

## DOMINICAN REPUBLIC:

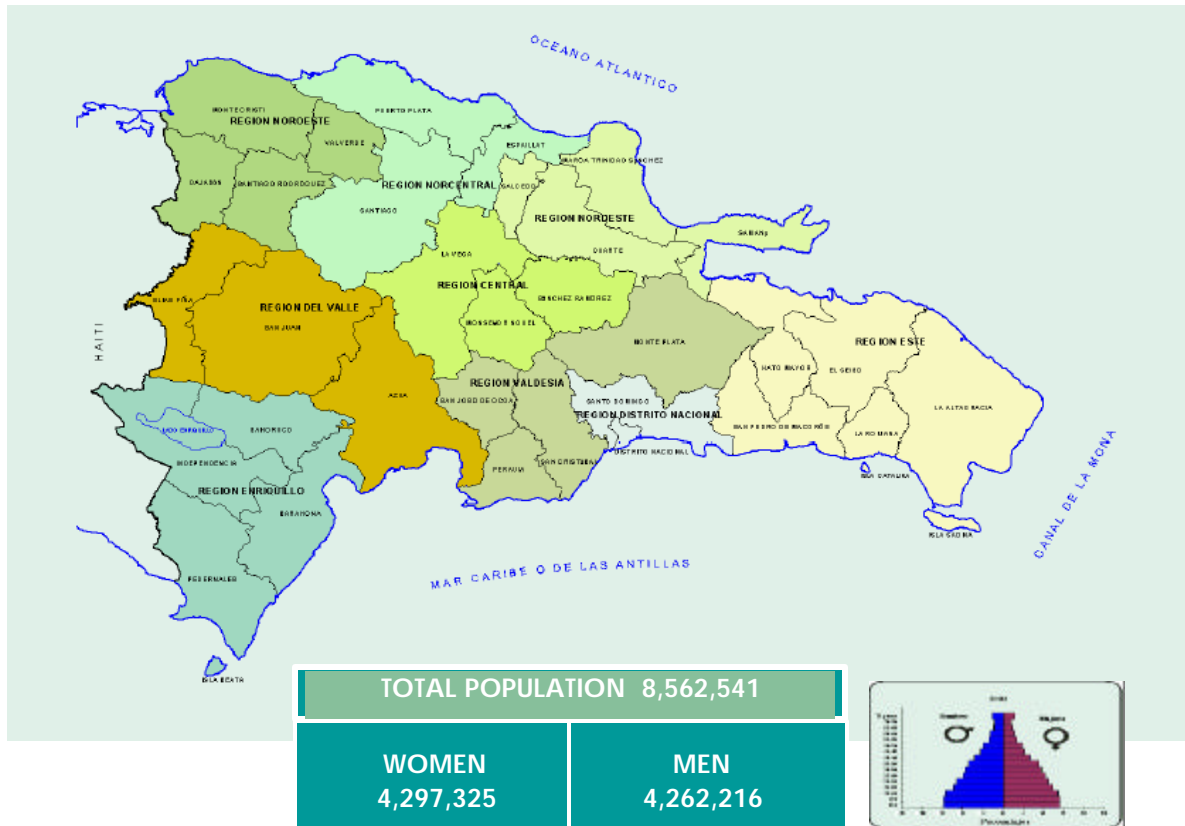
### The Filariasis Elimination Program— Challenges of Coverage, Scaling Up, and Integration

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#### Country profile

The Dominican Republic (DOR) has nine political-administrative divisions (see Figure 1), with some new regions that coincide with the new health regions. So there is a certain correspondence between the political and health divisions. The estimated population for 2005 is 9.2 million, with an almost equal distribution of women and men (see Figure 1, inset). The population pyramid continues to be typical of an underdeveloped country, with life expectancy growing along with the number of older adults. The population is also growing rapidly, and Congress continues to approve more provinces each year. There are currently 32 provinces, one National District, and 160 municipalities.

Figure 1. Political-administrative divisions



<sup>1</sup> On behalf of Dr. Jose Manuel Puello, Director of CENCET (National Center for Tropical Disease Control; *Centro Nacional de Control de Enfermedades Tropicales*)/MoH, who was unable to attend the meeting due to country obligations and travel restrictions caused by hurricanes in the Caribbean region.

