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My grandfather's world was hard and sad. But above all it was dark. Day rolled into night and night into day. It seemed only the singing of the birds made my grandfather know that it was morning, and the hot sun that it was day. How he told the difference during the long rainy season I cannot imagine. His world was poor and getting poorer every day. He could no longer go to the river to fish, nor do much on the farm. His life was now one of being led around to beg for alms. The others in the village could not help much because the blackflies had spared no one. More than half the able-bodied men in the village were in the same plight. My grandmother's sight too was rapidly failing and she could not help much either. More and more people were leaving the village because of the sickness there.

My mother's world was only different in that it was much crueler. As the only girl of the family she had been elected to lead her father around with a stick so he could go begging for food. Her brothers attended school. My mother talks sometimes, with tears in her eyes, of stopping by the roadside in front of the place that served as the village school when she passed by with her father, and how she always looked longingly at the children sitting under the small shed. She often begged to be allowed to go to school on some days but the others said she was selfish and had no pity for her father or the rest of the family. Her only hope was that she would marry some day and escape the miserable life she was living. She was pretty enough so getting a suitor was no problem. She married and had two children.

My mother says she can hardly remember a time when her skin was not itching. To her it seemed she had itched all her life. Over the years the constant scratching got worse and caused a lot of bleeding that led to very ugly scars and wounds on her legs and buttocks. Her husband was ashamed of her and drove her and the children away. With nowhere to go (her parents had since died and her brothers did not want to know), she fled the village with her two children.

And my world? My world is lovely. Mectizan comes to town every year and I have been taking it now for the past seven years. My world is bright, gay, full of laughter and play. I go to school as do all the other children in my world. My mother is a distributor because she says that it was mectizan that saved her and gave her back a life. She remarried a kind man and she had me. She makes sure we are the first ones to get our mectizan, and she talks to all the village people all the time about how important it is to take mectizan every year in order not to suffer like she did, or like her father did.

My world is so different from my grandfather's and I thank God for the people near and far who have made my world possible, a world that is free of river blindness, ugly scars and wounds, stigma and rejection. My world is full of hope and dreams, and I am very happy in my world. I am going to be a nurse when I am big so I can do more to help my community...

Zainab Akiwumi is Communication & Advocacy Officer at APOC
Spotlight on APOC countries

- Nigeria - Onchocerciasis Programme Milestones
- Central African Republic - CBM's experience in Central African Republic
- Nigeria - Cultural
- RCA - Cultural
Just a little over 15 years ago, in December 1995, the African Programme for Onchocerciasis Control (APOC) was launched to control the disease in 19 endemic countries outside the OCP zone. When the programme started operations in 1996 the challenges were many but APOC has always known how to meet these challenges through research and the development of effective tools. Today APOC is a public health success story that is providing relief to millions of African people in the poorest and remotest areas where there are no health services. This success has only been possible because of the unique public-private partnership and the steadfast support that APOC has enjoyed since its inception.

The results on the ground over the past 15 years have shown clearly that APOC works, and that its strategy, Community-Directed Treatment with Ivermectin (CDTI) is effective in improving people's health particularly in the most remote areas. The benefits for affected populations have been many, and today APOC is even moving into a new dimension now that the principle of the feasibility of elimination of the disease with ivermectin treatment alone has been established.

The stories and articles in this magazine, sometimes about personal experiences, sometimes about the tool developed and measures taken to meet a particular challenge are all testimonies of the dedication and passion of the people and organizations involved in onchocerciasis control in Africa. They demonstrate what can be achieved when people join forces and strive together for a common goal.

I thank all our dedicated partners who have been supporting APOC these past fifteen years, and look forward to continued collaboration to rid Africa of onchocerciasis.

Dr Luis Gomes Sambo
Regional Director
WHO - Regional Office for Africa
The last fifteen years have been a period of intense investment and excellent results for APOC. Much has been learned on onchocerciasis control interventions, including the use of medicines and their side effects in the situation of co-morbidity with loiasis. Above all, Community-Directed Treatment with Ivermectin (CDTI) has been established as one of the most effective public health interventions, reaching more than 68 million persons in 2009. Its economic rate of return is estimated at 17%. In addition, over 38 million persons benefited from multiple health interventions using CDTI as an entry point. During these past 15 years, most of the efforts have been geared towards the control of onchocerciasis as a major public health problem affecting millions of persons among the poorest. Now, scientific evidence has demonstrated the feasibility of onchocerciasis elimination, thus opening a window of hope for the future. At the same time, several questions, many of them still unanswered, are being raised. Several issues still need to be addressed. Communities, countries, experts, and development partners all wish to see light and a clear path to the future.

There is no doubt that the communities that have benefited from the global effort to tackle the scourge will request to sustain this effort as long as it takes, and to definitely get rid of onchocerciasis. Most probably, communities will continue to participate willingly in this effort and to demonstrate ownership.

Experts and donors alike are pondering on the duration of community mass treatment with Ivermectin. For how long should we sustain control interventions? Scientists would like to be assured that alternative medicines for mass treatment are discovered. They wish to access non invasive diagnostic tools in place of the skin snip for epidemiological evaluations; and innovative trapping systems to replace human blackfly capturers.

Programme officers are concerned about project performance, including geographic and therapeutic coverage. They wish to be reassured about the sustainability of interventions since onchocerciasis control and elimination activities need to be carried out over several years. At the same time, questions are being asked about APOC: what will happen beyond the year 2015 which is the end of the current mandate of the Programme? Would governments and affected communities be ready to take over and ensure that onchocerciasis is eliminated in the long run?

The fifteen year milestone is a good time for reflection. It is certainly a time for hope. It is mostly a time for important commitments:

- Commitment to protecting the gains made through sustained partnership;
- Commitment to sustaining, as long as necessary, the implementation of the Community-Directed Treatment with Ivermectin strategy;
- Commitment to applying the experience gained for addressing other relevant public health problems.

It is comforting to know that, during its 16th session held in Abuja, the Joint Action Forum (JAF) requested the Committee of Sponsoring Agencies (CSA) and APOC Secretariat to set-up Advisory Groups that would review available information and make proposals on the three themes below:

- Elimination of onchocerciasis and interruption of transmission
- Co-implementation
- The future of APOC

Under the first theme the feasibility of eliminating onchocerciasis and its transmission, so that the disease will never again threaten communities must be addressed, as well as the necessary strategies and the timeframe for this to happen. Reflections on the second theme should result in guidance on other public health interventions that may be implemented jointly through the CDTI strategy with effective country ownership. Finally, under the third theme, recommendations should be made on ways and means to ensure that the gains made through the APOC global public-private partnership are preserved and that this partnership is sustained as long as needed, both for River blindness elimination, and support to countries for other public health interventions.

It is indeed a challenge to deliver the expected outputs to the JAF by December 2011. The CSA Advisory Group, with support from APOC Management, has already started working relentlessly on the assignment. It is hoped that this work will yield enough information to allow stakeholders of onchocerciasis control in Africa to make the most appropriate decisions for the future.

Dr Paul-Samson Lusamba-Dikassa
Director, APOC
Amazigo: Celebrating the Scientist with a Passion for Onchocerciasis Control

By Paul Ejime

After several decades of illustrious service including the last 15 at the World Health Organization African Programme for Onchocerciasis (River blindness) Control (WHO/APOC), it is time for Dr Uche Amazigo, a university teacher, health management expert, mother, researcher and humanist to count her blessings having made an impact in the world of onchocerciasis control.

Since her retirement on 31st March 2011 as Director of the WHO African Programme for River blindness Control, the former senior lecturer and parasitologist with specialization in tropical diseases and public health has been receiving praises for her selfless commitment to serving the needs of the poorest of the poor in Africa.

To cap her distinguished service, the Government of Burkina Faso recently bestowed on Amazigo the distinguished Medal of “Knight of the National Order of Burkina Faso,” a rare achievement for a non-native. WHO Regional Director for Africa, Dr Luis Gomes Sambo, on behalf of the WHO Director General Margaret Chan, also commended Amazigo for “her excellent work” as Director of APOC.

As WHO and partners sought scientific and practical solutions to the River blindness scourge, Amazigo, back in her native country Nigeria had developed more than an academic interest in the disease. In the early 1990s she was a teacher of parasitology at the University of Nigeria, Nsukka, but Amazigo was not content with just imparting knowledge to young medical professionals. She complemented her classroom teaching with research and field work, and it was during a field visit to an antenatal clinic in Etteh village, Enugu State in South-eastern Nigeria that Amazigo’s career world changed.

During a chance meeting at this clinic with a woman afflicted with River blindness, Dr Amazigo resolved to make a difference. She not only undertook to pay for the treatment of the afflicted woman who had been abandoned by her husband because of the stigma of itching and discolouration of her skin by onchocerciasis, but also decided, with funding by the WHO, to research into the social impact of the disease.

Following her ground-breaking research, Amazigo joined the APOC programme in Burkina Faso in 1995 and contributed to the translation of research findings into deliverable products and services. In 2005, she was appointed the first female Director to lead the multi-million-dollar multi-stakeholder regional WHO/APOC programme.

Since inception, the programme has recorded an 86% reduction in severe unrelenting itching, 39% reduction in infection prevalence of the disease, prevention of more than 500,000 cases of blindness and an estimated Economic Rate of Return of 17% on invested funds. Annual treatment with ivermectin in APOC countries has increased from 1.5 million in 1997, to 68.4 million in 2009, nearing the projected target of 90 million by 2015.

Dr Amazigo insists that the internationally-acknowledged achievements of the WHO/APOC programme were made possible through the combined effort of all partners and stakeholders. “The achievements by WHO/APOC would not have been possible without the unwavering commitment and support of donors, NGDOs, ministries of health, dedicated scientists and strong community involvement,” she stressed.

Amazigo has played her part and the greatest tribute to her untiring efforts is the continuation of the battle until Africa is freed, not only of River blindness but of all neglected tropical diseases so that the continent can realize its full development potential.

Mr Paul Ejime is a Communication/Media Consultant
APOC is a unique global public-private partnership launched in December 1995 with the goal of eliminating onchocerciasis as a disease of public health and socio-economic importance throughout Africa.

Building on the success of the Onchocerciasis Control Programme (OCP), APOC’s objective was to set up effective control programmes in the endemic African countries outside the OCP zone.

**APOC’s Core Operating Principles**

- Community ownership & empowerment
- Sustainability
- Evidence-based decision-making
- Partnership
- External evaluation

**The partnership** = The true strength of APOC = partners with a shared vision, working jointly together towards a common goal

- **20 Donor countries and organizations** who are committed and have been providing financial support for the programme since it was launched
- **15 Non - Governmental Development Organizations (NGDOs)** equally committed and provide financial and technical support at national and community levels
- **19 Participating African countries**: Angola, Burundi, Cameroon, Central African Republic, Chad, Congo, Democratic Republic of Congo, Ethiopia, Equatorial Guinea, Gabon, Kenya, Liberia, Malawi, Mozambique, Nigeria, Rwanda, Sudan, Tanzania, and Uganda
- **Merck & Co. Inc.** – donates Mectizan® to all who need it for as long as needed
- **Research organizations and institutions**
- **146,000 endemic communities**

**Executing agency** – **WHO**- responsible for the day-day running of operations implementing the programme

**Fiscal Agency**: World Bank, responsible for raising funds and managing the APOC Trust Fund.
African Programme for Onchocerciasis Control

15 years of APOC

APOC... in brief

Onchocerciasis, or ‘river blindness’ as it is more commonly known, is a parasitic disease caused by the filarial worm *Onchocerca volvulus* and is a major cause of preventable blindness worldwide. It is transmitted through the bite of infected *Simulium* blackflies, that breed in fast-flowing streams and rivers. It can cause intense itching, disfiguring dermatitis, eye lesions and over time blindness. It is endemic in 30 countries in sub-Saharan Africa mainly in rural communities. In most of these countries onchocerciasis constitutes a public health problem and a serious obstacle to socio-economic development. Onchocerciasis is also prevalent in a few countries in Latin America and in Yemen.

96% of the 125 million people world-wide at risk are in Africa and 99% of the 18 million people infected with the disease live in Africa. About half a million people are blind or visually impaired due to the disease. Onchocerciasis also causes ugly skin disease with depigmentation and severe unrelenting itching. People with the disease often have low self esteem, experience social isolation, and worry that they will never marry. Children are distracted in school due to constant itching.

Before large-scale coordinated efforts to control the disease the risk of onchocerical blindness was very high along the riverine breeding sites of the blackfly vector in West Africa. Blindness affected up to 50% of adults in some areas, and people abandoned the fertile river valleys for fear of contracting the disease. Poverty and famine increased. In the 1970’s, economic losses were estimated at US$30 million, and onchocerciasis became a major obstacle to socioeconomic development.

**Treatment and control of onchocerciasis**

Large-scale efforts to control the disease started in 1974 with the launching of the Onchocerciasis Control Programme (OCP) to eliminate the disease first in seven, and eventually in eleven West African countries. OCP’s strategy was vector control to kill the larvae of the blackfly vector through aerial spraying of larvicides on fast flowing rivers and streams, and hand spraying of breeding grounds. Spraying continued for more than 14 years, even through civil and regional conflicts, to break the life-cycle of the parasite. Vector control was later combined with treatment of eligible populations with ivermectin (Mectizan) when the drug was discovered and made available to the people in endemic communities.

