a guide and model to give hope to other filariasis endemic provinces in eliminating the world's second leading cause of permanent and long term disability. May you sustain all the gains you have achieved.

Mabuhay kayo at maraming salamat!



FRANCISCO T. DUQUE III, MD, MSc.
Secretary of Health

The day Sorsogon was declared filariasis free...