### Health indicators

Average life expectancy is 70 years (72 for women; 69 for men). There is a high level of hospital childbirths (95.7%), and average prenatal coverage is more than 97%. Six percent of households lack sanitary services, but 36% have sanitary latrines. There is a great problem with regard to sewage system connections, as almost 80% of the population (mostly in rural areas) isn't served (see Table 1). There is also a problem regarding literacy in the country: 21.8% of the population does not know how to read or write. Progress has been made in terms of the infant mortality rate, which is now 31 per 1000 (dropping from 44 in 2001). But the maternal mortality rate still requires improvement: 178 women die for each 100,000 children born alive. The mortality rate for children under 5 is still distressing, at 38 per 1,000. The rate of tuberculosis (TB) has increased to 44 cases per 100,000 inhabitants.

**Table 1. Health indicators**

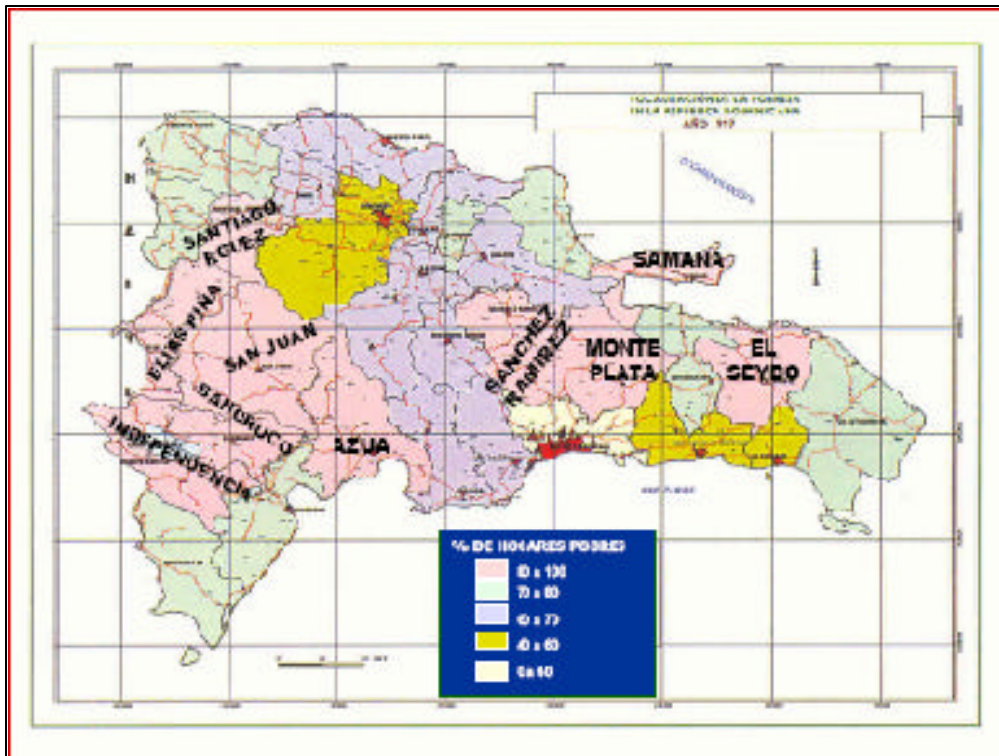
Life expectancy at birth (total) (2002)	70.0 years
Hospital births (Demographic and Health Survey [ <i>Encuesta Demografica y de Salud</i> ; ENDESA] 2002)	95.7%
Proportion of households without sanitation services	6%
Proportion of population with household connection to sewage network (1998)	20%
Rate of literacy (population > 3 years)	78.2%
Infant mortality rate (ENDESA, 1997–2002)	31/1000 nv.
Child mortality rate (<5 years) (ENDESA, 1997–2002)	38/1000 nv.
Fertility rate (2002)	3.0
Maternal mortality rate	178/100,000 n.v.
Rate of TB (2002)	44/100,000

### Socioeconomic indicators

Poverty has yet to be thoroughly mapped but generally coincides with areas comprising the main lymphatic filariasis (LF) focal points, such as Bauruco and Independence. About 70 to 80% of households are estimated to be living in extreme poverty, mostly in the southwest (see Figure 2, pink-shaded areas) in localities such as Barahona, and Pedernales. These areas are the main focal points of LF transmission, along with some parts of the national district (mainly the outlying areas such as

Cenagosa). There are other centers of LF transmission, such as the Alta Gracia province, but they do not have as much poverty.

