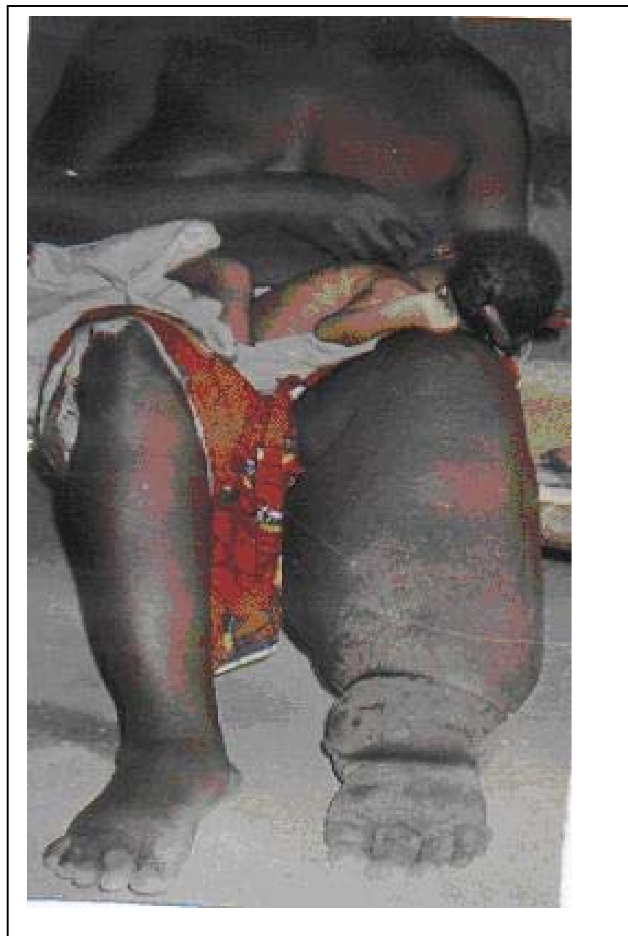
World Health Organization
REGIONAL OFFICE FOR Africa

ELIMINATION OF LYMPHATIC FILARIASIS: HOPE FOR FUTURE GENERATIONS

HIGHLIGHTS OF ACHIEVEMENTS OF THE PROGRAMME IN THE AFRICA REGION: 2000- 2006

INFORMATION SHEETS



SOURCE: WHO/AFRO

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SOURCE: WHO/AFRO

SHEET 1: SUMMARY OF ACHIEVEMENTS OF PELF IN AFRICA REGION

The World Health Organization's (WHO) African Region carries approximately 38% of the disease burden, which represents approximately 390 million people at risk of infection in 39 out of the 46 Member Countries.

In most parts of Africa, the main vectors are *Anopheles* species of mosquitoes; however, urban transmission with *Culex quinquefasciatus* is known to occur in some parts of East Africa.

Following the World Health Assembly Resolution WHA 50.29 in 1997 to eliminate LF as a public health problem worldwide. The first mass drug administrations (MDA) were conducted in 2000 in four countries (Ghana, Nigeria, Tanzania and Togo). By end of 2006 21 countries had completed mapping and 11 of them were conducting mass drug administration..

Lymphatic filariasis has been found to be more widespread than was originally anticipated. The population at risk identified in the 22 countries where full or partial mapping has been conducted is 183.1 million. The total population in the remaining 17 countries that does not add to this number is approximately 315.8 million. Mass drug administration implementation has progressed from four countries in 2000 to 11 countries in 2006. In 2006, four countries achieved total coverage of the entire at-risk population: Comoros (approximately 572,000), Togo (approximately 1.1 million), Ghana (approximately 10.5 million) Burkina Faso (approximately 13.8 million) and Tanzania-Zanzibar (approximately 1.2 million). A total of approximately 33.4 million people were treated in 2006 MDA and the cumulative number of treatments delivered in the African region from 2000 – 2006 was 112,085,519.

Microfilaria prevalence, as indicator for the impact of the MDA intervention as well as prevailing transmission potential are monitored in sentinel sites. The data from sentinel sites show an overall reduction in mf prevalence as the number of mass drug administration rounds increase. Review of data from programmes, including other data from research settings in 2006, led to the observation that between 2 and 6 rounds of MDA with co-administered drugs were able to bring down the microfilaria prevalence to below 1% in most areas. In some areas more than 6 rounds may be necessary, since the effectiveness of the annual rounds of treatment was found to depend on (i) the initial infection level; (ii) the treatment coverage rate; and (iii) the type of mosquito vector responsible for transmission in the area.

SOURCE: WHO/AFRO

LIST OF COUNTRY FOCAL POINTS

Country	Programme Managers
Benin	Dr Franck Sintondji; Dr Hortense Kossou; Dr Julius Gaba
Burkina Faso	Mr. Roland Bougma; Dr Dominique Kyelem
Cameroun	Dr Macelline Ntep
Comores	Mr Fatihou Oithik; Dr. Affane Bacar
Cote D'Ivoire	Dr. Pierre G. Brika, Dr Paul M. Dogbo Pepe
Ghana	Dr John Gyapong; Dr Kwadwo Nana Biritwum
Guinée Bissau	Mr Serifo Monteiro
Kenya	Dr Dustan Mukoko
Liberia	Dr Benson Barh
Madagascar	Dr Lisy Nirina Rasoazanamiarana
Mali	Dr Massitan Dembélé
Niger	Mrs Aminata Haboubacar; Dr. Amadou Garba; Mr. Ibrahim Komblo
Nigeria	Dr Munirah Y. Jinadu
Sierra Leone	Dr J. B. Koroma
Senegal	Dr Moussa Dieng Sarr
Tanzania (mainland)	Dr Mwele Malecela, Ms Ester Mbutolwe Mwakitalu
Tanzania-Zanzibar	Mr. Khalfan Mohamed
Togo	Dr Komlan Nabiliou; Dr. Kodjo Morgah; Dr Yao Sodahlon; Prof. Kossivi Agbo
Uganda	Dr Ambrose Onapa
Zambia	Dr. Enala T. Mwase

COORDINATION AT WHO HEADQUARTERS AND AFRICA REGION

WHO Regional Office for Africa:
Director of Division of Communicable Diseases Prevention and Control: Dr. Antoine Kabore (till 2006) Dr. James Mwanzia (2006 – 2007). Regional Advisor, Unit for Other Tropical Diseases: Dr. Jean-Baptiste Roungou (till 2006); Dr. Barrysson Andriamahefazafy (2006 – to date).Lymphatic filariasis focal points: Dr. Likezo Mubila (2001 to date). Data managers: Mr. Ekoue B. Kinvi and Mr. Adolphe Dabiré.