The African Programme for Onchocerciasis Control (APOC) was set up in 1995 to eliminate onchocerciasis as a disease of public health importance in Africa in the other endemic countries outside the OCP zone. APOC’s strategy is CDTI – Community-Directed Treatment with Ivermectin. CDTI relies on active community participation to distribute ivermectin treatment to people who need it. This successful strategy is now being extended to include delivery of other health interventions, such as insecticide-treated nets for malaria prevention, and vitamin A distribution.
Research

APOC’s operations and activities have always been guided and based on research and evidence. Research results are used to determine all policies for control activities. APOC’s main research partner is UNDP/World Bank, WHO Special Programme for Research & Training (TDR). APOC also works with universities and other research institutions.

One of the challenges facing APOC at the beginning was to determine the delivery method most capable of eliminating oncho as a public health problem? A multi-country study carried out by TDR concluded that distributors selected by the communities with support from their communities are able to carry out the distribution of Mectizan® tablets efficiently, give the correct dosage, exclude those who should not be treated and report on the distribution.

Policy

All research results are discussed at the Committee of Sponsoring Agencies (CSA) which makes recommendations to the Joint Action Forum (JAF) for approval before implementation. In 1997 The JAF approved and adopted the Community-Directed Treatment with Ivermectin (CDTI) as the programme’s main drug delivery strategy.

Implementation

The APOC Strategy - CDTI

The Community-Directed Treatment with Ivermectin (CDTI) adopted by APOC in 1997 relies on active participation and promotes community ownership and empowerment of communities. Communities take responsibility for ivermectin distribution and decide how, when and by whom the ivermectin treatment should be administered. CDTI has proved very successful and in the rural areas where health services are weak or sometimes even non-existent, it is contributing significantly to reducing the onchocerciasis burden in Africa. Increasingly this strategy is now being used by communities to bring other health interventions to the people who need them most.

The Mectizan Donation Programme set up by Merck administers the procurement and delivery of the drugs to countries that need and request it. The MDP works closely with ministers of health and other partners.

Where APOC works

Out of the 19 countries REMO results showed that four had mainly hypo-endemic areas with small pockets of meso-endemic communities and so would not require mass drug administration. Clinic-based treatment was therefore recommended.

APOC therefore works in the remaining 15 countries: Angola, Burundi, Cameroon, Central African Republic, Chad, Congo, Democratic Republic of Congo, Ethiopia, Equatorial Guinea, Liberia, Malawi, Nigeria, Sudan, Tanzania, and Uganda and four ex-OCP countries: Cote d’Ivoire, Ghana, Guinea Bissau and Sierra Leone.
African Programme for Onchocerciasis Control

APOC... in brief

Country onchocerciasis data

15 years of APOC

Data: 2009
15 years of APOC

APOC... in brief

"If you want to go fast, go by yourself, if you want to go far, go with others" (African proverb)

By Dr Grace Fobi

Onchocerciasis is not only the world’s second largest cause of infectious blindness but also causes severe itching, inflammation, swelling and skin disfigurement that have serious socio-cultural implications. Fear of the disease often caused people to abandon fertile lands which in turn led to an increase in poverty and famine and constituted a major obstacle to socioeconomic development.

Efforts to control river blindness in sub-Saharan Africa started several decades ago. In the 1950s and 1960s attempts were made to control the disease on a small scale in the hardest-hit areas (Volta River basin, Benin, Ghana, Cote d’Ivoire, Mali, Niger, Togo, Burkina Faso) but such uncoordinated national control efforts did not produce any lasting results because of the ability of the blackfly that transmits the disease to cover long distances and cross borders. Re-invasion was a very common occurrence and this made uncoordinated national control efforts ineffective.

At an international conference in Tunisia in 1968 participants concluded that the disease could be controlled if addressed on a sufficiently large scale. Scientists from WHO and other experts contributed to the preparation of a regional control plan. Several donors expressed interest. Thus a partnership was born, and the Onchocerciasis Control Programme (OCP) was formally launched in 1974 to eliminate oncho as a public health problem and mitigate the negative impact on the social and economic development of affected areas.

The OCP initially included seven countries, WHO, the World Bank, the UN Development Programme and the UN Food and Agriculture Organization. Participation eventually increased to eleven countries in West Africa with more than 25 donors, some non-governmental organizations (NGOs) and numerous rural community groups.

The sustained commitment of bilateral and multilateral donors, NGDOs, national governments and other partners involved in the OCP made this programme a major and impressive public health success story that continues till today. Transmission of the disease has been virtually halted in almost all the targeted West African countries, 600,000 cases of blindness were prevented, and more than 20 million children born in the OCP area are now free from the risk of contracting river blindness. About 25 million hectares of arable land is safe for re-settlement.

It was indeed this success and the same commitment and unwavering support of the donors and NGDOs and other partners that led to the creation of the African Programme for Onchocerciasis Control (APOC) in 1995 to control river blindness in the non OCP endemic countries in Africa.

The historic pledge by Merck to donate Mectizan “to anyone who needed it, for as long as it was needed” marked the start of the world’s longest ongoing medical donation programme, and one of the largest public-private partnerships ever created. APOC is a unique global partnership which brings together 19 participating countries with the active involvement of the Ministries of Health and their affected communities, several international and local NGDOs, the scientific community, the private sector (Merck & Co., Inc.), several multilateral and bilateral donors, UN agencies and more than 120,000 rural African communities.

The success and strength of this unique global private-public partnership has been demonstrated countless times in the past 15 years. Starting with only four projects in 1996, APOC has scaled up operations and today has achieved community delivery of over 1.3 billion tablets of ivermectin, administered 447 million doses of treatment and has CDTI projects operating in 91% of the APOC area protecting 96% of the 94 million people targeted with an overall treatment coverage of 89%. Such significant achievements could not have been possible without the steadfast and generous support of the APOC partnership.

This special public-private partnership has worked so well that it now faces a new challenge: the shift from control to elimination. Given the successes of the past there is no doubt that the partnership can meet this new challenge and rid Africa of onchocerciasis.

Dr Grace Fobi

is Community Ownership and Partnership Officer at APOC
APOC... in brief

APOC’s unique public private partnership

15 years of APOC

APOC Participating Countries
- Angola
- Burundi
- Cameroon
- Central African Republic
- Chad
- Congo
- Democratic Republic of the Congo
- Equatorial Guinea
- Ethiopia
- Gabon
- Kenya
- Liberia
- Malawi
- Mozambique
- Nigeria
- Rwanda
- Sudan
- Uganda
- United Republic of Tanzania

Ex-OCP
- Cote d’Ivoire
- Ghana
- Guinea Bissau
- Sierra Leone

NGDO Partners

Full Members:
- Charitable Society for Social Welfare
- Christoffel-Blindenmission
- Helen Keller International
- IMA World Health
- International Eye Foundation
- Light for the World
- Lions Club International Foundation
- Mectizan Donation Program
- Mission to Save the Helpless
- Organisation pour la Prévention de la Cécité
- Schistosomiasis Control Initiative
- Sight Savers
- The Carter Center
- United Front Against River Blindness
- US Fund for UNICEF

Associate Members:
- CNTD
- IAPB
- Merck

DONORS: Contributing Partners
- African Development Bank
- Belgium
- Calouste Gulbenkian Foundation
- Canada
- France
- Germany
- Kuwait Fund
- Luxembourg
- Merck & Co., Inc.
- The Netherlands
- Norway
- OPEC Fund
- Poland
- Saudi Arabia
- Slovenia
- UNDP
- United Kingdom of Great Britain and Northern Ireland
- United States of America
- World Bank
- World Health Organization

Research Partner
- UNICEF /UNDP/World Bank/WHO Special Programme for Research and Training in Tropical Diseases (TDR)

Private Sector
- MERCK & Co., Inc.

146,000 Endemic Communities
I must have driven past the APOC building on Avenue Naaba Zombré in Ouagadougou, Burkina Faso countless times before April 2010. I never really paid much attention to the building as there was nothing much to see except this nondescript wall with a small part of a building visible from the outside. There is a big sign on the pavement alright that reads, “APOC / MDSC Headquarters”, but it did not tell me much. I doubt many people paid attention except if they had business there.

Last year for the first time I entered the gates of this structure to take a recruitment test. You can imagine how surprised I was to see several buildings in the large compound. In fact I felt quite intimidated and my steps did indeed falter. The thought in my mind was: this modest looking building from the outside has a lot more to it. I now felt even more honoured to have been short-listed to take a test for the position of translator.

Walking down the corridors to the room where the test was being held and counting so many doors I began to imagine the importance of the work being done within and knew with all my heart that I wanted to be part of this organization.

My prayers were answered and I was recruited. I joined the APOC Programme in April and it was during the briefing sessions I had with the different units of APOC that first week that I began to have some idea of the scope and magnitude of the work and operations of the Organization. This building housed the management of a network of people from all over the world managing and coordinating operations that bring vital health intervention to tens of millions of people in Africa. The nondescript building and walls I used to see from the road outside now took on a big meaning and became its actual size – that of a global programme.

It was fascinating learning about the work of APOC and getting to know how it all fitted together, from the work done at the headquarters in Ouagadougou, to the contribution of donors and NGDO partners worldwide to the affected communities who were the final beneficiaries of the programme. I thought I had seen and learnt the full scope of the programme during the first seven months at headquarters but it was when I attended the 16th session of the Joint Action Forum (JAF) in Abuja in December 2010 that I realized how truly impressive this Organization was. The JAF is the governing board of APOC and brings together, once a year, the finest people from different walks of life but all with one common goal – to control and eliminate onchocerciasis in Africa.

It was heartwarming to feel the commitment of bilateral and multilateral donors and NGDOs from the four corners of the world, dedicated international scientists, representatives of pharmaceutical companies from the West, Ministers of Health from APOC and ex OCP countries, coordinators of National Onchocerciasis Control Programmes who had come to this meeting with one purpose in mind - to review and guide APOC operations to ensure that the job of controlling and eliminating onchocerciasis will be done. What a remarkable partnership!!

I thought of my colleagues who had stayed behind in Ouagadougou and wished they were in Abuja to witness the forum that they, in the day to day conduct of their different tasks, had also contributed to. Indeed this Forum was made possible because of what goes on in the offices in that seemingly nondescript building in a quiet street in Ouagadougou.

Dr Raogo Kima is translator at APOC
When APOC started operations in 1996 it was obliged to start small because, though its mandate to eliminate onchocerciasis as a disease of public health importance and as an important constraint to socio-economic development throughout Africa was clear, there were many unknowns and challenges. Some of them quite daunting:

41.9 million people were estimated to be infected with the disease, 29.7 million were suffering with persistent itching and skin lesions, approximately 400,000 people were blind and almost a million had impaired vision. It was imperative to act fast and effectively.

In 1996 APOC could only launch four CDTI projects in countries (Malawi and Uganda) that were already carrying out community based treatment. Today, however, thanks to its unique public-private partnership and its philosophy of basing the implementation of its operations on research results and evidence, APOC can boast of many ground-breaking successes.

Since 1997 APOC has achieved the following:

- Almost 70 million people treated with ivermectin in 2009, reaching 75% of the target population (90 million).
- A cumulative total of 447 million ivermectin treatments administered
- CDTI projects operating in 96% of target countries protecting 94 million people
- 91% of APOC area covered geographically
- 89% therapeutic coverage
- 146,000 communities engaged in CDTI
- A cumulative total of 1.3 billion ivermectin tablets delivered by communities
- Ivermectin treatment scaled up in 5 post-conflict countries
- 34 medical and nursing schools to incorporate the teaching of the CDI strategy in their curricula (9 Eastern and Southern and 11 West and Central African countries - 20 countries across Africa).

From 1996 to 2009 APOC has trained people in the following areas:

<table>
<thead>
<tr>
<th>Area</th>
<th>Number</th>
</tr>
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<tbody>
<tr>
<td>Disease mapping</td>
<td>1,500</td>
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<tr>
<td>CDTI (MoH &amp; NGDO staff)</td>
<td>80,000</td>
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<td>Trainers for SAE management</td>
<td>105</td>
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<tr>
<td>Data management &amp; analysis</td>
<td>900+</td>
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<tr>
<td>M&amp;E of projects</td>
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<tr>
<td>Entomology</td>
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<td>Epidemiology</td>
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<td>MPH (Masters in Public Health)</td>
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<td>Financial management procedures</td>
<td>350</td>
</tr>
<tr>
<td>Resource mobilization</td>
<td>151</td>
</tr>
</tbody>
</table>

Cumulative number of community selected members trained as CDDs (1996-2009)

The impact of APOC activities is also remarkable:

- 120 million people at risk protected from contracting the disease
- 86% reduction of severe itching
- More than 500,000 cases of blindness prevented
- An average of 375 African professionals trained in technical and financial management skills annually
- Economic rate of return estimated at 17% on funds invested
- Chad, Cameroon, Nigeria and Uganda showing evidence of being able to stop ivermectin treatment as transmission of infection has been interrupted.
How far APOC has come

Shrinking the map

Two for the price of one: moving from control to elimination of onchocerciasis with ivermectin treatment alone

By Moukaila Noma

Fifteen years ago when APOC was established in 1995 its mandate was to eliminate onchocerciasis as a disease of public health and socio-economic importance throughout Africa.

With the start of operations in 1997 and launch of its Community Directed Treatment with Ivermectin (CDTI) strategy, APOC’s aim was to encourage communities to own the programme and empower them to direct and implement the distribution of ivermectin themselves. The best that could be hoped for was that APOC - building upon the success of the Onchocerciasis Control Programme in West Africa (OCP), which was on the verge of eliminating the disease from 11 West African countries, and the pledge of Merck and Co., inc. to provide Mectizan free of charge to all that needed it for as long as needed - would establish sustainable control in the remaining 19 countries in Africa, where the disease is still a public health problem.