**Figure 2. Low-income areas**



**Health resources**

As in most developing countries, most doctors and nurses are concentrated in urban areas (see Figures 3 and 4). Health personnel include infirmiry aides, who do not have a university degree. There is a great concentration of health services in the national district (see Figure 5). In terms of the fight against LF, however, the greatest support from the health service infrastructure occurs in the Southwestern focal points at the primary health care level, where LF is considered endemic (see Figure 6).

**Figure 3. Doctors per 10,000 inhabitants**

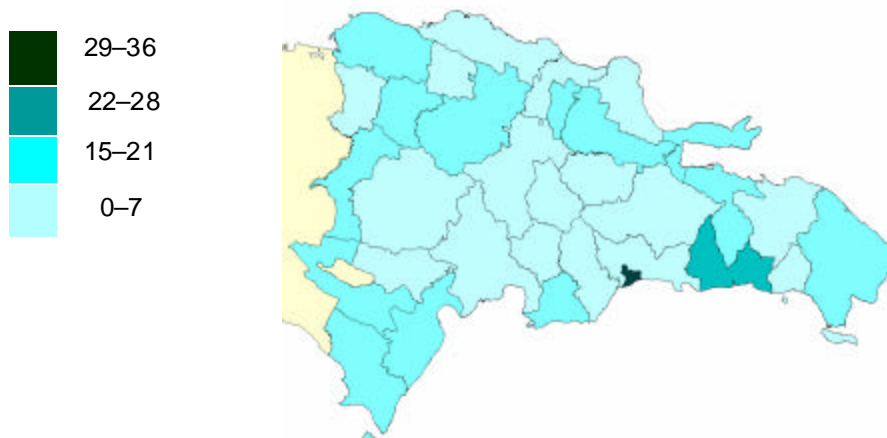


Figure 4. Nurses per 10,000 inhabitants

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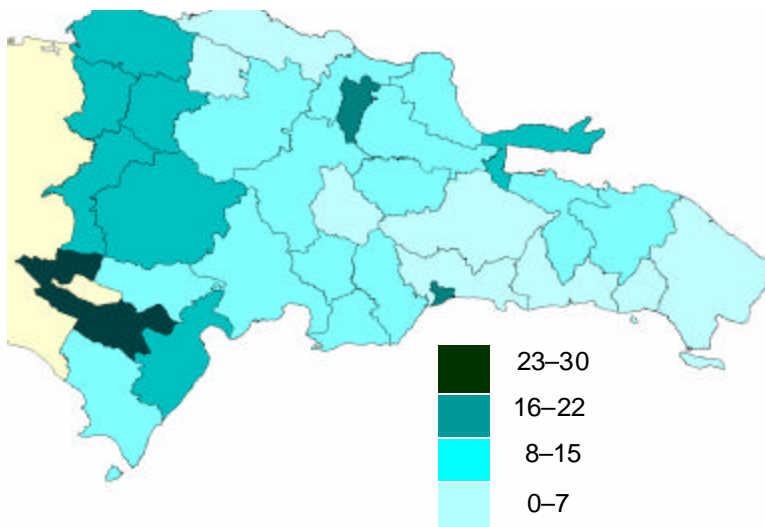