WHO Headquarters:
Director of Department of Communicable Diseases Control: Dr. Maria Neira (till 2003), Dr. Hiroyoshi Endo (2003-2006) and Dr. Lorenzo Savioli (2006-date). Team Coordinators, Cluster Control of Communicable Diseases: Nevio Zagaria (till 2005), Dr. Dirk Engels (2006 to date).
Lymphatic filariasis focal point: Dr. Eric Otessen (till 2001) Dr. Gautam Biswas (to date). Data managers: Mr. Alexei Mikhailov (from 2006)

Compilation by Dr. Likezo Mubila, Mr. Ekoue B. Kinvi and Dr. Gautam Biswas with inputs from Dr. Eric Otessen and editorial contribution Dr. Pamela J. Hooper.

ACKNOWLEDGEMENTS

The programme for elimination of lymphatic filariasis is anchored on the donation of mectizan® and albendazole by Merck and Co. Incls through the Mectizan Donation Programme (Dr. Bjorn Thylerfors, Dr. Nana Twum Danso (2001 – 2006) Dr. Yao Sodahlon, (2006 – date), Dr. Pamela J. Hooper), and GlaxosmithKline (Dr. Mark Bradley, Dr. Minne Iwamoto and Mr. Andy Wright), respectively. The World Health Organization values the collaboration with representatives of these organizations in the day to day management of the programme. Tribute also goes to the many partners that provide financial and logistical support to the programme at various levels and all the Global Alliance partners, the list in Sheet 12 is not exhaustive. The dedication of governments and ministries of health of the endemic countries who allocated resources from scarce sources to this programmes of one of the neglected tropical diseases. The communities themselves without whose engagement the programme would not even have started.

SOURCE: WHO/AFRO

SHEET 2: LYPHATIC FILARIASIS DISABILITY MANAGEMENT

The transformation following surgery: Outcome of LF disability interventions resulting in regaining of productive life.

(photographs with courtsey of national programme of Uganda)