Mass treatment with ivermectin has indeed been successful in controlling river blindness as a public health problem, but it was not known whether it could interrupt transmission of the disease and eliminate the parasite so that treatment could be stopped. In fact many scientists doubted that onchocerciasis elimination was feasible in Africa although this had been achieved in some areas of the Americas.

The doubts have now been removed. The results of the study conducted in three hyper-endemic foci in Senegal and Mali where treatment with ivermectin alone has been going on for 15 to 17 years (Diawara et al, PLoS Negl Trop Dis 2009; 3(7): e497) have shown that onchocerciasis elimination is feasible with ivermectin treatment in some foci in Africa.

This is an exciting time for APOC, its donors and partners because what started out as a programme to control river blindness has received an unexpected windfall and with the proof of principle of elimination of onchocerciasis with ivermectin alone now clearly established it’s like getting two for the price of one. Epidemiological evaluation results (2008-2010) have shown that elimination of onchocerciasis infection is feasible in Nigeria, Cameroon, Chad, Uganda and Tanzania. APOC has been given an additional mandate: to determine when and where ivermectin treatment can be stopped, and provide guidance to countries preparing to stop ivermectin treatment. APOC is well on the way to shrinking the oncho map of Africa.

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Dr. Moukaila Noma is the Chief of the Vector Elimination Unit
I joined the vector control unit (VCU) of the OCP in August 1999 as technical assistant and was responsible for the following tasks:
- Training nationals in technical entomological evaluations (capture, morphological identification, dissection of female blackflies, prospecting of larval breeding sites)
- Training nationals in ground spraying
- Sensitization of political, administrative and traditional authorities, the media and the people
- Data entry of capture and dissection of female blackflies
- Extraction and processing of data for the VCU unit
- Development of entomological maps for weekly briefing

These were all very dynamic and enriching activities that I carried out with great passion, until the closure of the OCP in 2002. Professionally speaking it was a very fulfilling and exciting time of my life. In the area of sensitization I worked very closely with the people on the ground on various themes such as biology and nuisance factor of the *Simulium* blackflies, vector control methods, insecticides, environmental pollution, ivermectin distribution and motivation of community distributors. The work was quite varied and included fieldwork, weekly radio briefings, production of summary reports, training workshops and brain storming meetings to exchange ideas.

I joined APOC in January 2003 working in the Epidemiology and Vector elimination unit, but with other tasks, albeit contributing in my own small way to the achievements of the objectives of this new programme. It was with great joy and excitement that I welcomed the opportunity, a few years later, to put to use my experience from OCP for the benefit of APOC in Tanzania, I was part of a team carrying out ground larviciding using environmentally safe insecticides, prospecting for *Simulium* blackfly breeding sites and dissection of female blackflies. During these activities we were called upon to respond to the questions asked by the people and reassure them about the safety of the different products poured into the rivers, and their impact on the environment, the fish, the waters, and of course on the people living near the rivers.

After the successful aerial larviciding campaigns in Bioko, Equatorial Guinea in 2005 an entomological surveillance programme was set up, and in 2006 I participated in the implementation of this programme and led the entomological surveillance missions. These included collecting capture data, dissection of female blackflies and prospecting of possible breeding sites of *Simulium damnosum*, the vector of the disease. In Bioko, in collaboration with the oncho team I also sensitized the people on the need for total involvement of the local population in entomological surveillance in order to obtain quality data, which is so vital for the onchocerciasis vector elimination certification process. We also had to sensitize the people on the need for communities to take up full ownership of CDTI to ensure that their villages are rid of river blindness.

For me, the success of the OCP and APOC programmes is a combination of all these experiences, both individual and collective, put together to make a whole.

*Mr Dieudonné Fao is data entry and data management assistant*
Gender issues are now emphasized in all of the programme’s plans and activities. This is all the more relevant in that community ownership cannot be realized without the full and conscious involvement of women and young people - women being the most important here. Especially since in almost all African countries women make up more than 50% of the population. And as regards onchocerciasis, more than 61% of people treated in meso and hyper-endemic areas in fourteen out of the fifteen APOC countries carrying out CDTI are women.

It is therefore urgent and most relevant for women to be at the centre of the management of the disease at community level. Indeed, ownership without empowering women marginalizes the majority of the population.

Working to ensure that women and young people (girls as well as boys) take up the responsibilities due to them, by their sheer numbers and by the extent of their presence in women’s groups and organizations, is the new leitmotiv for APOC. To ensure women take up their rightful place within the community and in community health management institutions, become pillars of CDTI and work towards community ownership and community self-empowerment is now a major objective for APOC and all its partners.

APOC is fully aware that neither sustainable oncho control nor elimination can be achieved without the full and conscious participation of young people and women in the management of onchocerciasis and all other community health issues.

It is for this reason that APOC has developed a strategy for gender mainstreaming in integrated participatory community health management as part of the CDTI strategy. The launching of the implementation of the strategy has started to produce some promising results that must be entrenched and extended to cover all regions of all 19 APOC countries, as well as the ex OCP countries that may be considering elimination.

In the Central African Republic, in all five prefectures where oncho control activities are carried out, action plans for gender mainstreaming and promotion of female leadership for equitable community leadership have been prepared. These plans will soon be implemented in the areas and communities concerned.

Male adults and youths, doctors and head nurses have decided to associate women in all activities as CDDs by setting up mixed teams to distribute ivermectin and carry out surveys.

One CDD and some female community leaders have started a door-to-door campaign to sensitize the women, their husbands, children and parents to encourage them to be fully involved, with the blessing of the entire community. One CDD started a theatrical group to sensitize the women and men in the villages about the need for women to participate actively in the fight against oncho and other NTDs at community level.

This is true also of Cameroon where a pool of gender resource persons striving for the promotion of female leadership has been constituted. It is hoped that such groups will become firmly established and will be extended to the whole of Central Africa. The same movement is also on going in Malawi, Tanzania, Nigeria Equatorial Guinea, Burundi, Uganda and will hopefully start in Chad this year.

APOC is fully committed to ensuring that women play a major role in CDTI activities at community and national level. The CDI strategy also provides them with a platform for more involvement in the control of other NTDs.

Dr Daouda Diop is gender specialist /APOC
When APOC was launched in 1995 one of the major challenges it faced was to determine where to carry out ivermectin treatment. The data on onchocerciasis endemicity in APOC countries were very inadequate. There were some historical data based on studies carried out in foci in Cameroon, Nigeria and Burundi but clearly more evidence-based data were needed since the APOC objective was to target the most highly endemic communities.

On the basis of available data the WHO Expert Committee on onchocerciasis had estimated the number of people infected in the geographical area of the Programme at 13,702,000. It was important to update the prevalence data in order to identify the populations infected or at high-risk of being infected by the disease. Given the wide extent of the Programme, a rapid and reliable method for evaluating the prevalence of onchocerciasis was required to determine the areas where mass administration of ivermectin is a priority.

A research study conducted by WHO/TDR made it possible to develop a rapid and non-invasive method called Rapid Epidemiological Mapping of onchocerciasis (REMO) that could be used to identify and map communities at high risk from onchocerciasis quickly and cheaply. The method used to assess oncho prevalence was the invasive skin snip frowned upon by communities and the international community because of the risks of HIV/AIDS. REMO was therefore a welcome alternative.

Mapping the road for CDTI was indeed a major challenge:

The first step was to consult existing maps to identify major waterways and the primary (closest to the river) and secondary villages along them. Next, a sample of 2-4% of villages in the area is assessed for the presence of onchocerciasis by feeling for sub-cutaneous nodules in 30-50 adults in each village. The adults should be at least 20 years old and should have been living in the village for at least ten years. The data collected are integrated into a Geographical Information System (GIS).

Based on the results of the REMO exercise three types of operational area are identified:

1. **Definite-CDTI area** means that onchocerciasis is highly endemic and constitutes a public health problem and mass ivermectin treatment is a priority.

2. **No-CDTI area** has low or no transmission of *O. volvulus* and oncho is not considered a public health problem. Clinic-based ivermectin treatment may be provided where there is transmission.

3. **Possible-CDTI area.** Here the epidemiological pattern is not clear and may require refinement of the map through further surveys.

REMO results show that in four APOC participating countries, Gabon, Kenya, Mozambique and Rwanda the levels of oncho endemicity were below the threshold for CDTI. Clinic–based ivermectin treatment was recommended where necessary.

REMO has helped countries to identify where onchocerciasis is a public health problem, to determine where a CDTI project should be established, the number of people at risk of contracting the disease, and who should benefit from ivermectin mass treatment. With REMO data it is possible to estimate the quantity of ivermectin tablets required to carry out a cycle of treatment given an average of three tablets per person per treatment cycle. And for APOC Management, knowing the number of the population at risk in a project is useful for financial estimation of its cost.

**REMO results have been vital for defining the road map for CDTI implementation**

One of the outcomes of conducting REMO surveys is the production for each country of 2 types of map: an epidemiological map showing the geographical distribution of the disease and an operational map (“CDTI priority map”), where a red colour is used to show the geographical areas where communities should conduct mass distribution of ivermectin to control onchocerciasis as a disease of public health importance. The epidemiological map provides useful information to the scientific community and the CDTI map is used by the Ministries of Health and their partners as an advocacy document to mobilize financial resources and create a broad partnership to fight river blindness.

To date, the mapping of the distribution of onchocerciasis is completed in Africa with more than 13,000 villages visited and over 470,000 people examined in the 19 African countries.
APOC has mapped the distribution of River blindness in sub-Saharan Africa (surveyed >13,000 villages in 19 countries)

> 478,000 people examined

Communities in need of ivermectin located in red areas

REMO map of APOC countries

120 million people at high risk in remote areas in Africa
The occurrence of severe adverse events (SAEs) in areas with co-endemicity of *Loa loa* and onchocerciasis has been one of the serious challenges APOC has had to face. SAEs can be very serious and sometimes even fatal. Research studies showed that patients with a high intensity of *Loa loa* infection were more likely to develop severe adverse neurological reactions following ivermectin treatment. Further studies revealed a close relationship between the prevalence of high *L. loa* microfilarial loads in endemic communities and the prevalence of microfilaraemia, and suggested that a microfilarial prevalence of 20% can be regarded as the threshold above which there is an unacceptable risk of occurrence of severe adverse reactions (SAEs) with ivermectin treatment.

APOC needed to find a way to identify communities at high risk of severe adverse events (SAEs) with ivermectin treatment.

Based on a study in Cameroon and Nigeria in 2001 by TDR, the Rapid Assessment Procedure for *Loa loa* (RAPLOA) was developed and was approved by JAF. With the use of individual questionnaires the RAPLOA method makes it possible to assess the prevalence of history of eye worm in a community. The Calabar swelling is one of the main clinical sign of loiasis. A 40% prevalence of eye worm history being equivalent to 20% microfilarial prevalence, APOC has been able to map the areas where the risk of occurrence of severe neurological reactions is high in the case of ivermectin treatment.

From 2002 to 2010, a total of 381,575 persons were interviewed in 4798 villages in 11 sub-Saharan African countries during RAPLOA surveys. Based on the results of these surveys and using GIS tools and geo-statistical analysis methods, a map of the estimated prevalence of eye worm history in Africa has been developed and shared with other partners in NTDs control/elimination programmes. This map is useful for oncho control and LF elimination programmes for the following purposes:

- Plan training of community volunteers for early detection of SAEs,
- Train health workers in the management of SAE cases
- Assist partners to provide support to health systems in countries by making available drugs and a minimum of health equipment for the safe distribution of ivermectin.
- Predict where ivermectin treatment for onchocerciasis can be safely implemented
My first encounter with river blindness was in April 1969. At that time I was a young secondary school teacher at Navrongo Secondary School in Upper Region of Ghana. I was asked by the School Christian Fellowship if I would go and help plough some land for a village called Kulmasa situated in the valley of the Red Volta just North of Kongo. I was brought up on a farm in the UK and knew the fundamentals of ploughing. When I arrived at the village I was absolutely shocked to see that the only people in the village with any sight were children. All the adults were blind. Of course this village – like many of the villages in valleys all over the West African region – did not survive; much of the best farmland in the region was lost to onchocerciasis.

By 1978, I had become the Principal of a technical/vocational school in Zuarungu (Upper Region of Ghana), a school that undertook contracts in order to pay its way. We were asked to build a rehabilitation centre at Binaba, a joint project between the Commonwealth Society for the Blind (now SSI) and the Christoffel Blindenmission (now CBM). The aim of the project was to train farmers who had become blind through onchocerciasis to farm again – the main crops grown were onions, easily marketable.

We built the rehabilitation centre and the late Mr Klaus Seyffer (who later became CBM Continental Director for Africa) moved in. My interest in the rehabilitation of farmers blinded by Onchocerciasis started at this point. I learnt that CBM had developed a network of rehabilitation projects in Ghana, Burkina Faso, Cameroon, Togo, Sierra Leone and DRC. These projects were all very successful and thousands of farmers blind from onchocerciasis became productive again.

In 1983 CBM offered me a position to work with blind people in Niger Republic. After an evaluation of the situation, I set up a project in Tamou, south of Niamey, and once again I was in ‘oncho country’. By this time, thanks to the OCP (Onchocerciasis Control Programme) all fast flowing rivers had been sprayed to kill the ‘blackfly’ that spreads onchocerciasis. Every month, the helicopter would very “faithfully” spray us (I lived near the river) and a team would come regularly, roll up their trouser legs in order to catch specimens of the blackflies to test them. Other teams would also come and “skin snip” the community members to search for evidence of filaria (the parasite causing the disease). I started a CBM supported programme to train farmers blind from onchocerciasis to farm again. I lived in Tamou from 1984-1990 by which time the programme had become cross disability and had spread as far as Niamey. The work in Taraba was later taken over by a local NGO (MITOSATH). The success of the APOC programme in Nigeria has been fantastic: it is now difficult to find people blinded by onchocerciasis in the states we are working in, and there is a real possibility that the disease will be eliminated.