Figure 5. Geographic distribution of health services infrastructure

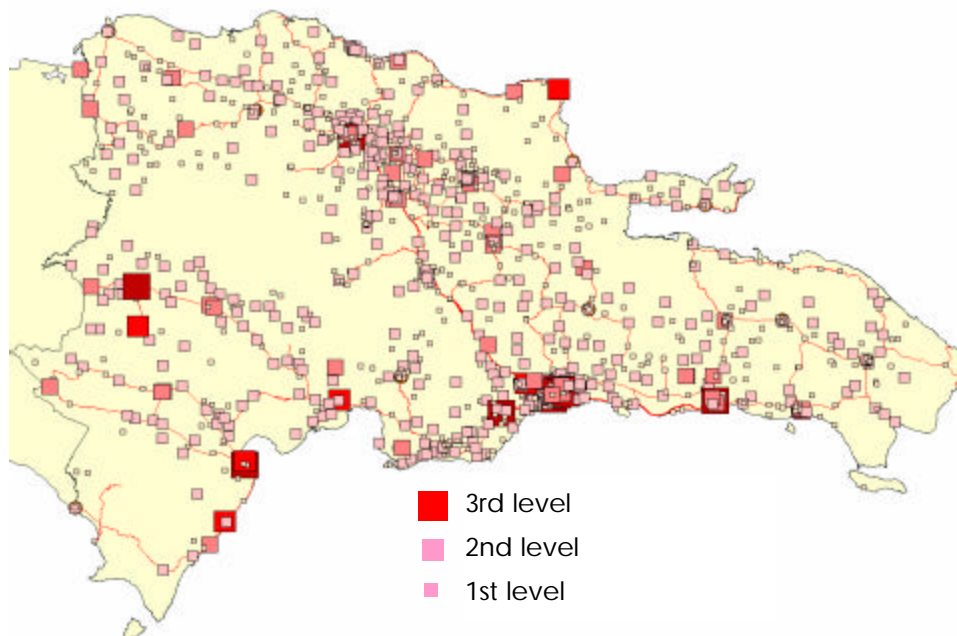
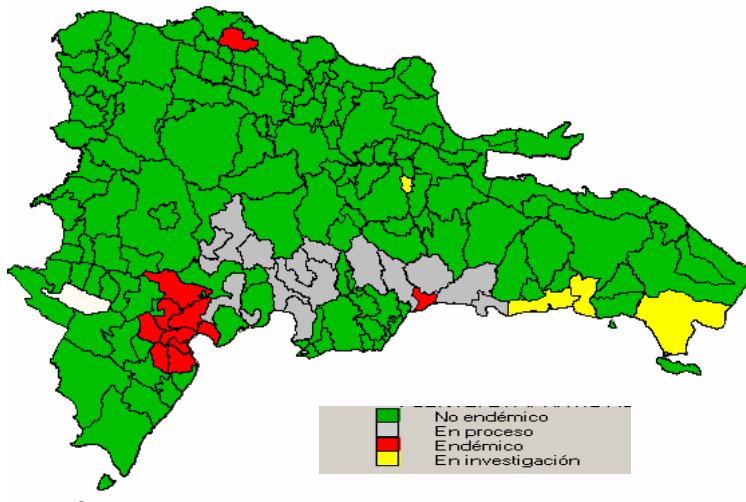


Figure 6. LF prevalence



### Treatment/coverage

Three mass drug administration (MDA) campaigns have been conducted in the Southwest focal point (2002, 2003, 2004; see Figures 7–9). Initially, treatment only covered the 10 municipalities positive for microfilaria (mf), but it was later extended throughout the entire Southwest region, with a coverage increase from 140,000 to 344,000 inhabitants. With the support of the Center of Social Research Padre Juan Montalvo Center of Social Research (*Centro de Estudios Sociales Padre Juan Montalvo*; CES), the territory for the second MDA in 2003 was extended, but there was low coverage in some areas (see Figure 8, blue-shaded areas). However, by the end of 2004 the treatment again reached treatment goals (see Figure 9) in what would be the third MDA for the Southwest region, with coverage surpassing 80%.