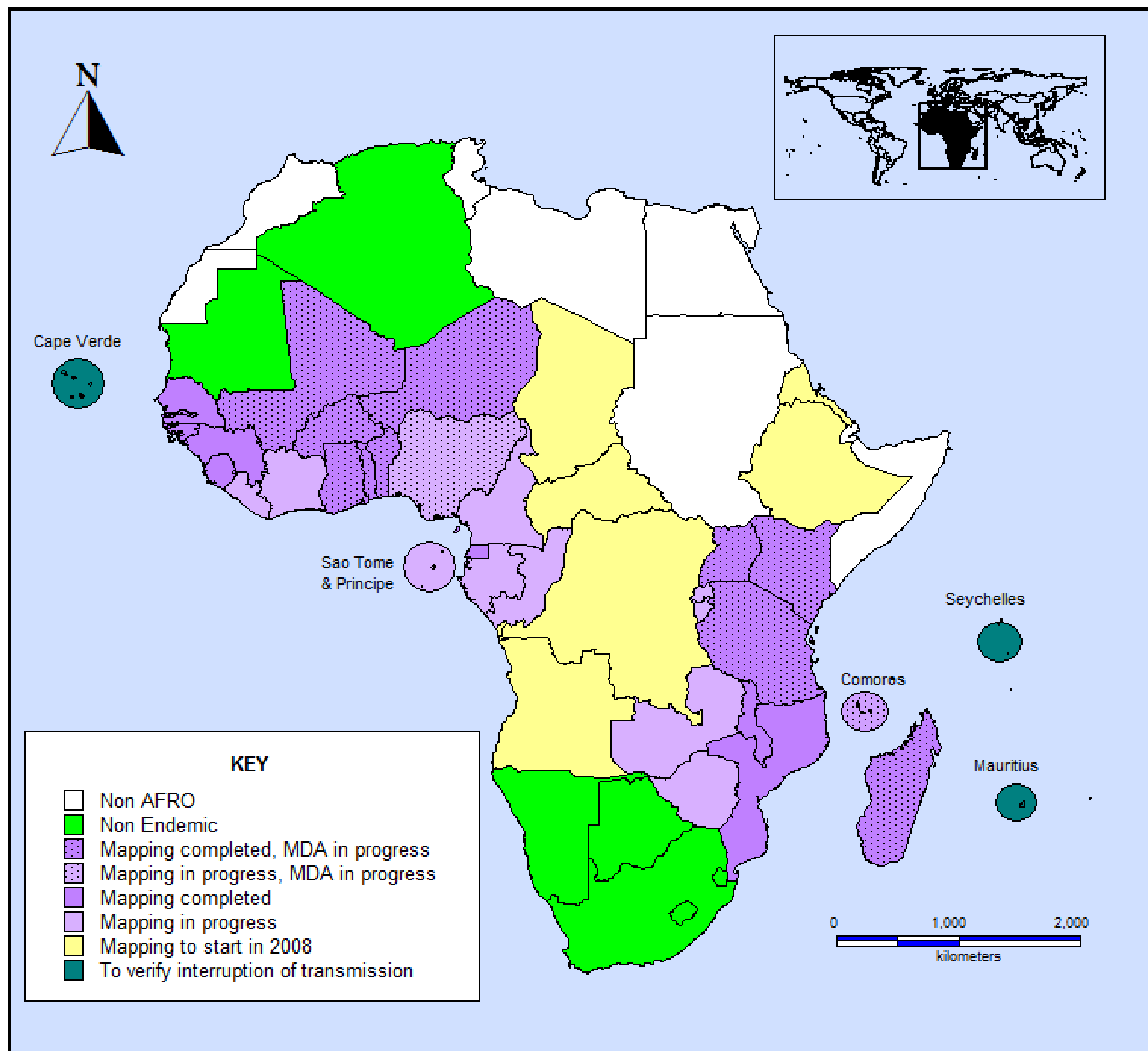
SOURCE: WHO/AFRO

SHEET 3: LYMPHATIC FILARIASIS DISABILITY ACTIVITIES IN COUNTRIES

Country	Year LFE started	Hydrocoele cases		Lymphoedema/Elephantiasis cases	
		Number of cases Registered/identified	**Number of surgeries conducted**	**Number of cases Registered/identified**	**Number of cases under management**
Ghana	2000	8,449	1,988	4,196	Not determined
Nigeria	2000	Not determined in Nasarawa and Plateau states	400 (in Nasarawa & Plateau)	Not determined	212
		242 cases in Taraba State	400 (in Nasarawa & Plateau)	4,300 in Gombe, Taraba and Adamawa	452 cases since 2001 in Taraba
Togo	2000	504	325	Not determined	439
Tanzania-mainland	2000	Not determined	8,000 (2,000 of which conducted in 2005)	Not determined	Not determined
Tannzania-Zanzibar	2001	1,577	324 (143 conducted in 2006)	1,824	625
Benin	2001	No activities reported			
Burkina Faso	2001	19,500	1,888	14,000	3,836
Comoros	2001	Not determined	162	Not determined	No activity reported
Kenya	2002	Not dertemined	67 (in 2006)	Not determined	No activity reported
Uganda	2002	Approx. 2% in adults	211	1-6% prevalence	No activity reported
Mali	2005	846	50	637	190
Madagascar	2005	Not determined	273	Not determined	567