In addition to these marvellous oncho results, a system of community directed distribution of medicines and other health interventions (CDTI / CDI) has developed to include trachoma activities, distribution of Vitamin A, identification of cataract patients and now lymphatic filariasis (elephantiasis) – what a fantastic success!!

For the most part of my long stay in Africa, I seem to have been involved with river blindness control from the early difficult days (when the only treatment was banocide, a mercury based treatment that made patients scratch until they bled) to the present day where cases of blindness from onchocerciasis are increasingly difficult to find in many West African countries.

I feel a sense of pride whenever I hear or read about these oncho successes, and I count myself privileged to have been part of CBM’s contribution to oncho control in Africa.
38-year-old Zaki Baushe holds a thin metal needle in his left hand as he deftly angles a thread through its eye. As a tailor in Akwanga local government area, Nasarawa State, Nigeria, it is an act that he has repeated thousands of times throughout his life. Yet several years ago, Baushe was in danger of losing this skill entirely.

In 2006, Baushe noticed that his vision was fading and it became difficult for him to perform the simplest of sewing tasks. His blindness only worsened over time. Not knowing the cause of his condition, he was forced to abandon his old treadle sewing machine. Each day he stood by helplessly, unable to return to the living that had sustained him and his family.

Dr. Emmanuel Miri, resident technical adviser for the Carter Center’s health programs in Nigeria, discovered Baushe’s case during a routine visit to administer medicines in Kambre. Listening to his symptoms, it was clear to Dr. Miri that Baushe was suffering from river blindness, also known as onchocerciasis.

Baushe was surprised to learn that his affliction was caused by the repeated bites of blackflies that swarmed near his village. Through their bites, some of these flies had deposited larvae into his body, which grew into parasitic worms. However, it was the offspring of these worms, called microfilariae, that were the principal cause of his troubles. They swarmed under his skin, causing intense itching and skin discoloration, and had migrated into his eyes—causing lesions that had damaged his sight.

Nigeria is the most endemic country in the world for river blindness, accounting for as much as 40 percent of the global disease burden. It is estimated that up to 27 million Nigerians living in 32 endemic states need treatment for river blindness.

Dr. Miri knew that he could change Baushe’s life through the dose of a small white pill called Mectizan®. The drug, donated by Merck & Co. Inc., and distributed to the Nigeria National Onchocerciasis Control Programme through The Carter Center, safely treats river blindness by administering Mectizan which kills the microfilariae in the body. Not only does the drug stop the progression of the disease, but it also can reverse some of the damage caused by the parasite.

After taking several annual doses of Mectizan, Baushe’s sight improved dramatically. He was able to thread a needle with ease, and he returned joyfully to his work.

Since 1989, the Nigeria National Onchocerciasis Control Programme has grown from treating 49,566 people with Mectizan its first year of operation, to the world’s largest Mectizan distribution programme. Annually, The Carter Center now assists more than 5.5 million treatments in nearly 8,000 villages.
In the early 1990s, fear dominated the community of Jawe parish, found in Mbale district, Uganda. The Jawe clan's neighbouring parishes, Buryango and Bulweta, were being plagued by an unknown ailment that attacked a person's skin and eyes. The disease left its victims unable to care for themselves or their families.

At a community meeting in 1993, parish member Edirisa Wangwenyi told the attendees about the disease that was attacking their neighbours. He said the disease plagued sufferers with skin like that of a lizard — very hard, dry, and peeling off like a snake's skin. Its victims scratch themselves nonstop every day and tear apart their bodies with stones and broken pieces of pots. He described the sufferers as a cursed race and warned all not to associate with them to avoid getting their sickness. The community members heeded Wangwenyi's instructions, although many themselves had unknowingly already been infected by the disease — onchocerciasis.

Five years later, the Jawe subcounty chief received a box containing ivermectin tablets and was told that they combated onchocerciasis. The parish chief selected Wangwenyi to distribute the medicine. Wangwenyi soon learned that he and many others in his parish also had the dreaded disease. The instructions he received were clear: “Begin treatment with yourself”.

Wangwenyi walked house to house to distribute the ivermectin, taking several months for distribution. Many people refused to take it, and some experienced side effects. Wangwenyi had to assure the people that the side effects would pass, and that he too was taking the ivermectin. Treatment coverage in the community was low for some years, in part because of resistance to taking the drug.

In the second year of distribution, two people per parish were chosen to assist Wangwenyi, and communities were empowered to make decisions on how to run the programme. The Carter Center came to assist the Uganda Ministry of Health in the programme and worked to strengthen community structures through a kinship system. The use of kinship structures increased distribution and community acceptance, and over the years the terrible manifestations of onchocerciasis disappeared as treatment coverage improved.

Recently, Wangwenyi expressed his gratitude to The Carter Center and other donors for their unending support. "The prisoners of onchocerciasis have been set free," he said.
Control of onchocerciasis in Sierra Leone actually started in the late 1980s but during the civil war (1991 – 2002) the National Onchocerciasis Control Programme (NOCP) activities dwindled and completely stopped by the end of 1998. Results of epidemiology evaluations carried out in the immediate post-war period (2002 – 2004) showed that the situation had not only worsened in previously endemic areas, but that onchocerciasis was now present in areas where none was noted in the past. Prevalence of onchocerciasis was still up to 80% in some places and active transmission was still on-going.

Efforts to treat for onchocerciasis in 2003 and 2004 were not successful, with therapeutic coverage of just 35% and 28% respectively, and very patchy geographic coverage. After the civil unrest was officially declared over in 2002, the NOCP resumed operations in 2003 under the Special Intervention Zone (SIZ) project, which was managed by the African Programme for Onchocerciasis Control (APOCH). Between 2003 and 2004 efforts to restart Ivermectin delivery across the country yielded very unsatisfactory results with therapeutic coverage in 2004 below 40% (expected: 85%).

An investigation carried out by APOCH in 2004 concluded that the Community-Directed Treatment with Ivermectin (CDTI) was poorly understood and improperly implemented. Health workers were still distributing ivermectin and geographic coverage was low. Poor oncho control in Sierra Leone presented a big risk for neighbouring countries like Guinea which had a very low prevalence.

A complete overhaul of river blindness control in the country was the only answer. In 2005 the management of the NOCP was changed and its capacity strengthened though training. Cascade training on CDTI was carried out, social mobilization, health education and advocacy were intensified, and community participation in CDTI was strongly promoted, in keeping with the philosophy of the strategy.

Although there was support for these changes at the highest political level, change was not that easy on the ground. Some of the district health workers were reluctant to hand over drug distribution to communities, seeing a reduction in their benefits and upper hand as health personnel. A lot of coaxing and persuasion needed to be done. Most district health workers and CDDs had to be taught how to complete reporting forms in the field. There were instances when health workers reported that communities (CDDs) had not come to collect drugs from the health facilities. Health workers needed to be shown how to encourage communities to participate more in CDTI, and were encouraged to pay visits to communities and discuss with the village chiefs to explain the role of communities in CDTI.
Sensitization was very important at this stage as proper CDTI was being established for the first time in Sierra Leone. Advocacy meetings were held at national and district levels and community meetings in all 8,451 communities targeted for CDTI each year to maintain community interest, acceptance of the programme and community participation in the implementation of CDTI.

The challenges were many: reaching some of the communities was arduous and perilous at times. Roads were bad and breakdowns of vehicles were common. Some communities had no literate people who could report well and help had to be sought from neighbouring communities. CDDs were dropping out because most expected payment even though it had been clearly stated at the first community meetings held that there would be no payment to CDDs. New CDDs had to be appointed by community members but some communities were not keeping the promises made to CDDs and this de-motivated CDDs. Some items such as T-shirts, and fliers that served as a means of identifying residences of CDDs were provided to motivate CDDs, and this gave them a sense of pride.

The many side effects, (though mild), that occurred when treatment first started, discouraged many from taking Ivermectin. More sensitization needed to be conducted at community meetings to explain that such adverse reactions would reduce with each treatment.

Since 2005, the NOCP has conducted 6 annual mass drug administration (MDA) using the CDTI strategy. Therapeutic coverage has increased from 54.8% in 2005 to more than 65% since 2006. Geographic coverage also improved from 64.3% in 2005 to 98.5% in 2006 and since 2007 has been maintained at 100%. Because of the success of CDTI in Sierra Leone since 2007 the NOCP is now also responsible for treatment of neglected tropical diseases (NTDs) in the country, using the CDTI structure as a platform.

When I was appointed programme manager in February 2005 the pressure from top officials at the Ministry of Health and Sanitation, supporting Partners and the international “oncho world” to turn things around in Sierra Leone within a short period was enormous. The fact that we (the oncho control team) had very limited knowledge of CDTI made it all seem such a daunting task. However with the support of health workers, affected communities, and international partners who had experience of the CDTI strategy in other countries as well as constant technical support from APOC we were able to meet the challenge.

Today, though we are not quite there yet, I know that with the help of our donors and partners we will get there.
Contributing to the re-launch of CDTI activities in the Central African Republic (CAR) after the war.

By Moussa Sow

Successive conflicts in the country had weakened the existing health system, with a total dismantling of health infrastructures in the conflict areas. The Community-Directed Treatment with Ivermectin (CDTI) project in CAR was destabilized, and APOC and the NGDO partner were forced to suspend support to CAR in 2003.

Activities only started again in 2007 with the NGDO partner CBM fully on board. I was appointed technical adviser to provide assistance and help to rebuild the CDTI project.

There was indeed a lot to be done to get the project working again. Technical activities included training and retraining in the CDTI strategy; REMO and RAPLOA surveys to complement information required for drug distribution for oncho and also the occurrence of Loa loa.

Apart from technical and administrative challenges I also had to face certain emotional challenges such as dealing with the mistrust on the part of others already working in the project, as well as find ways to manage cultural and linguistic differences.

Everywhere I went, whether at central level, or in the regions, prefectures or sub prefectures the first challenge was to ensure that I was accepted by my counterparts. I needed to win their confidence, and prove very quickly that I had the necessary expertise that would be a definite plus for the restructuring of the programme and re-launching of activities.

My most enriching contact was with the community. The meetings held in different areas of the project made me realize that whatever the nationality or the ethnic group, these humble communities only wanted to be involved in what they were being asked to do, that is, take charge of their own health using the CDTI strategy as a vehicle.

The case of Mr. Janvier Jean a community distributor (CDD) in Ndomété, central CAR, illustrates how committed the community is to the CDTI project. Mr Janvier has been a distributor since the start of the programme in the country and uses biblical terms as inspiration. He loves to say that “he is waging a crusade against disease and poverty”. During a meeting with some members of the community he asked the coordinator of the NOTF for his “support”. Before the coordinator could reply, a woman (community member) told the CDD that he should not wait for project managers to come from the town to ask such questions, and that the solution to all such problems will be found when they have been discussed by the community with the chief. This shows that the question of acceptance of CDTI and involvement of community members in the strategy is not a problem.

Has oncho control in CAR been a success? I think we can say, ‘yes, it has, but!’ It would be asking too much to expect the country to be at the same level as other APOC countries considering the many conflicts CAR has had to endure. However, the disease burden is lower now than at the start of activities. With the assistance of APOC and the NGDO and other partners as well as renewed political will to increase government financing these challenges will be met.

The key to establishing a sustainable CDTI programme lies in getting all actors to realize and accept that this is not just another health programme but a tool that offers the opportunity to expand their actions to the control of neglected tropical diseases in order to enhance the well being of their most vulnerable populations.

Mr Moussa Sow is APOC Technical Adviser in CAR.
Two decades of civil strife have had an enormous toll on the establishment of health systems in Southern Sudan especially at the community level. Community cohesiveness, however, is quite strong and the spirit of volunteerism to implement CDTI activities exists especially among individuals who have had personal experience with the effects of the disease like having a parent go blind. In addition, there is a strong system of community chiefs and leaders that is highly respected by the communities and this is a good entry point for mobilising and sensitizing for CDTI. Even though the level of performance of the CDTI projects is still not yet what is expected after the number of years it has been implemented, there is a gradual and steady improvement in geographic and therapeutic coverages as shown in the graph below.

The trend of the achievements made in treatment by the Southern Sudan CDTI projects

In spite of these improvements in coverage rates the challenges in CDTI implementation in Southern Sudan are many:

• Despite the situation being calm most of the time, there is always the fear of insecurity reigning again because of the general high level of lawlessness and extremely high culture of conducting revenge attacks. The common causes of conflict arise from competition for resources for the grazing of livestock between different groups of nomadic pastoralists, and also between pastoralists and agriculturalists. Population displacement and even deaths are common following conflicts when cultivated feeds are grazed upon. Such incidences are complicated by counter attacks and destabilize the community. Southern Sudan is quite vast in land area and the road infrastructure is generally not in a good state. Though construction of paved roads has begun in the capital city and along a major highway connecting to Uganda, the rest of the country only has seasonal roads that occasionally get washed away by heavy rains. Movement in the project areas in the rainy season is highly limited because of the state of the roads and the fear of getting stuck. This means that most activities need to be implemented during the dry season. Unfortunately this does not synchronise quite well with the APOC funding and disbursement cycle which means that some activities are implemented in the rainy season.