Figure 7. MDA 2002

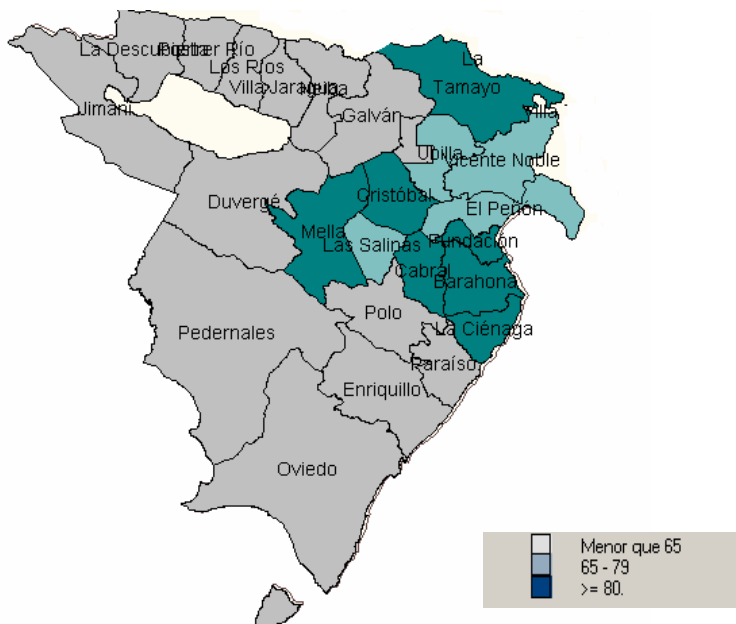
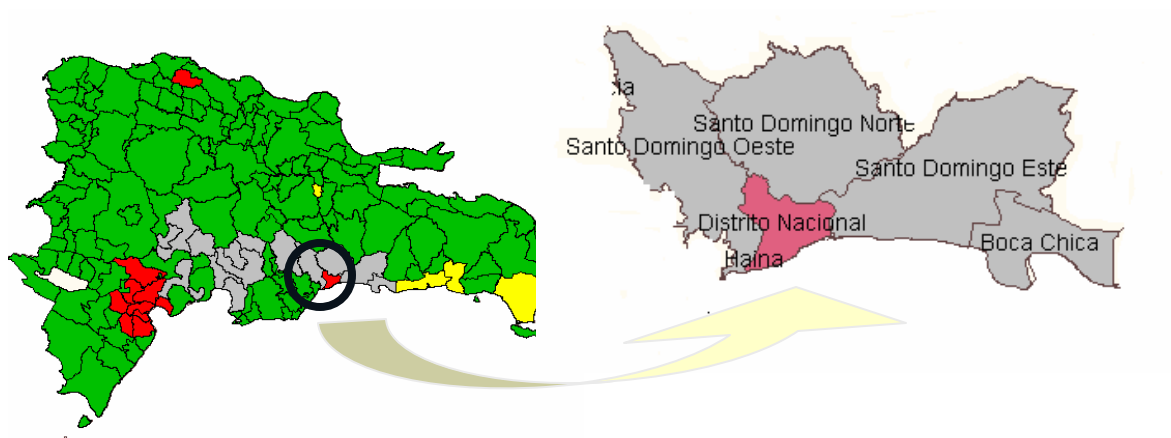




Figure 10. La Ciénaga MDA (2004–2005)



Area	Population	Medicated 2004	Coverage 2004	Medicated 2005	Coverage 2005
Guandules	14,671	11,638	75	18,480	126.0
Guachupita	13,222	9,902	65	12,354	93.4
La Ciénaga	15,053	11,175	82	13,927	92.5
TOTAL	42,946	32,715	73	44,761	104.2

MDA registration, La Ciénaga, 2004 and 2005

### Sentinel surveillance

As of 2002, the first evaluation had already been done at what would be the four sentinel sites, which until recently had been adopted for the two main focal points. In the Southwest focal point, there were three sentinel sites (see Table 2). In La Ciénaga, the sentinel site is in the same area [in the center of La Ciénaga] where the sentinel site was evaluated in 2004, prior to the MDA. In La Ciénaga, survey results following the second MDA revealed that in one district of Barahona (Bo. Pueblo Nuevo) where 21.5% had been infected, positivity had dropped to 3%. Less impact was obtained in Batey No. 7, which nevertheless dropped from 36 to 10%.