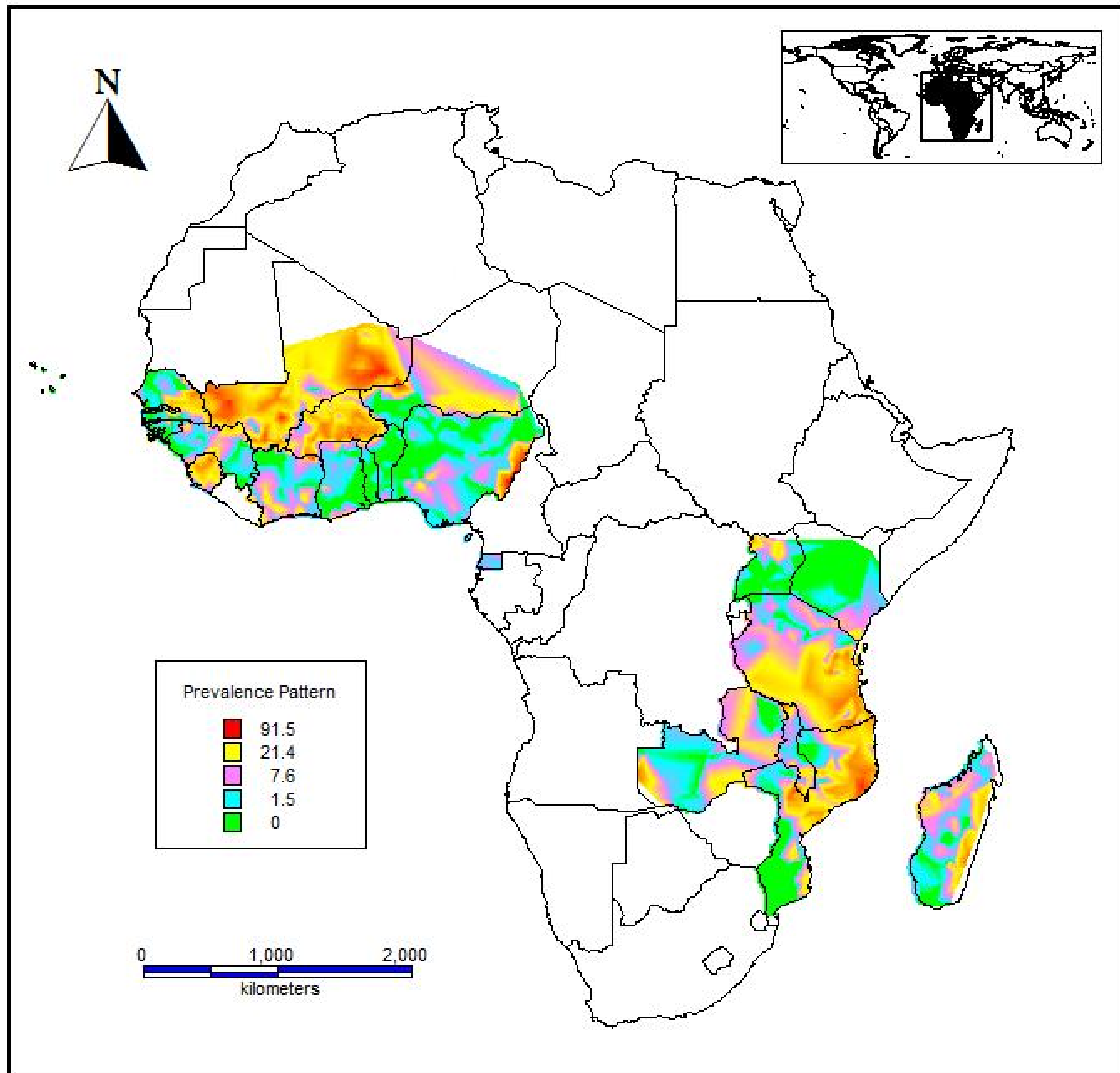
SOURCE: WHO/AFRO

SHEET 4: STATUS OF PELF IN AFRICA REGION: MAPPING AND MASS DRUG ADMINISTRATION



SOURCE: WHO/AFRO

SHEET 5: PATTERN OF LYMPHATIC FILARIASIS DISTRIBUTION IN AFRICA REGION



The endemicity pattern in relation to the coastal areas differs in East and Southern Africa compared to West Africa. High endemicity is observed in the coast areas East and Southern Africa sub-region in the from the equatorial zones down to the sub-tropical zones, and declines in temperate areas extending to South Africa where the disease is not endemic. This pattern contrasts with that observed in West Africa where most coastal areas were found to be moderately endemic compared to inland areas. The inland disease pattern and levels are variable and are likely due to micro-environmental conditions conducive for LF transmission.

Note: The pattern in Zambia and Nigeira is based on extrapolations from the little available data and therefore the pattern mayl change when mapping is completed.

SOURCE: WHO/AFRO

SHEET 6: SUMMARY INFORMATION ON LEVELS OF INFECTIONS AND POPULATIONS AT RISK BY COUNTRY

Country	Prevalence (results from areas where positive cases were detected)		Total No of IU	No IU mapped	Mapping coverage	No IU endemic	Endemicity coverage	Total population *	At-risk population	
	Range	Average							Number	%
Benin	1.2 – 12.5	2.1	77	77	100	50	64.9	7,713,442	4,799,900	62.2
Burkina Faso	2.0 – 74.0	29.0	55	55	100	55	100.0	13,938,935	13,938,935	100.0
Comoros	Different method used		3	3	100	3	100.0	572,171	572,171	100.0
Ghana	1.0 – 39.4	6.3	138	138	100	61	44.2	22,047,717	10,510,647	47.7
Kenya	2.0 – 3.0	2.2	70	70	100	7	10.0	34,054,259	2,987,266	8.8
Madagascar	1.0 – 58.0	9.0	111	111	100	98	88.3	19,503,739	15,821,728	81.1
Mali	1.0 – 87.5	33.3	59	59	100	59	100.0	12,299,691	12,299,691	100.0
Tanzania (Mainland)	4.0 – 72.0	42.8	117	117	100	115	98.3	37,369,939	36,816,293	98.5
Tanzania (Zanzibar)	Different method used		10	10	100	10	100.0	1,161,629	1,161,629	100.0
Togo	1.0 – 36.0	9.0	30	30	100	7	23.3	5,470,000	1,118,424	20.4
Uganda	1.9 – 26.8	7.8	62	57	92	32	51.6	28,389,477	12,429,409	43.8
Nigeria	1.0 – 40,0	2.6	774	253	33	126	16.3	131,530,000	17,850,715	13.6
Cape Verde	-	-	9	9	100	0	0.0	469,000	0	0
Equatorial Guinea	2.3 – 8.1	5.8	7	7	100	7	100.0	504,000	504,000	100.0
Gambia	1.0 – 3.0	1.7	37	37	100	7	18.9	1,325,969	300,000	22.6
Guinea	1.0 – 23	3.0	38	38	100	25	65.8	9,402,000	6,067,135	64.5
Guinea-Bissau	1.0 – 23.6	4.7	11	11	100	11	100.0	1,311,741	1,311,741	100.0

SOURCE: WHO/AFRO

Country	Prevalence (results from areas where positive cases were detected)		Total No of IU	No IU mapped	Mapping coverage	No IU endemic	Endemicity coverage	Total population *	At-risk population	
	Range	Average							Number	%
Malawi	1 – 79	29.5	27	27	100	25	92.6	9,925,749	9,798,995	98.7
Niger	1 – 52.0	12.1	42	42	100	32	76.2	13,122,619	12,149,245	92.6
Senegal	1.0 – 57.0	15.8	27	27	100	15	55.6	11,503,000	*5,314,600*	46.2
Sierra Leone	1.0 – 68	23	14	14	100	13	92.9	4,884,000	4,884,000	100.0
Cote d'Ivoire	1.4 – 45.5	7.81	51	42	82	28	54.9	18,154,000	Number to be verified	-
Liberia	2.1 – 7.2	2.3	54	8	15	8	14.8	3,283,000	Number to be verified	-
Mozambique	1.0 – 82	19.9	142	130	92	90	63.4	19,792,000	11,152,614	56.3
Zambia	0.67 – 53.9	11.6	72	14	19	11	15.3	10,285,631	1,373,780	13.4
REGIONAL SUMMARY			**2,037**	**1,386**	**68**	**891**	**43.7**	**418,013,708**	**183,162,918****	**43.8**

* UN figures adjusted to 2006.

** Current estimated population at-risk excludes that identified in Cote d'Ivoire and Liberia where district population figures not