• With a sizeable proportion of the beneficiary community being involved in cattle rearing activities, there may be a need to change the approach used in order to get these communities to receive their mectizan®. In the drier months of the year, pastoralist families move to grazing areas commonly called cattle camps, as shown in the picture below where hundreds of animals are grazed. This is a major reason cited for missing treatment in the past.

As in any other developing country, the majority of the population resides in rural areas and their main occupations in these rural communities are subsistence farming and nomadic livestock production. Nomadic cattle keeping is mainly practised by the Dinka and Nuer communities who have great sentimental attachment to their cows. In the rainy seasons where there is plenty of pasture their cows are grazed around the usual human settlements. Huge huts are built to protect the cows from being rustled by rival communities. Such huts can house between 50 -100 cows that get loosely tethered around their necks to roof-tall poles

Dr Benjamin Atwine is APOC Technical Adviser in South Sudan
This true story takes place in a village during an epidemiological survey in the north of Benin during the transition period when ivermectin was being introduced to control onchocerciasis. Mr Aboudou Lawani, Team Leader of the epidemiological evaluation at the time talked of a villager, still in the prime of his life who had started to develop blindness. Over the years, and each time an epidemiological evaluation was done it was noticed that the blindness was getting worse and that the gentleman could see less and less. He always complained that he could not understand why he was being asked to do biopsies every time when no one had tried to solve his real problem- cure his blindness.

Explanations about the larviciding treatment being carried out calmed him and convinced him to continue accepting the biopsy. But clearly he was getting more fed up with being asked to do so many biopsies.

When at last the country teams were in possession of ivermectin, it was with great joy that the Benin team arrived at this village to carry out surveillance in conjunction with free mass treatment with ivermectin. At last they could now give some help to the gentleman whose eyesight was getting worse.

On arrival at the village during the sensitization session with the village leaders and elders on the eve of the distribution the team noticed that the villager in question was absent. When asked where he was they were informed that his blindness had become so bad that he could no longer move around by himself.

The team leader asked to be taken to this villager’s home who asked him who he was and what he wanted. After the explanations of the team leader and at the news of the arrival of the drug the villager wanted to know whether it would help him recover his sight.

The team leader had to say no and explain that the purpose of the drug is to prevent blindness and stop transmission of the infection. The old man was very disappointed as was the team leader because he had so much wanted to help this man. The cure had come too late.

This true and sad story shows that we in oncho control have a duty to ensure that ivermectin reaches everyone who needs it, wherever they are, in time to prevent blindness and other suffering and hardship.

Dr Franck Sintondji is APOC Technical Adviser in Chad
My visit to some villages in the Esse District of Cameroon in April 2011, (my first firsthand experience of oncho control activities on the ground) gave me a lot of food for thought, especially as regards the concept of volunteerism in developing countries, and also the selflessness of health workers.

The involvement of pensioners in CDTI activities was quite remarkable. A good number of pensioners from the city had decided to return to their villages after several years living in urban settings, with a different and more modern lifestyle. Re-integration into village life, in the tropical forest with its lush, peaceful and restful vegetation appeared to have been easy, and must have facilitated the involvement of these pensioners in community activities such as the fight against onchocerciasis. These volunteer pensioners (CDDs and ordinary members of the community) are examples of a new generation of volunteers. Since these pensioners already have their personal income this reduces, to an extent, the problem of incentives, especially monetary incentives.

However, this begs the question: what is the ideal age for a CDD? Is it better to recruit young people, often unemployed and unskilled, and more likely to leave the village at the first opportunity to work elsewhere, but who have the advantage of being more fit, given the distances that sometimes have to be covered to do community work. Or, older people, such as pensioners, who are more readily available, with less constraints and expectations about incentives, but who may find it more difficult physically if there are long distances to be covered to conduct sensitization activities. Luckily, the communities themselves solve this dilemma since they choose their CDDs themselves.

I was greatly impressed by the commitment and passion of a CDD; a pensioner in one of the villages that I visited. During our conversation he talked passionately about his commitment to serve his community and his desire to come back to his roots and enjoy the benefits of a peaceful life, and his wish not only to help his community but also to belong (to it again). This is an opportunity that the APOC programme should look into and develop as a channel for advocacy and sensitization.

I also noticed the difficult conditions under which the health staff were working; in this area there was just one nurse for each health post. Difficulties included the very environment in which they were working, travelling in the area along narrow paths that are probably impossible to cross during the rainy seasons. The search for quality in the delivery of services, despite the many challenges, to better respond to the needs of the community in the fight against onchocerciasis, as well as the desire to provide other support to communities are clear testimonies of a dedication that nowadays is not always found among medical personnel in urban areas.

As staff of a partner organization (the African Development Bank - ADB) of the programme, this field experience gave me a clearer insight into the difficulties and sociological realities of oncho control activities on the ground. The ADB supports and funds national and regional poverty reduction strategies and strives to reduce or solve the problems of human development in general, and the CDTI fits aptly into this framework.
**River blindness case study**

Joseph Edogbo.
89 years.
Umomi community Ofu LGA, Nigeria.
Kogi State CDTI.
Kogi State Ministry of Health.

“I know some people in our community that are blind but the cause of their blindness I do not know because I am not health personnel. I came to know about river blindness as a result of awareness created in our community by health workers. The signs of this disease are discolouration of the skin, nodules, itching and a poor eye vision. Before we started treatment with Mectizan it was Banocide, and for more than 10 years now we have been using Mectizan tablets. Since the commencement of treatment I have never heard of any case of blindness in this community”.

“People in the community realised the need for them to be treated, though some individuals in the past did reject treatment due to drug reaction. I as a person can now read my Bible due to improvement in my sight as a result of taking Mectizan tablets. The town crier does announce arrival of the drug, when distribution would take place and for every person to be around, thereafter people will be treated by Paul our distributor from house-to-house”.

*Sightsavers*

**Agnes’ story**

Agnes Tabi of Nfaitock Village, Cameroon

“Before I took Mectizan® I had a rash on my body and my skin would itch. I used to see ‘threads’ in my eyes and sometimes I was scared I would lose my sight. It was the same for lots of the other villagers. But since the Mectizan® distribution has started these problems have reduced.

“I’ve taken Mectizan® for four years and now I feel fine. I have no itching and nothing is wrong with my eyes. All my seven children and my many grandchildren take the tablet too and none of them has a problem with their eyes. One of my sons helps distribute Mectizan® to the neighbourhood.

“Before the programme began there were blind people in Nfaitock, but now there are fewer and the eye sight of the villagers has improved. Everyone in the village knows about the drug and is anxious to keep taking it.”

*Sightsavers*
Support for oncho control from across the ocean

**US citizens making a contribution to onchocerciasis control in DRC**

By Daniel Shungu

**LOCAL SIXTH GRADER SELLS HIS HAIR TO ADOPT VILLAGE IN CONGO**

Marco Kaisth, a West Windsor sixth grader at Grover Middle School, recently raffled off a haircut, one curly lock at a time, to fellow students. His fundraising yielded more than $100. Matching funds from his grandparents and an additional donation brought the total to $250, enough to adopt the 551-person village of Mulangabala in the Democratic Republic of Congo. The adoption funds the treatment of river blindness. Presenting the adoption certificate is D’Anne Hotchkiss, chairperson of the board of UFAR.

**LOCAL NINE-YEAR-OLD BOY ADOPTS VILLAGE IN THE CONGO**

Nine year old James Schultz decided to forego a computer game for himself and instead donated the $250 to adopt a village in the Democratic Republic of Congo (DRC). Sunday night he presented his gift to Dr. Daniel Shungu, Executive Director of UFAR. With his donation, UFAR will distribute a full year’s treatment to fight river blindness in a village in the DRC.

**MIDDLE SCHOOL STUDENTS PROVIDE TREATMENT FOR RIVER BLINDNESS FOR A VILLAGE IN AFRICA**

The Hun Middle School was recently recognized and thanked by Ms. Jean Jacobsohn, treasurer of UFAR, for its efforts to raise funds that brought medication to all 654 inhabitants in the village of Kabove. The Middle School began a collection last year to support UFAR. Middle School students were taught about river blindness last year when UFAR representative Dr. Daniel Shungu discussed his work in the Democratic Republic of Congo to combat river blindness. Following this school-wide presentation, teachers at the school continued the lessons about river blindness and students were encouraged when they learnt that a donation of $250 made it possible for an entire village to receive medication. Students began a Middle School penny war to collect money and they successfully raised and donated $250 to UFAR.
August 1997 – Roughing it at Jeddah Airport (Saudi Arabia)

In August 1997, Dr J.B. Roungou, Dr Uche Amazigo, Dr M. Noma and I travelled to Khartoum via Abidjan, Addis Ababa and Jeddah, to organize the first workshop on APOC Philosophy and CDTI strategy in Sudan and open an Imprest account. We knew before we left that getting to our destination was going to take several days but we thought we would spend these days either in the aircraft or in a hotel. This expectation fell flat when our flight from Addis Ababa to Jeddah was delayed. By the time we arrived in Jeddah, our connecting flight to Khartoum had already left. Since we had no visas we were not allowed to leave the airport to check into a hotel. Our UN Laissez-passer (UN diplomatic passport) did not soften the hearts of the immigration officers, and we had to spend 72 hours at Jeddah Airport (there was no connecting flight for three days!) sitting on the benches in between catching some restless sleep. There was of course no shower facility at the airport so you can just imagine how self-conscious we were all feeling about the sweat under our clothes!! We tried not to complain too much because at least we were given food three times a day. What a relief to be able to finally leave on the third day. Needless to say when we arrived in Khartoum we were completely exhausted, but we did reach the end of the road......

July 1998 – Saved by the baby’s cries, or what???

Three of us left Ouagadougou one Thursday morning in July 1998 for Blantyre in Malawi via Abidjan, Nairobi and Lilongwe to train oncho programme officers in the WHO imprest and management of APOC Trust Funds. The journey from Ouagadougou to Abidjan was smooth. Our take off with Ethiopian Airways from Abidjan that evening was also normal. About an hour after take-off, just when we had started eating dinner the pilot announced that due to some problems, he was returning to Abidjan. We were not allowed to finish our dinner because the hostesses came round to pick up our trays. Every one went silent and all we could do was look at each other. Some people started to pray. A strange thing happened on the plane. When we took off from Abidjan a baby started crying and neither her mother nor the hostesses could get him to stop crying. However when the pilot announced that we were going back the baby suddenly stopped crying. When we landed at Abidjan we learnt that one of the engines of the plane had stopped working. We thanked God for saving us. We had to wait in Abidjan till the next evening to continue our journey. We had, of course missed all our connections but we did get to our destination, Blantyre even though we arrived totally exhausted and it had taken us three days!!

May 1999 – How ever did we survive without cell phones before?

Compared to other missions this one was quite uneventful. Except that in 1999 being in Kabale, South Uganda meant you were completely cut off from the outside world. It was before the advent of cell phones, and telephone communication with the outside world was a major challenge. My daughter was born, back home in Ouagadougou, on 3rd May and it was only when we got back to Kampala on 9th May that I got this happy news!!

February 2002 – Reaching the end of the road even in conflict times

One of my most exciting missions was the one with the former NGDO coordinator Dr Pamela Drameh to Kisangani to set up the Tshopo CDTI project and other CDTI projects in the Northern part of the Democratic Republic of Congo. At that time rebel groups occupied different parts of the country. Kisangani also had its own rebel group.

We flew to Nairobi via Abidjan, and in Nairobi we had to charter a cessa plane to Kisangani via Kigali and Entebbe. The plane was obliged to fly at a low altitude with the risk of being shot down by opposing rebel groups. There was no proper hotel when we arrived and we had to stay in a house transformed into a hotel, without electricity. We had to make do with candles and torches for the night. Apart from UN vehicles, the only means of transportation at our disposal were bicycles. During our stay, we had to pay a courtesy call on the rebel leader. When we were not worrying about being shot down we took time to enjoy the sights and it was quite exciting to fly over the tropical rain forests and Lake Victoria from Entebbe up to Nairobi.
August 2004 – Adventures in post-conflict Rumbek, Southern Sudan

This mission was a life-forming experience in itself. Six of us, Dr Amazigo as team leader, Prof Eka Braide, Dr A. Hopkins, Mr Chukwu Okoronkwo, the late Ms Nene Keita, Ms P. Mensah and I had to go to Rumbek in South Sudan to conduct training on APOC philosophy and financial rules. We first flew to Nairobi via Abidjan and from Nairobi to Lokichogio in North Western Kenya where we had to have a security briefing in a UN humanitarian camp before proceeding the following day to Rumbek on a UN humanitarian flight.

We had no problems landing and taking off from Lokichogio but landing in Rumbek was another matter altogether. What served as a tarmac was only a paved lateritic road and we could see crashed planes when we were landing. By some miracle and the skills of the pilot we landed safely. There was no hotel in Rumbek at that time as all infrastructures had been destroyed during the war. We were taken to a big camp where the workshop was to take place.

We had to sleep in tents in which snakes could easily enter and we needed to queue to use the toilet or take a shower. Our workshop was held under the shade of a tree. It rained one day during the workshop and we had to use plastic sheets to cover our photocopier and projectors and wait for the rain to stop before we could continue with the workshop. One evening, when we were going back to our tents, my colleague, the late Ms Keita, fell into a pit because it was dark. We were worried she could be bitten by snakes, but thank God there was none in the pit. We had to call the guards to lift her out!! What an experience that was.