**Table 2. Sentinel site monitoring: Southwest focal point**

Sentinel Sites	2002		2004	
	ICT*%	Mf%	ICT%	Mf%
Bo. Pueblo Nuevo	21.5	4	3	0.0
Batey No. 7	36	14	10	0.9
La Sombra	9.4	4	2	0.2

\*immunochromatographic test

### Challenges

While the program's targeted impact has been obtained, certain weaknesses and obstacles remain in terms of its future development. One is the weak state of financial resources. The program has been able to maintain its current work plan, thanks to support from its partners (see Table 3), but has not managed to surpass this limitation. These financial challenges are exacerbated by weaknesses in technical management and the morbidity component, and by a recent failed initiative that depended on support from a nongovernmental organization (NGO) that not disburse the expected funding. Another weak aspect of the program is the surgical component for handling hydrocele, which over the last year has not operated on any new patients. There is also a deficiency in the information management system (MIS), due in part to changes in the national authorities that maintain the existing registries (it was often not known where to find information that had existed prior to changes in management personnel). Another challenge is community violence, which often prevents proper program access to certain areas of the country. At the national district level in La Ciénaga, however, through the assistance and support of the CES, program personnel were able to enter communities that previously were difficult to access due to a high level of violence. And, finally, challenges remain in the area of mapping. About 12 municipalities have not been mapped, and in some municipalities that have been mapped there is some doubt that transmission exists (i.e., that detected cases are native-born, from native transmission). Therefore more research is needed at those sites. Although planned for this year, completion of this task is still lacking due to economic and administrative difficulties.

### Plan of Action

1. Extend MDA to all focal points at national level, based on previous evaluation and classification of those centers.
2. Review classification and evaluation of all suspected cases detected in Southwest foci to confirm actual cases; conduct health survey, which also helps identify other types of lymphedema due to other causes.
3. Conduct health personnel training in disease management in Southwest foci to improve identified weaknesses in the morbidity component (this is necessary for proper care and handling of all suspected cases confirmed as LF).
4. Reactivate surgery component.
5. Extend detection and evaluation of suspected cases to all foci in the country (suspected cases detected thus far total 2,272 in the two major focal points, based on morbidity in the extremities, and about 352 for hydrocele only).

**Table 3. Partners**

Institutions	Implementing entities	Joint activities
SESPAS (Municipal Secretariat of Public Health and Social Assistance)	Health Region IV & Regional Public Provider	Support in organization & execution of 3rd MDA campaign
	UNAPs	Support for horizontal integration of PELF; execution of 3rd MDA campaign
PAHO/WHO	PAHO	Technical assistance, mapping, GIS
NGOs	Dermatology Institute ( <i>Instituto Dermatológico de Cirugía de la Piel; IDCP</i> )	Referrals for acute morbidity
	CES	Social mobilization in urban zone, Santo Domingo; support in 2nd MDA campaign at La Ciénaga focal point
Academic Institutions	Emory University	General support of PELF; support of sentinel site monitoring
	Liverpool University (United Kingdom)	Evaluation of integration process

## DISCUSSION

**Comment.** Completing epidemiological mapping in the north and east is crucial to help identify any new focal areas that may need MDA, and to indicate any new sentinel areas in the north or east. In regard to Santa Domingo (La Ciénaga), there is an area across the river with similar conditions (Ensánchez de Hosana) that is probably also an active focal point. This needs to be mapped. The program should also try to motivate national authorities to fight LF based on the relatively high benefit-to-cost ratio of eliminating the disease (which should be put forth as an investment rather than a cost). And program integration should be pursued, as it's impossible to eliminate LF in the DOR without also eliminating it in Haiti, where it exists as a larger problem.

**Response.** The program aims to complete evaluation of the focal points in the east and north as well as the national district. Emory University managed the procurement of the cards, which should be available soon. Regarding the sensitization of national authorities, the strategy is zero tolerance, and it is hoped that this will achieve government support and financial resources. The program also plans to initiate a series of contacts with national authorities to sensitize them in this respect. Regarding integration, there is a strong potential for major problems in some areas of the national district, and the value of integrating program activities is recognized; it is understood that a successful solution requires the participation of the entire island. Therefore, Dr. Maria Inés Díaz, manager of the Southwest focal point program, which has the most border contact with Haiti, has contacted Dr. Marie Denise Milord of Haiti to help create cooperation across the island.

**Comment.** When mapping new areas, morbidity surveys of related complaints could also be done.

**Response.** This was the initial strategy; whenever mapping or research was conducted, a morbidity survey was also done, with the tasks divided between national and local levels.