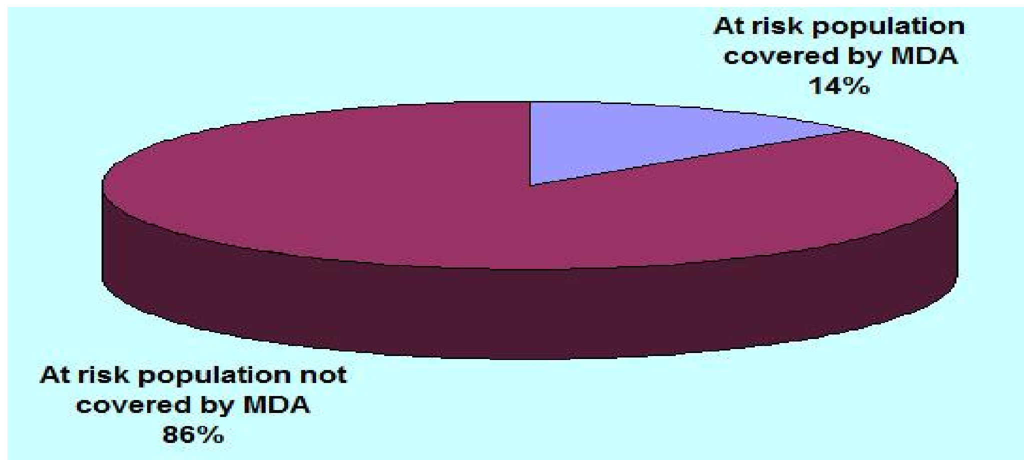
SOURCE: WHO/AFRO

SHEET 7: SUMMARY OF STATUS OF MASS DRUG ADMINISTATION IN 2006

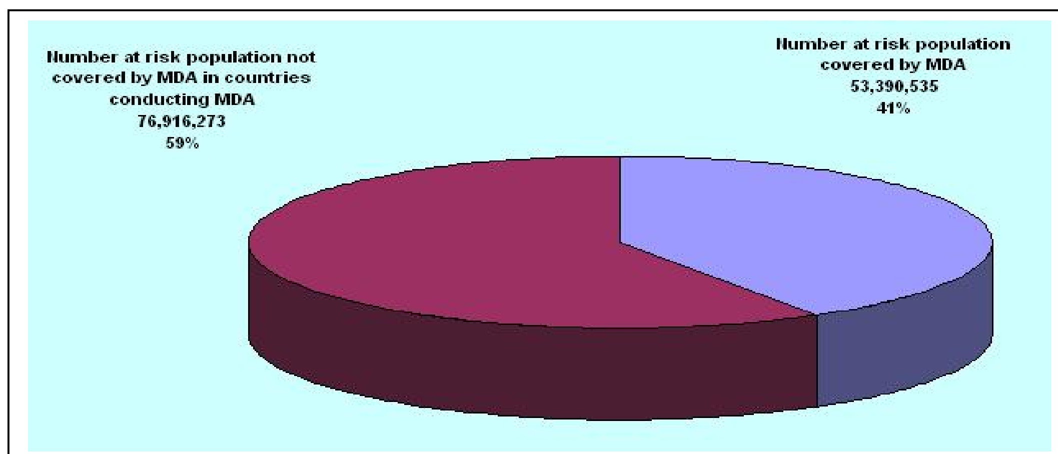
Country/Programme	No IU endemic	At risk population			STATUS OF MDA IN 2006						
		Total identified	Number covered by MDA	% under MDA	IU covered Under MDA No.	IU covered Under MDA %	Year of first MDA	Max. No. of rounds	Number treated in 2006	Average drug coverage	Cumulative treatment delivered
Ghana	61	10,510,647	10,510,647	100.0	61	100.0	2000	7	6,032,545	70.9	19,445,116
Togo	7	1,118,424	1,118,424	100.0	7	100.0	2000	7	954,216	85.3	4,601,882
Nigeria	126	17,850,715	4,498,594	25.2	30	23.8	2000	7	3,344,896	74.3	16,005,953
Tanzania (Mainland)	115	36,816,293	7,267,010	19.7	28	20.9	2000	6	5,098,797	70.2	11,501,706
Tanzania (Zanzibar)	10	1,161,629	1,161,629	100.0	10	100.0	2001	6	968,992	83.4	5,126,050
Comoros	3	572,171	572,171	100.0	3	100.0	2001	5	29,248	77.3	1,099,650
Burkina Faso	55	13,938,935	13,938,935	100.0	55	100.0	2001	6	11,127,329	79.8	35,582,232
Benin	50	4,799,900	2,010,883	41.9	41	82.0	2002	5	1,461,523	78.4	4,991,111
Uganda	32	12,429,409	4,914,418	39.5	10	31.3	2002	3	Missed MDA		5,375,651
Kenya	7	2,987,266	1,677,824	56.2	3	42.9	2002	3	Missed MDA		2,847,597
Madagascar	98	15,821,728	2,759,574	17.4	13	13.3	2005	2	2,130,005	77.2	2,715,555
Mali	59	12,299,691	2,960,426	24.1	15	25.4	2005	2	2,316,180	78.2	2,793,016
Summary	**623**	**130,306,808**	**53,390,535**	**41.0**	**272**	**44.0**			**33,463,731**		112,085,519

SOURCE: WHO/AFRO

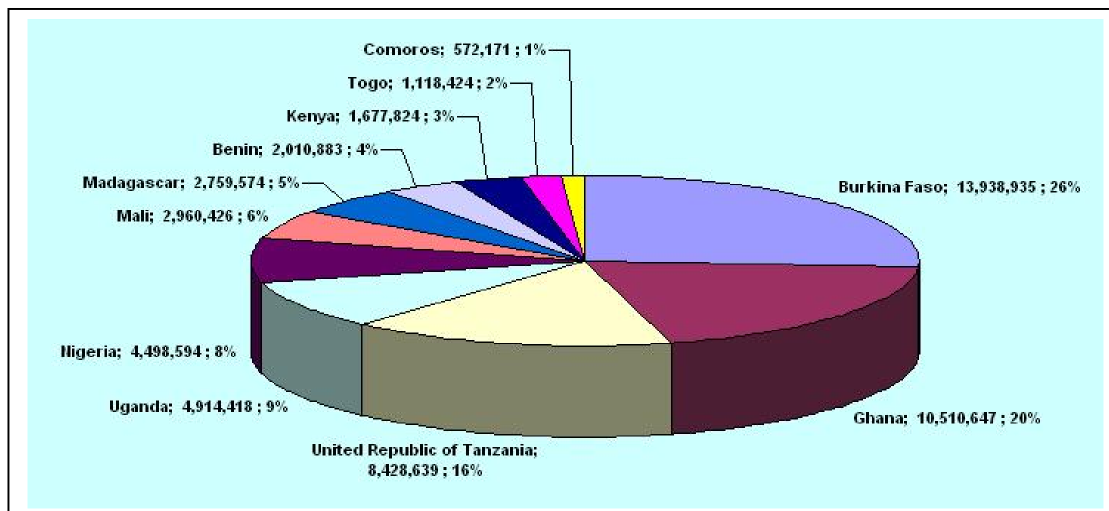
SHEET 8a: MASS DRUG ADMINISTRATION STATUS: Population at-risk covered as proportion of total estimated in the region (390 million).