Travelling for APOC, trying to reach and serve the poorest of the poor is, at times, quite challenging but I would not change it for the world, for each experience has helped me grow. I am deeply grateful for the opportunity to contribute to the work of the APOC programme and make a difference, however small…..
In May 2009 just before joining APOC as a full time epidemiologist I was asked to be part of a team who was heading out to the Taraba State CDTI project in Nigeria to conduct an epidemiological evaluation. This seemed like providence to me, a kind of God-sent opportunity for me to get some first hand field experience from OCP technicians who had been working in the area for decades.

This was my first time to go to Nigeria and I must confess that travelling in the country scared me some having heard so many stories of some of the challenges of travel in that vast country. Still I took my courage in both hands and decided to give it my best shot. When I landed at Lagos international airport, I had to continue by domestic flight and car from Lagos to Jalingo to join the team in Taraba.

The plane made four stopovers before finally landing in Yola in Adamawa State five hours later. I was exhausted and all I wanted was a bed so I could lie down and rest. Unfortunately the journey was not over. This time it continued by car. I was not used to the weather and the heat was unbearable especially in Maiduguri a Northeastern town in the Nigerian Sahel. We arrived in Jalingo late at night after a very exhaustive and long day.

Taraba State in Nigeria is named after the Taraba River which traverses the southern part of the state and its capital is Jalingo. The state was created out of the former Gongola State on 27 August 1991, by the military government of General Ibrahim Babangida. Taraba State lies largely within the middle of Nigeria and consists of undulating landscape dotted with a few mountainous features. These include the scenic and prominent Mambilla Plateau. The state lies largely within the tropical zone and has a vegetation of low forest in the southern part and grassland in the northern part.

I confess I only saw this beautiful landscape later. To tell the truth I was not particularly interested in looking at landscapes at that time of the night. In addition to my extreme tiredness hunger pains were now tormenting me. I had only had a slice of bread and a coke in the plane and my stomach felt as if nothing had gone into it for two days. I was looking forward to a plate of goat pepper soup and rice, which I had been told is a specialty of Nigeria. Imagine my disappointment when we reached our lodgings only to be told that the restaurant was closed for the night. I had to go to bed hungry, and of course sleep was not very restful.

At noon we reached the rest of the team who were already well into the epidemiological evaluation. After a warm but brief introduction to the other members and a brief explanation about the procedure I was attached to a sub team to work with them. We spent the whole day out in the field until it got dark and the microscopist could not see clearly to read the slides. By the time we got back to the small LGA town Gashaka at 9:00 pm all the small restaurants were closed. I had to go to bed hungry again. Clearly this trip was not going well for me, at least not as far as food was concerned!
Travelling for APOC

Adventure in Taraba State, Nigeria

The next day brought another challenge. We needed to get to Gangumi village on the bank of the river Taraba, to continue with our epi evaluation. We had already sent a local messenger on a motor bike to the community the day before to ask for an appointment for us to meet with the entire community. The messenger went by motor cycle and returned late at night and told us we had an appointment at 8:00 the latest. We planned to set out early in the morning at 6:00 am as we had been told that the roads were bad. “Bad” turned out to be an understatement. It took us more than four hours to get to the bridge that was five kilometres from the village. And when we got there the bridge was broken and we could not pass! Frustrated with the situation we had to get back to the town late in the afternoon without doing anything. With the patience of true professionals on a mission we sent the same messenger to the community to explain what had happened and to request another appointment, convenient for them.

Forewarned is forearmed so the next visit we decided on another route and crossed over to the village by boat. We had to leave our cars with the drivers on the river bank and carry all the tables, chairs, microscopes, forms, medicines to the village.

His Royal Highness of Gangumi, the village leader receiving the evaluation team at his palace. His Royal Highness is blind from onchocerciasis. He expressed his satisfaction and joy and gratitude for what the onchocerciasis control program was doing in his village because he said he wanted his children and great grandchildren to always be free of the disease.

Dr Hailemariam Tekle Afework is Epidemiologist at APOC
Community-drug distributors (CDDs) often have to travel long distances to administer ivermectin or provide other health interventions to members of their communities. Many CDDs have indicated that bicycles would help them greatly with their work by making it easier and more efficient as they would be able to complete their tasks in a shorter period of time.

Furthermore, bicycles could be used to help communities in many other ways such as obtaining medical assistance for women during childbirth – something which could be life-saving in view of the high maternal and infant mortality prevalent in many rural areas.

For these reasons, APOC provided funding to purchase bicycles and presented them to selected CDDs in Tanzania, Liberia, Nigeria, the Democratic Republic of Congo, and the Central African Republic. The purchase of bicycles was supported in part by the Global Fund for Neglected Tropical Diseases through a kind donation via the Sabin Vaccine Institute in 2009, of US $250,000. The following testimonies are from long-serving CDDs in Liberia who received bicycles.

By Ukam Oyene

Mr Zinnah M. Barcolleh has been serving as Community Directed Distributor for the past four years. Mr Zinnah is responsible for Japan community and it takes about one kilometre walk to cover the target population of his community. He said his greatest motivation is his desire to serve his community in line with his ambition to become a nurse in the nearest future. According to Mr Zinnah he will continue to serve his people as long as he is residing in the community especially as other people are not too committed to do the work. Besides onchocerciasis he is involved in diarrhoea control and health education in the community. Mr Zinnah is very grateful for the bicycle donated by APOC through the Ministry of Health and the County Health team. It has helped him to overcome the problem of the far distances to reach more people in 2010 compared to the last treatment round.

Mr John B. Sacki is a 30 year old farmer, married with children. He started serving as a CDD in 2009. Mr Sacki covers Wodee and other surrounding villages in the Todee health District of Montserrado County in the North West CDTI Project. He said the bicycle provided to him by APOC is helping him to reach far distances, and more people were treated in 2010. According to Mr Sacki “the distances we cover are not easy, especially where motorbikes or bicycles cannot pass”. However he pledged to continue to serve his community “I am prepared to continue to serve my people, I only need their help for my farm work”. He requested advocacy to the town chiefs to help with community support.

Mr Perry S. Yarkpawolo age 42, married with four children is a farmer and casual worker with medecins du monde, one of the health NGOs providing assistance in his community. He started to serve as a CDD in Belefanai community in Zota Health District in Bong County in the year 2000. He has been a CDD for over ten years. He said with the help of the bicycle his treatment coverage increased in 2010 compared to previous years. This he attributed to his being able to reach numerous households of about 2,376 people scattered over a wide area more easily than before. He said he is committed to serving his people, and expressed happiness over the selection of four more CDDs by the community to join the Mectizan distribution in his community in 2010.
Onchocerciasis and other Neglected Tropical Diseases (NTDs) present a largely hidden burden affecting the most marginalised and voiceless communities living in poverty and conflict zones. They disproportionately affect children, women and persons with disability, keeping individuals and communities trapped in a cycle of poverty.

CBM is working globally with partners in 70 of the poorest countries (population 4.6 billion people) in which almost 500 million persons with disabilities live. They are the purpose and focus of our work.

CBM has been successfully involved in prevention of blindness from onchocerciasis for more than three decades. We closely collaborate with communities, APOC and other partners and stakeholders.

CBM supports the annual treatment with ivermectin through community directed intervention (CDI). We are mainly active in Nigeria, Democratic Republic of Congo, Central African Republic, Burundi and Southern Sudan.

CBM first received Mectizan for individual treatments from Dr Gaxotte of Merck in 1988. By 1990 CBM was working with other international NGOs to form the INGO (International Non-Governmental Organisation) Onchocerciasis Coordinating Group in order to plan Mectizan distribution programmes in Africa, reaching 7 million treatments per year in 1994. In 1994/5 the INGO group entered into a global partnership with Merck, WHO, the World Bank and 19 countries in Africa to establish the African Programme for Onchocerciasis Control. In 2009 CBM supported 8,411,288 treatments with ivermectin through Community Directed Intervention (CDI) programmes.

In our experience, the greatest challenge is working in fragile countries with poorly functional health systems. Weak health systems severely affect both co-implementation and integration of onchocerciasis programmes within Primary Health Care (PHC). While the active role of well-trained Community Directed Distributors (CDDs) is essential for successful programme implementation, high attrition, gender imbalance, and maintaining good motivation can be serious challenges for programme coordinators. Making onchocerciasis programmes more sustainable will be crucial in preparing for the proposed transition from control to elimination where feasible.

APOC is rightfully seen as one of the leading public health success stories in Africa. Ownership by committed governments and a community-directed approach have led to high geographic and therapeutic coverage, even in often-difficult circumstances. CBM’s experience with using CDI structures for primary eye care interventions e.g. in the DRC and Nigeria, demonstrates the effectiveness of such add-on interventions.

The APOC partnership model and the lessons learnt through its implementation, its community-directed and its evidence-based approach have resulted in the most outstanding success stories in onchocerciasis control. They have contributed to strengthening national health systems (with a focus on PHC) and to developing programmes tailored to specific situations.

Dr Martin Kollmann is Programme Director for NTDs, CBM Central Africa Regional Office
Sightsavers’ work in onchocerciasis goes back to the 1950s when our founder, Sir John Wilson, did a lot to highlight the disease to the international community by supporting much of the early research into the disease. Indeed, it was Sir John and Lady Wilson who first coined the name “River Blindness” for the disease. Early work in Sightsavers-supported projects in Mali, Nigeria and Uganda led to the development of community-based treatments which went on to become the backbone of onchocerciasis control programmes in Africa – community-directed treatment with ivermectin.

Sightsavers have been involved with the APOC partnership (and before it OCP) since inception. In 2010 we celebrated our 150 millionth treatment with Mectizan in our supported programmes. From about 5 million supported-treatments in 2009, we now support the treatment of 22 million people in 14 African countries. Without the donation of Mectizan® by Merck and the partnership that APOC facilitates between donors, governments and communities, we would not have been able to reach such levels of supported treatments.

Sightsavers is keen to move from control to elimination in our supported projects where this is feasible, and within the guidelines that APOC has agreed. We are developing a ‘fast track initiative’ for onchocerciasis elimination in our supported projects – this plan will highlight the additional areas of programme development we need to support (e.g. surveillance and even supporting new countries and projects) to make our contribution to the elimination of the disease in Africa.

Our contribution to the overall treatments in Africa is important for Sightsavers – we believe that partnership and community ownership will lead to a long-lasting legacy for Africa.

For me, community ownership and partnership are embedded in our support to the training of Community Directed Distributors (CDD). Recently on a trip in Zamfara State, Nigeria I met Mr Usman Malamai. Mr Malamai has been a CDD for 16 years in Fulfuri – this is the length of ivermectin distribution in his community. In his perfectly kept record books is the evidence of treatment and coverage that will support the proof of concept of elimination of the transmission of onchocerciasis in Zamfara State. My trip to Zamfara in December 2010 also highlighted the real potential that community directed interventions can offer to global health.

The state, with support from Sightsavers and other partners, has mapped the state for onchocerciasis, trachoma, soil-transmitted helminths and schistosomiasis. This is the first time this has been done in any state in Nigeria. The state, with support from Sightsavers, then set about delivering mass drug administration for the diseases through community-directed interventions and school-based treatments. Again, the first time this has happened in Nigeria. The extra cost to deliver drugs for the five focus NTDs for Africa to a population of about one million is minimal given the strength of the partnerships between the state and Sightsavers, the donated drugs and the delivery ‘vehicle’ that community-directed interventions offer. Programme partners are also starting to investigate the potential to involve CDDs in the distribution of bed nets against malaria.

As APOC moves from a control programme to an elimination programme Sightsavers is ready to continue playing our part in the most successful public-private partnership for health in Africa.

Mr Simon Bush is Director of Advocacy and African Alliances at Sightsavers
United Front Against River blindness (UFAR) is an African-inspired US-based nonprofit organization involved since 2006 in the national programme for the control and eradication of onchocerciasis in the Democratic Republic of the Congo (DRC). At the end of our 4th year of Mectizan distribution in 2009, working with 5,140 trained CDDs and 134 medical personnel, we touched and affected the lives of 727,583 people living in 1,659 onchocerciasis endemic communities, by protecting them from the debilitating outcomes of river blindness. UFAR has its headquarters in Lawrenceville.

To ensure the sustainability of this CDTI programme for the projected 15 years treatment period, UFAR has introduced a new and innovative programme, ‘adopt-a-village’, which gives individuals or groups an opportunity to adopt villages in our project region for support, with a minimum donation of $250 per village. The funds are used to train and retrain the CDDs in the adopted village, and to provide them and their village chief with incentives, such as T-shirts, footballs, bicycles and radios. In return, adoptees are given framed letters of gratitude, pictures of their village chief and/or a map depicting the village. Since the launch of the programme a year ago, 15 villages have been adopted, with donations ranging from $250 to $1,000.

Dr Daniel Shungu is Executive Director of UFAR
In 1987, Merck and Co., Inc announced the donation of Mectizan® (ivermectin MSD) for use in patients with onchocerciasis, “as much as was needed for as long as was needed.” Today, almost 25 years has passed and this simple statement and the donation that followed has become the first and one of the biggest drug donation scale ups in history. The development of new strategies in health care, for which APOC has been the main driving force for the last 15 years, have now led to the development of these strategies for control of other neglected tropical diseases (NTDs) using mass drug administration. The exponential increase in treatments over the last ten years, the impressive results even in conflict and post-conflict countries have been brought about by the active and committed efforts of the members of the APOC partnership.