8b: MDA STATUS: Population covered by MDA as proportion of total at-risk in 11 MDA countries



8c: MDA STATUS: Population covered by MDA disaggregated by country



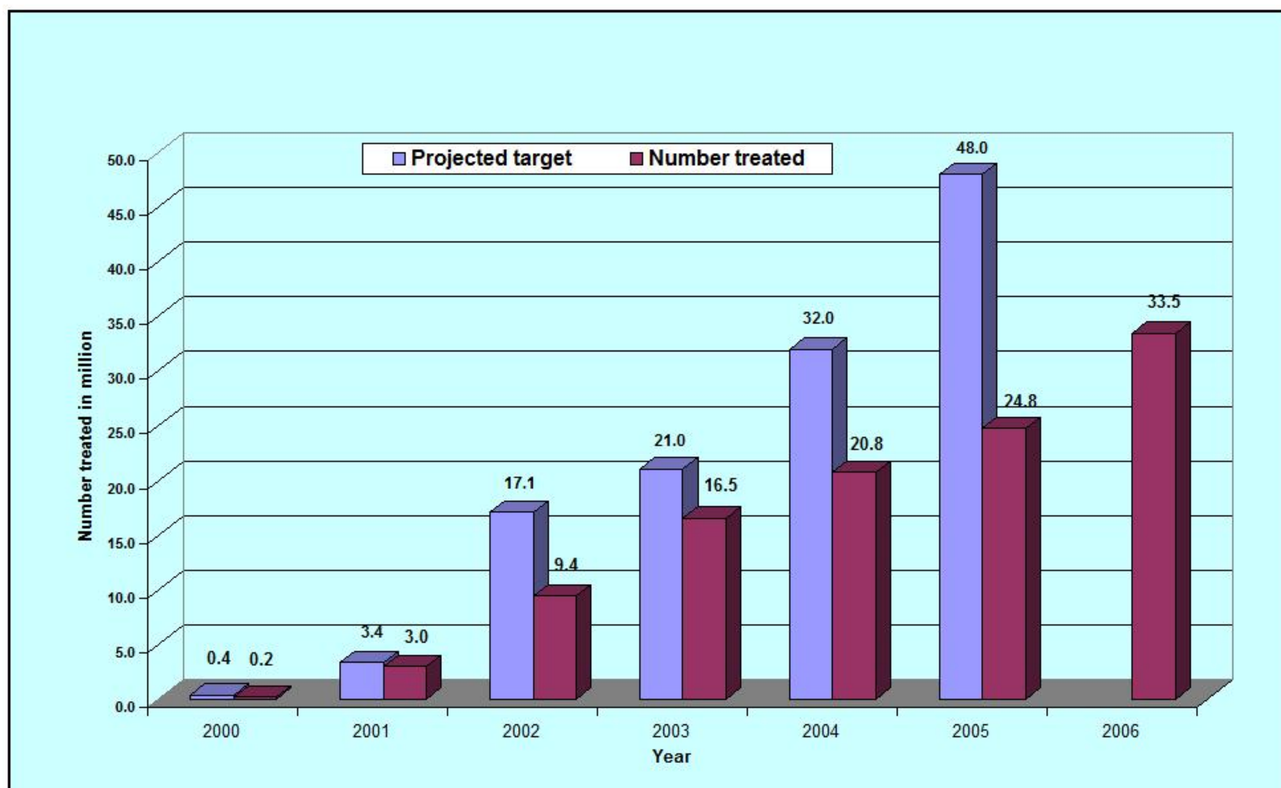
SOURCE: WHO/AFRO

SHEET 9: NUMBERS OF PEOPLE PROGRESSIVELY TREATED BY COUNTRY 2000 - 2006

Country	Round	2000	2001	2002	2003	2004	2005	2006	CUMULATIV E TREATMENTS
Benin		-	-	224,971	678,638	1,109,489	1,516,490	1,461,523	**4,991,111**
Burkina Faso		-	428,653	1,726,125	5,054,199	6,194,484	10,508,123	11,127,329	**35,038,913**
Ghana		480,000	393,677	1,223,122	2,681,404	3,971,869	5,135,002	6,032,545	**19,917,619**
Kenya		-	-	480,900	1,153,468	Missed round	1,213,229	Missed round	**2,847,597**
Madagascar		-	-	-	-	-	585,550	2,130,005	**2,715,555**
Mali		-	-	-	-	-	476,836	2,316,180	**2,793,016**
Nigeria		159,495	717,231	2,168,355	3,112,889	3,236,206	3,266,881	3,344,896	**16,005,953**
Tanzania (Mainland)		29,963	449,456	1,260,049	1,746,519	2,916,922	Missed round	5,098,797	**11,501,706**
Tanzania (Zanzibar)		-	638,909	818,155	872,731	898,951	928,312	968,992	**5,126,050**
Togo		77,000	342,398	556,977	855,132	889,393	926,769	954,216	**4,601,885**
Uganda		-	-	733,375	Missed round	1,158,892	3,483,384	Missed round	**5,375,651**
Comoros		-	53,308	245,224	374,556	397,314	Missed round	29,248	**1,099,650**
New treated (annual)		**189,458**	**2,771,096**	**5,863,087**	**6,616,734**	**4,034,591**	**8,208,750**	**5,955,073**	**33,638,789**
New + re-treated (annual)		**189,458**	**3,023,632**	**9,437,253**	**16,529,536**	**20,773,520**	**28,040,576**	**33,463,731**	**112,014,706**

SOURCE: WHO/AFRO

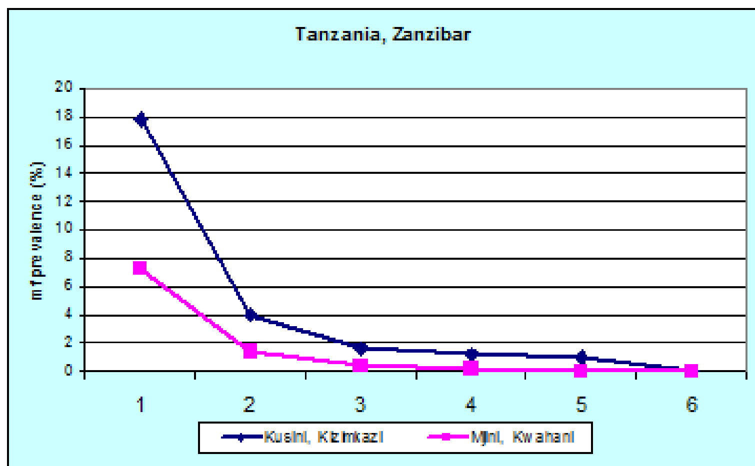
SHEET 10: PROGRESSION OF MDA IN AFRICA REGION VS. PROJECTED TARGETS FOR PELF (2000 – 2005)

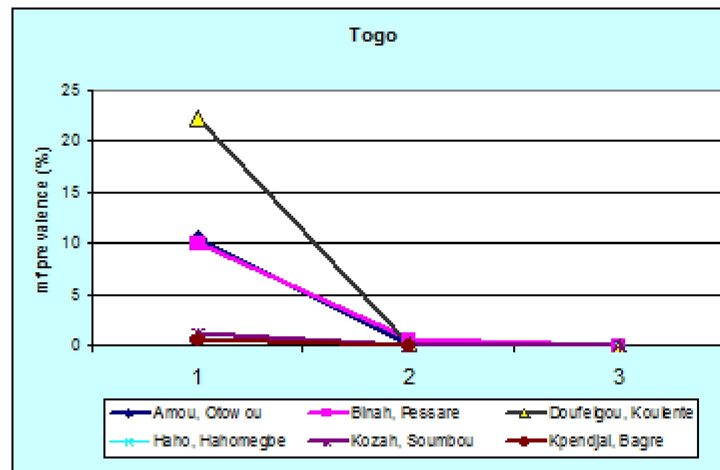


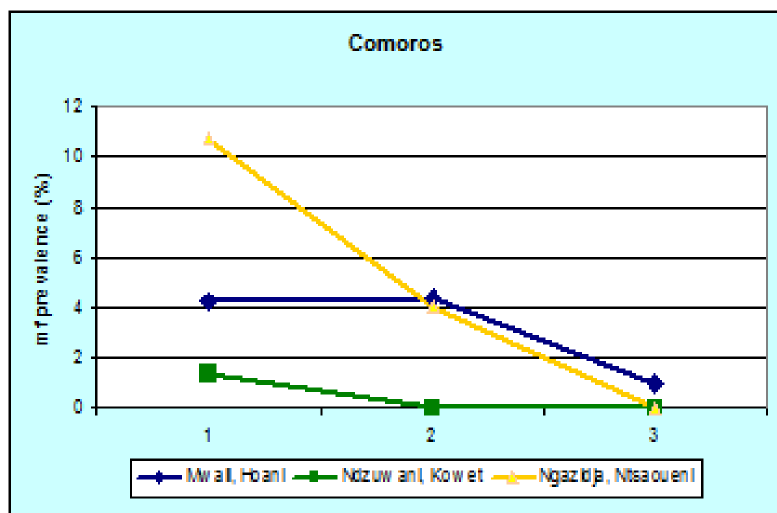
At regional level, there has been a steady increase up in the numbers of people treated in MDAs from 2000 – 2006. Individual national programmes experience difficulties in sustaining scaling up and/or annual rounds of MDAs. Although the annual targets for the Region, set at global forum were not achieved, the total number of treatments given from 2000 – 2006 increased progressively.

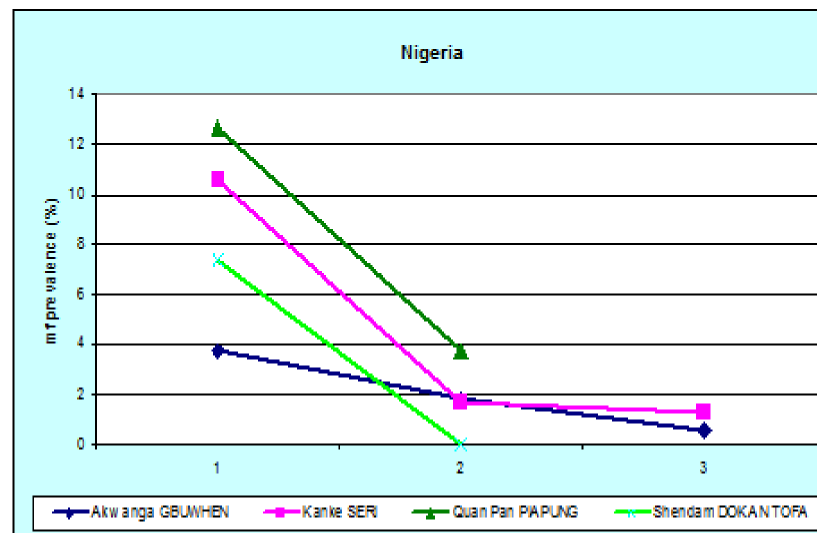
SOURCE: WHO/AFRO

SHEET 11: IMPACT OF MASS DRUG ADMINISTRATION ON INTERRUPTION OF TRANSMISSION: Trends of microfilaria prevalence in sentinel sites in 6 selected countries