The early trials with Mectizan® were conducted with the Onchocerciasis Control Programme (OCP) based in West Africa. Mectizan® was used extensively within some areas of OCP; but distribution of Mectizan outside of the OCP area during the first few years of the donation programme was a result of eye care NGDOs looking to expand the benefits of the drug to a wider population. NGDOs successfully expanded distribution of the drug to some of the worst areas of blinding onchocerciasis outside of the OCP area; however, it was clear that the majority of the 45 million people thought to be infected were not being reached. Partners soon realized that the need for Mectizan in Africa exceeded NGDO resources to deliver it.

The agreement to establish APOC was a major development to resolve these problems. As mapping technologies of REA and REMO were developed and implemented, the burden of onchocerciasis infection throughout Africa became much clearer and the target populations for treatment were much better defined even if the numbers more than doubled! Techniques for distributing the drug in the early days included distribution by mobile teams in the OCP countries and in some other programmes. Various levels of community involvement evolved, ultimately leading to the “hallmark” of APOC - the Community-Directed Approach. This strategy established a mechanism for sustainable ivermectin distribution. Community-Directed Treatment resulted in an impressive scale up of the programme, even in difficult conflict and post conflict situations. The evidence-based approach and the clear programmatic guidelines and follow up have resulted in an efficient and safe drug distribution system that has enabled Mectizan® donations to be approved rapidly. Close collaboration among the partners, including the communities, has limited the occurrences of stock shortages and other problems.

The Mectizan® Donation Program (MDP) is delighted to be a part of the APOC family. APOC has brought together the endemic communities, through their governments with programme implementers, funders, NGDOs as well as MDP/ Merck in a unique partnership which has made incredible progress in the last 15 years.
Although MDP is guided by the Mectizan Expert Committee (MEC) which has a much wider mandate than donation to the APOC countries, cooperation and collaboration has always been very productive and highly successful. MDP has a permanent seat on the TCC, and APOC attends the MEC.

A perfect example of APOC/MDP collaboration is the approach to distributing Mectizan in areas where Severe Adverse Events (SAEs) have occurred related to loiasis. As a TCC member I remember leading a team on a joint TCC/MDP field mission to Cameroon when the pathology was still poorly understood. We worked together to investigate possible co-factors leading to these SAEs and developed the MEC/TCC guidelines for treatment in areas where loiasis and onchocerciasis are co-endemic.

Following evidence that onchocerciasis could be eliminated in certain areas of Africa, there has been an increasing emphasis on a potential paradigm shift from control to elimination in Africa. Once this had been established, MDP was delighted to partner with APOC and the Gates Foundation to sponsor an informal consultation on elimination in Africa which has now led to a whole new approach in the older and better performing APOC projects where elimination of transmission of the disease may well be possible. This new approach which will involve transmission zones instead of the old hyper, meso and hypo endemic zones, and may require some changes in treatment strategies in the future brings a completely new aspect to the disease in Africa. 15 years of APOC has seen a remarkable development in onchocerciasis control in Africa. Without APOC, MDP would have struggled to get Mectizan® out to the people who need it. There may still be people in remote or difficult areas that are not getting the Mectizan they need but for the vast majority, MDP certainly would not have succeeded to get the medicine out there. As we move slowly towards eliminating the disease, MDP looks forward to the continued partnership with APOC to accomplish the task ahead of us all.

Dr Adrian Hopkins is Director of the Mectizan Donation Programme

"The African Program for Onchocerciasis Control has helped tens of millions of people fight river blindness by enabling delivery of Mectizan in Africa. The program’s focus in building human resource capacity is creating a sustainable, healthy future. Merck congratulates the staff, partners and supporters of APOC on its 15th anniversary, and we look forward to continuing our collaboration in the years to come."

Richard T. Clark, Chairman, Merck
The Vision of the new Chair of the NGDO Coordination Group for Onchocerciasis Control

By Franca Olamiju

The NGDO Group currently comprises 18 full and associate members*. The role of the NGDO Coordination Group for Onchocerciasis Control is to provide managerial, technical and financial support to onchocerciasis control and elimination activities through the African Programme for Onchocerciasis Control (APOC), Onchocerciasis Elimination Programme for the Americas (OEPA) and former Onchocerciasis Control Programme (OCP) partnerships and in Yemen.

As the results of this support, the NGDO Group has assisted with more than half a billion cumulative ivermectin treatments during the last 20 years (1989 - 2009) distributed as follows:
- 460 million in APOC countries
- 116 million in ex-OCP countries
- 9 million in OEPA countries
- 221,999 in Yemen

Members of the NGDO Group are also involved in co-implementation activities with other health interventions including LF elimination programme, trachoma, malaria, soil-transmitted helminthiasis (STH) and schistosomiasis control programmes, vitamin A supplementation (VAS) and comprehensive eye care services.

As the new Chair of the NGDO Coordination Group for Onchocerciasis Control, my vision is:

- To ensure that the Group remains focused on its core mandate especially as there is evidence of the feasibility of onchocerciasis transmission elimination.
- To improve partnership with NTD/NGDO Network since NTDs are co-endemic with onchocerciasis in most of our supported projects, and our members are already supporting their elimination/control.
- To ensure that our advocacy as a group continues to be effective and evidence-based in order to attract the much needed resources and support from different relevant stakeholders.
- To sustain our partnership with APOC, the supported government and other relevant partners in order to strengthen health systems, avoid duplication of efforts, and ensure that our programmes are sustainable.
- To ensure that all APOC countries have a functional national NGDO Coalition to support the in-country task forces for effective programme implementation.

Efforts will be intensified to find NGDO partners for some of our projects in need of partners, look for sustainable ways of addressing financial challenges faced by some of our members, and seek for support for the elimination of onchocerciasis in identified foci in Yemen.

Mrs Francisca Olamiju is Chair of the NGDO Coordination Group for Onchocerciasis, and Director of the NGDO MITOSATH, Nigeria

* Group members: Charitable Society for Social Welfare (CSSW), Christoffel-Blindenmission (CBM), Helen Keller International (HII), IMA World Health, Light for the World, Lions Clubs International Foundation (LCIF), Malaria Consortium, Mectizan Donation Program (MDP), Mission to Save the Helpless (MITOSATH), Organisation pour la Prévention de la Cécité (OPC), Schistosomiasis Control Initiative (SCI), Sightsavers, The Carter Center (GRBP), United Front Against Riverblindness (UFAR), US Fund for UNICEF.

Associate members: Centre for Neglected Tropical Diseases (CNTD, Liverpool), International Agency for the Prevention of Blindness (IAPB), Merck Co. Inc.
A delegation from the Saudi Fund for Development visited the APOC headquarters on 11 May 2011. The delegation comprised Mr Hassan Alattas, Director General/technical department and head of delegation, Mr Saud Alfantoukh, chief engineer, and Mr Ibrahim Sugair, chief economist. The purpose of the visit was to follow up on ongoing APOC projects and discuss future cooperation between APOC and the Saudi Fund.

The Saudi Fund’s financial contribution to APOC operations has been constant since 2004. Saudi Fund pledges and disbursement of funds would have amounted to more than US$ 5,000,000 by 2015.

The delegation commended APOC for the impressive results on the ground, achieved with less than US$ 1 per treatment, and declared that the Saudi Fund will continue to support APOC until elimination of infection and interruption of the transmission of the disease is achieved. They further promised to encourage other Arab funding agencies to join the APOC partnership.

Since the early days of the fight against onchocerciasis in Africa, WHO’s Legal Office has been providing legal support to both the OCP and APOC programmes.

When APOC was created 15 years ago there was strong commitment and financial support on the part of the various partners and donors. With so many actors and stakeholders involved it was important to establish the Programme within a solid and clear legal framework. The Legal Office played a significant role in the establishment of APOC and has since then, been providing regular advice on a wide range of issues, such as the functioning of APOC’s governing bodies, the status of the Programme and its operational activities at country level, contractual matters and a host of other things.

The Legal Office has been part of APOC’s various successes and achievements during the last 15 years, and will continue to provide legal assistance to the Programme to ensure that its activities and operations are not delayed due to legal concerns.

On a personal note, I feel particularly privileged to work with such a group of highly committed professionals, be it at the APOC Secretariat, among the co-sponsoring agencies, NGDOs or at national level. Partners come to meetings from very diverse backgrounds and with different perspectives, and what impresses me most is their ability to adopt by consensus the best decisions for the Programme and for the African people the Programme serves.

Mr Xavier Daney is Senior Legal Officer at the World Health Organization
When the Onchocerciasis Control Programme (OCP) ended in 2002, it was agreed that the success story and the experience should be used for the control and surveillance of other diseases. The Multi-Disease Surveillance Centre (MDSC) was created to serve as a centre of excellence for disease surveillance in the World Health Organization Africa region.

The mission of the MDSC is to provide high-level technical support to member states in surveillance of onchocerciasis and priority communicable diseases in the Africa Region.

The general objective of the MDSC is to provide critical information to African countries for the effective management of priority communicable diseases prevention and programmes.

Specific objectives include:

- To provide continuous entomological and epidemiological onchocerciasis surveillance support to countries to maintain the achievements of OCP.
- To facilitate the exchange of information and best practices between countries to ensure effective prevention and control of priority diseases.
- To train countries in field epidemiology and research methodology and to contribute to in-service training for priority diseases to nationals in charge of surveillance.
- To initiate/participate in research activities leading to better understanding of the major communicable and non communicable diseases of the region;

MDSC’s strategic directions emphasize the tracking of major priority diseases. Priority areas of intervention include epidemiological surveillance; data management; entomological surveillance; laboratory support; documentation centre; training and research.

With the support of APOC, the centre gives technical and financial support to ex-OCP countries in implementing entomological surveillance activities. Nine of the eleven countries have collected more than 300,000 flies on a regular basis since 2006. MDSC also carries out field entomology training for health workers in collaboration with APOC.

Operational research activities carried out by MDSC provide scientific evidence that contributes to better surveillance. MDSC, APOC and several foreign institutions have partnered to conduct the following studies:

- Feasibility of elimination of onchocerciasis by ivermectin in Western Mali and Senegal;
- Trans-border movements of *Simulium damnosum* flies between Sierra Leone and Mali and its influence on onchocerciasis epidemiology;
- Trans-border movements of *Simulium damnosum* flies between Benin and Nigeria;
- Spatial modelling of onchocerciasis using remote GIS and sensing;
- Alternative methods to human bait collection of *Simulium damnosum*.
- Markers for ivermectin resistance in *O. volvulus*.

MDSC hosts the West Africa Field epidemiology and laboratory training programme (WA-FELTP) for Burkina Faso, Mali, Niger and Togo. WA-FELTP objectives are: 1) training leaders in applied epidemiology and public health laboratory practice and 2) providing epidemiological and laboratory services to national and sub-national health authorities in West Africa. With the financial support of APOC, a special session was organized on onchocerciasis).

**Dr Laurent Toe is head of the onchocerciasis surveillance unit, MDSC**

**Partners:** Ministry of Health of Ex-OPC countries; World Bank; WHO/TDR: APOC; WAHO/OOAS; Meningitis Vaccine Project; CDC / Atlanta; Institut Régional de Santé Publique (IRSP) Ouidah, Bénin; CERMES, Niger; Université de Ouagadougou, Burkina Faso; Centre Muraz Bobo Dioulasso, Burkina Faso; University of Alabama at Birmingham, USA; University of Tampa Florida, USA; University of Göttingen, Germany; Noguchi Memorial Institute for Medical Research, University of Ghana at Legon, Ghana; University of Agriculture at Abeokuta, Abeokuta, Nigeria; University of Conakry, Guinea; Fondation Mérieux, Bamako, Mali; Institute Pasteur Dakar, Sénégal.
Perspective (PP) is a Bahá’í-inspired, non-profit development Association and was established with the staff of the Bahá’í Agency for Social and Economic Development (BASED) when they ceased operations. BASED was involved in River blindness control from 1998 to 2004. Perspective works in the Littoral Region of Cameroon with operations in 19 Health Districts, of which 11 carry out CDTI activities.

In February 2006 a technical and financial partnership was formed between Perspective and the Lions Club International Foundation (LCIF) through its programme, Sight First (SF). Since February 2010, Perspective has been involved in the fight against Neglected Tropical Diseases (NTD) - onchocerciasis, lymphatic filariasis, soil-transmitted helminths, schistosomiasis and trachoma. Perspective's activities include capacity building, training, health education, and gender mainstreaming.

The combined efforts of BASED (1998 - 2004) and Perspective (from 2005) have built the capacity of government health personnel and community members within the existing infrastructure to sustain Mectizan® distribution and surveillance activities. Through the CDTI programme health personnel and community members have been trained in supervision, sensitization and evaluation. Perspective has introduced a special programme to improve community ownership as well as gender mainstreaming activities to sensitize the population and women in particular, on the important role they have to play as well as the benefits and advantages of involvement in CDTI activities. They strive to promote and increase the participation of women at all levels of community activities, especially health and development.

From 2006 to 2010, Perspective (PP), in collaboration with the Ministry of Public Health, has trained 926 health personnel, 10,198 Community Distributors (CDDs), 1,318,175 persons received 3,899,842 tablets of Mectizan. The 2010 therapeutic coverage for Littoral I CDTI project was 65.87% and 76.57% for Littoral II. Gender mainstreaming activities led to an increase in the number of women CDDs and the number of women doing nursing and management of severe adverse effects, women providing in-kind incentives for CDDs, and improved ownership of the CDTI project by women.

In 2008, Perspective started facilitating the implementation of the Community Self Monitoring (CSM) exercise in communities in the Littoral CDTI area to help community members monitor and evaluate their Mectizan distribution system with a view to improving project performance and ensuring sustainability.