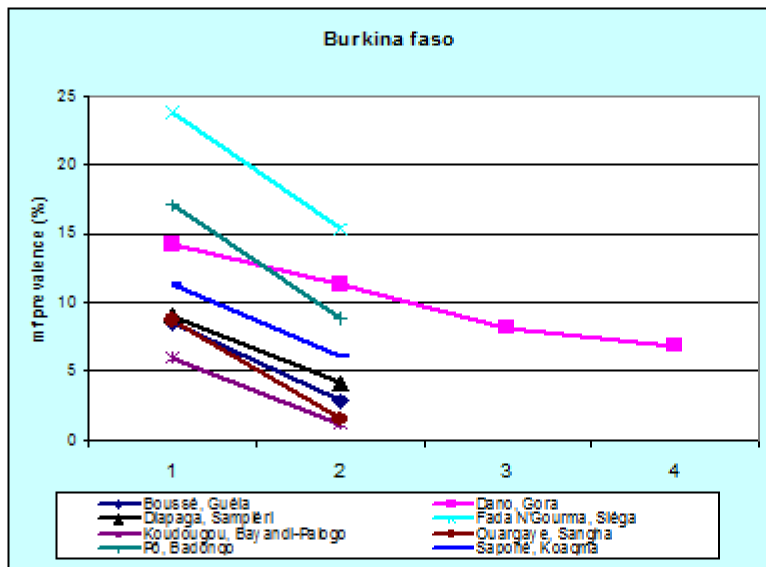


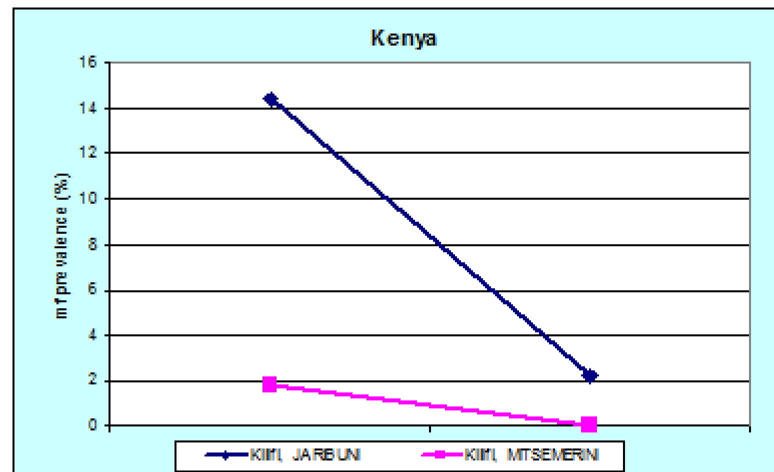






SOURCE: WHO/AFRO





There is a general trend for declining mf prevalence with increased number of rounds of MDA. The magnitude of the reduction is variable in different situations. Microfilaria prevalence shows little response to on-going mass drug administrations

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SOURCE: WHO/AFRO

SHEET 12: SOURCES OF FUNDING AND LOGISTICAL SUPPORT TO LFE NATIONAL PROGRAMMES

Country	Funding sources/Partner Organizations (2000 – 2006)
Ghana	• World Vision International, Ghana • Catholic Medical Missions Board • Liverpool LF Support Centre • Emory LF Support Centre • GlaxoSmithKline • Mectizan® Donation Program • Bill and Melinda Gates Foundation • Interchurch Medical Assistance • Health and Development International • WHO • Government of Ghana /Ghana Health Services
Nigeria	• Carter Center • Federal Government of Nigeria • WHO • Common Heritage Foundation, Nigeria (in Taraba, Adamawa) • Interchurch Medical Assistance, Inc., USA (in Taraba, Adamawa) • Taraba State Government
Togo	• Global Fund for Malaria • Health & Development International (HDI) • WHO • GlaxoSmithKline • MSD • Centers for Disease Control and Prevention (CDC, Atlanta • Mectizan Donation Program • LF support Center (Atlanta) • International Medical Association (IMA)/ USAID • Liverpool School of Tropical Medicine • Governent of Togo/ Minisrty of Health
Tanzania-mainland	• Government of the United Republic of Tanzania • DFID and Liverpool LF Support Centre • WHO • Bill & Melinda Gates Foundation • International Medical Association (IMA) • Emory Lymphatic filariasis Support Centre
Tannzania-Zanzibar	• WHO • Liverpool LF support Centre • Izumi Foundation • HEALTH FOUNDATION – UK • Government of Zanzibar/Ministry of Health and Social Welfare
Benin	• WHO • Government of Benin • Health & Development International (HDI) • Sight Savers International (indirect)

SOURCE: WHO/AFRO

Country	Funding sources/Partner Organizations (2000 – 2006)
Burkina Faso	• Government of Burkina Faso • WHO • National Budget (Budget line for LFE) • Handicap International (HI), • Helen Keller International (HKI) • Fondation pour le développement Communautaire (FDC) • Rotary Ouaga Doyen • Liverpool LF Support Centre • Emory LF Support Centre • Health & Development International/ West African morbidity control project
Comoros	• WHO • Agence de Musulmant d'Afrique • Programme National de Lutte contre le Paludisme • COMPSANTE PALUDISME DU GF (inclu dans PNLP) • Croissant Rouge Comoien • Liverpool School of Tropical Medicine • Government of Comoros
Kenya	• WHO • Bill & Melinda Gates Foundation
Uganda	• Mectizan® Donation Program • Danish International Development Agency (DANIDA) • Carter Center Uganda (collaboration) • Government of Uganda/Ministry of Health (strong advocacy)
Mali	• WHO • Sight Savers International • Helen Keller International • Government of Mali
Madagascar	• WHO • Liverpool Lymphatic Filariasis Support Centre • Handicap International • Reggio Terzo Mondo • Azafady • Principauté de Monaco • Government of Madagascar

SOURCE: WHO/AFRO