Perspective is proud to be working in partnership with APOC, LCIF, HKI and the Cameroon Ministry of Public Health in the fight to rid Africa of Onchocerciasis and other NTDs.

Dr Mbenda Behalal Georges is Executive Director of Perspective, Cameroon
Dr Jacques Pierre Ziegler had the distinguished responsibility of leading the Onchocerciasis Control Programme in West Africa as its pioneer Director. With a support unit at the WHO Geneva Headquarters, Dr Ziegler was installed as OCP Director in Ouagadougou, Burkina Faso.

Dr Ebrahim Malick Samba was the first African to head OCP and was Director for 14 years. He left the OCP to become WHO Regional Director for Africa.

Dr Boakye A. Boatin was OCP Director from 2000 to 2002, when the programme ceased operation.

Dr Amazigo was appointed as the first female Director of APOC in 2005, from which she retired on 31st March 2011

The late Dr Marc Louis Bazin from Haiti, a former World Bank and UN functionary, took over from Dr Ziegler as OCP Director.

The late Dr Marc Louis Bazin from Haiti, a former World Bank and UN functionary, took over from Dr Ziegler as OCP Director.

Dr Kofi Yankum Dadzie served as OCP Director and APOC Director from May 1995 to June 1999.

Togolese scientist Dr Azodoga Seketeli was appointed Director of APOC from September 1999 until 2005.

Dr Paul-Samson Lusamba-Dikassa was appointed APOC Director on 1st April 2011.
Rene Le Berre was a visionary and a man of conviction. Thanks to his pioneering work, the Onchocerciasis Control Programme was launched in 1974. It was one of the largest public health endeavours carried out by WHO, co-sponsored by the World Bank, UNDP and FAO.

The Programme initially involved 7 countries and later extended to cover 11 countries of West Africa. At the closure of the Programme in 2002, an estimated 600,000 people were protected from blindness, 18 million infants born since the beginning of the operations were no longer at risk of contracting the disease and 25 million hectares of fertile land could again be used for agricultural projects contributing to the socio-economic development of the valleys of West African rivers, yielding a 17% return on investment. The elimination of onchocerciasis as a public health problem and a barrier to socio-economic development represents, with smallpox eradication, one of the great successes of WHO.

Dr Philippon's vast contributions to the control of tropical diseases in Africa dates back to the 1960s. The renowned entomologist with specialization in vector control, bio-ecology and health research management devoted much of his professional career in efforts toward mitigating the socio-economic and human devastation of vector-borne tropical diseases on the west coast of Africa, from Mali to Côte d'Ivoire, extending to the River Congo in DR Congo.

Dr Philippon was part of the scientific team involved in tireless campaigns for onchocerciasis control in Côte d'Ivoire, Upper-Volta (Burkina Faso) and Mali, 1966-1971. The team established the standardized indices of measurement of blackfly biting densities and *Onchocerca volvulus* transmission amounts (1969) and their work led to the use of aerial spraying (larviciding) of blackfly breeding sites, the first strategy for the control of River blindness in West Africa.

Dr Philippon continues to support APOC and other disease control programmes in Africa with his expertise, scientific guidance and counselling. He is a current member of the APOC Technical Consultative Committee (2008-2011).

Travelling in West Africa in 1972, Robert McNamara, then President of the World Bank, was moved by the sight of the large number of blind people in villages in Burkina Faso being led around with a stick by small children. Convinced that the research being carried out by French scientists at ORSTOM (the French tropical medicine research organization) that aimed to control the blackfly (the cause of onchocerciasis) would work, McNamara, on return to Washington, called a meeting in Europe to meet with organizations who could possibly be interested in contributing to solving the problem of onchocerciasis in West Africa.

These efforts led to the launch in 1974 of one of the world’s most successful public health control programmes – the Onchocerciasis Control Programme (OCP). The successes of this programme in controlling onchocerciasis through vector control in West Africa led to the creation of the African Programme for Onchocerciasis Control (APOC) whose mandate was to eliminate the disease as a public health problem and a constraint to socio-economic development in the remaining oncho endemic zones outside the OCP area.
15 years of APOC

African Programme for Onchocerciasis Control

Spotlight on APOC countries

Nigeria

In 1997, Nigeria started receiving support from the African Programme for Onchocerciasis Control (APOC) and commenced usage of the Community Directed Treatment with Ivermectin (CDTI).

NOCP/Nigeria is the largest Ivermectin distribution programme in the world providing over 20 million treatments for the past 7 years. Over 33,000 communities are being treated annually, and as at 2009 a total of 35,369 communities had been treated. Most state projects have been achieving 100% geographic coverage for the past 6 years. Nearly all states have maintained a minimum of 65% therapeutic coverage for the last 5 years. Overall treatments have risen from about 200,000 persons in 1991 to over 8 million by 1997 and by 2009 had peaked at about 26 million persons.

The CDTI structure is being used to detect and refer simple eye cases, distribute Vitamin A supplementation & insecticide-treated bed nets, and treat lymphatic filariasis and schistosomiasis in 11 of the 32 states & FCT. Capacity has been built at the health service and community levels with the training of about 20,000 health workers and 160,000 community directed distributors.

Presently Nigeria has 28 projects (27 CDTI projects covering 31 States and the Federal Capital Territory), as well as the national headquarters support project.

Other achievements

- Nearly 5.7 million treatments for lymphatic filariasis carried out in 2009 using CDTI structures
- Remote communities where normal health services do not reach are being covered. Such areas include the Koma people in Adamawa State and those in the riverine hinterlands of Okwango Division in Cross River State.
- Conflict areas have been reached with the distribution of Ivermectin
- CDD to population ratio has decreased from 1 CDD to 1,395 people in 1997 to 1 CDD to 201 in 2009.
- An average of 60 million tablets are being used for active and passive treatments annually.
  - Over 3,000 communities are carrying out Community Self Monitoring (CSM)
  - Female involvement in decision-making and participation in distribution of Mectizan® is rising, particularly in the southern part of Nigeria.

Elimination of onchocerciasis in Nigeria

The epidemiological assessment exercises carried out have provided evidence that some projects are on the path to elimination of onchocerciasis transmission in Nigeria. The outcome buttresses the geographic and therapeutic coverage figures reported over the years. The results show that Kaduna, Zamfara, and Ebonyi States may have achieved elimination while Taraba and Cross River are well on their way to elimination.

Broad Partnership

The CDTI process in Nigeria is a broad-based partnership. Partners that have been providing support for programme implementation are the Government (National, State and local), Merck & Co. Inc., APOC, UNICEF, WHO, NGDOs, communities and local CBOs/NGOs. The NGDOs include the Carter Center, Sightsavers, Christoffel Blindenmission (CBM), Helen Keller International (HKI), and Mission to Save the Helpless (MITOSATH).

Mr Chukwu Okonrokwo is Programme Manager/NOCP/Nigeria
One of CBM’s early onchocerciasis programmes was in the Central African Republic where we partnered with the Ministry of Health in a National Programme. Activities were planned in 1992 and training and distribution activities began in 1993. The programme concentrated on the areas with the highest prevalence.

The first distribution was done by mobile teams working with community leaders. The objective was to integrate the programme into the Primary Health Care (PHC) system by year two. However, in many of the remote areas where onchocerciasis was the worst, PHC was not at all functional. So, from year two, the programme became more community based, recruiting community leaders to fully participate in, and to a certain extent, run the programme for their communities. Although this process produced some good results it was not sustainable. With the integration of the programme into APOC in 1997 came more understanding of how to work with the community, using the community-directed approach.

The active development of the Community-Directed Treatment with Ivermectin (CDTI) was one factor that helped maintain the programme during the very critical periods of the country’s political upheavals. Because of the community ownership of the programme, if the ivermectin was available, the communities continued to treat themselves (even when supervisors were not around to do the job) despite real political problems. In one area the communities insisted on being treated since there was ivermectin available at the sub district level, and organised some of the distribution even though the logistics planned by the programme were not in place.

Because of the high coverage (better than the Expanded Programme on Immunisation - EPI - programme) UNICEF approached the onchocerciasis programme and requested them to distribute Vitamin A. These activities would not have happened if it was not for the philosophy of CDTI introduced by APOC and the logistical and financial support enabling the scaling up of the programme on a national scale.

Dr Adrian Hopkins is MDP Director and Mr Johan Willems is the NTD PCM officer at CBM/ Central Africa Region.
Nigeria is the most populous country in Africa with well over 140 million people, accounting for more than half of the population of West Africa. The country is very rich in language, culture, customs and traditions, and with 250 ethnic groups you can imagine the fascinating diversity of the people and their practices. Nigeria’s literature, music, and in the last ten years, its video-film industry are enjoyed all over the continent and far beyond.

With 32 states in Nigeria this magazine clearly does not have enough pages to do justice to the rich variety of the country’s cultures and traditions. We will give you a glimpse by featuring some aspects of the Leboku Festival in Cross River State and the Durbar Festival in Northern Nigeria.

LEBOKU FESTIVAL

The Leboku is the annual New Yam Festival celebrated by the Yakurr people in Ugep, northwest of Calabar. The three-week long festival held in August every year celebrates many things: the beginning of the yam harvest, a time to appease the gods and ancestors and usher in peace, good health and prosperity; a public parade of engaged maidens, a commemoration of events that led to the migration from the Yakurr ancestral home to the present site, and many others.

The Leboku starts with a parade across the town of women carrying yams on their heads. There is a different event each day: a women’s festival at which they are given gifts by their loved ones and friends; a men’s festival when they too are given gifts; performance of male Ekoi dancers; Leboku maidens wearing mini wrappers, ornamental beads and leg bangles parade and dance to the rhythm of the Ekoi drums.
Matured maidens also dress the same way to attract would-be suitors. The brass rods shaped into leg bangles demonstrate the extent of a maiden’s strength and perseverance – value added for the maiden and a sure attraction for suitors!!

The Mr. and Miss Leboku competition is a modern day version of the parade of maidens and young men. Many health campaigns collaborate with the community to share messages during the festival.

**DURBAR FESTIVAL**

The Durbar festival dates back hundreds of years. The first Durbar was held in the 14th century. From each town and district, noble families in the north were expected to contribute a regiment to the defense of the emirate.

The Durbar is a spectacular display of horsemanship and Hausa regional and cultural tradition and heritage. It takes places twice a year on the occasion of the two main Islamic feasts – Eid al-Fitr (the end of the month of fasting – Ramadan), and Eid-al Adha (the feast of Abraham sacrificing a lamb instead of his son), and sometimes when high-ranking dignitaries visit the country. The entire community participates either as horsemen or as spectators.

The highlight of the festival is when horsemen in full traditional attire on colourfully adorned horses, amidst singing and dancing, charge at full speed towards the Emir, pull up abruptly in front of him, salute him with their lances and swords before veering to the side – marking their loyalty to their ruler.
The Central African Republic lies in the centre of Africa with dense rain forests and wooded grasslands. The country is made up of several ethnic groups, and about 49 percent of the population live in small villages, and follow traditional customs. French is the official language, but Sango, an African language, is the also widely spoken, in addition to many other African languages. The Central African Republic, like all African countries has an abundance of customs, traditions and cultures:

Broto trumpet players and dancers from Bambari in Central African Republic

The Broto trumpet players use trumpets made from tree roots hollowed out by termites. Each trumpet plays a particular note. The ‘ensemble’ of six trumpets constitutes a range of six musical notes.

Members of this group are also “lightening throwers”. Lightening is believed to be a weapon of vengeance – a lizard from the village is mixed with poison and used as a detonator to ‘throw’ the lightening at the offender.

The pygmies of Central African Republic

The ‘Pygmy’ peoples of Central Africa live in rainforests in different countries across the region: Cameroon, Central African Republic, DRC, Rwanda, Uganda. They are strongly connected to the forest and see themselves as forest people. Their history, culture, religion and livelihood are all closely linked to the forest. In their own words “they love the forest like they love their body”. Different communities have different languages and hunting traditions, and they move often through different parts of the forest, collecting products that they barter with other communities. This peaceful existence in the forests, however, is threatened by commercial activities such as extensive logging, conservation parks/animal reserves.

The Mbenzele dance of the Aka pygmies in Lobaye

Music and dance are an integral part of the Central African Republic Aka pygmy rituals and are used during ceremonies, inaugurating new encampments, hunting or funerals. In fact the pygmies accompany all their daily activities with music. The “Mbenzele” dance of the Aka pygmies is for joyful events and dedicated to great hunters of encampments. Coming back from the hunt with big game is a reason for a big musical celebration by the entire group. The dances are accompanied by clapping of the hands and beating of drums and are performed by men, mixed couples or solo.
Aka musical instruments

The Aka pygmies have a variety of traditional instruments such as the flute, bow-harp, zither, sanzi and drums that they use frequently in their music.

Peter Culshaw, in his article *The Musical Pygmies of the Central African Republic* printed in The Observer in September 2003 calls Aka pygmy music “what is most likely the oldest music in the world”. The article also talks of the “the Hungarian composer György Ligeti becoming obsessed by the complex polyrhythms and irregular multi-part vocalising of the pygmies, which became a great influence on his own work”. And further says “Far from being primitive, the music of the pygmies is as advanced as anything in the Western canon”.

Some years ago the Aka pygmies went on a European tour, orchestrated by the classical pianist Pierre-Laurent Aimard. He released a disc that includes the music of the Aka pygmies and the piano music of Ligeti.

Aka pygmy music can also be found on Youtube.
Some of the gains of oncho control

Tens of millions of children born since the start of control efforts are free from the risk of river blindness.

An estimated 25 million hectares of arable land has been regained for agricultural production and resettlement.