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PROGRESS REPORT OF THE SPECIAL INTERVENTION ZONES OF THE EX-OCP
(January - August 2006)

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A. ENTOMOLOGICAL ACTIVITIES

Introduction

The conduct of entomological activities in the Special Intervention Zones (SIZ) in 2006 was marked by three major events: (i) the new aerial contract for 2006-2007 period is not yet signed, (ii) the definitive cessation of ground and aerial larviciding in the Upper Oueme basin (recommendation made during a workshop held in Ouagadougou, 1-2 March 2006 and endorsed by the Special Advisory Committee for SIZ in June 2006 and approved by SIZ Management), and (iii) the strengthening of entomological surveillance in Benin. The activities took place under good conditions, thanks to the availability of resources (technical, logistic, administrative and financial), and also owing to the agreement reached by the Organisation and the helicopter Company in charge of larviciding for the continuation of activities, in accordance with the terms of the former contract, while awaiting the signing of the new one.

1. Vector Control and/or entomological situation in Togo and Benin

1.1 Entomological Evaluation Network

This activity has to do with the Keran, Kara and Mo basins in Togo, and that of the Upper Oueme in Benin.

With respect to the tributaries of the Oti river, all the 11 catching points, including the 4 which are visited every week (A points), were maintained. However, in the Upper Oueme basin, only three points were maintained, following the reduction in larviciding coverage. At these three points, catches/dissections are organised every two weeks. In addition to the normalized catches, bulk catches were organised from June to October 2006 at Wari-Maro and Beterou, two of the three catching points of Benin, for evaluating the prevalence of infection using the pool screening method.

1.2 Hydrology

The rainy season, from January to August 2006, recorded lower figures, as compared to those of 2005 in the Oti and the Upper Oueme basins.

It must be noted that, the Upper Oueme and all its tributaries stopped flowing by the end of January 2006. The Kara and Mo rivers stopped flowing in February. Only the main Oti river, the flow of which is rendered perennial by the Kompienga dam, and the Keran flowed permanently.

The low rainfall recorded caused a two-month delay in the flows from the Mo and Kara rivers. These rivers actually started flowing in the first and second week of May respectively. The Oueme and its tributaries started flowing later at the beginning of June.

A total of 11 river gauges are being used this year to monitor the hydrological situation.

1.3 Larviciding

The end of the social unrest in Togo allowed smooth running of aerial and ground larviciding activities in 2006. It must be noted that 90% of the aerial treatment circuits were supervised by WHO observers for maximum efficiency.
Aerial contract

The first three-year contract, signed between WHO and the Evergreen Company (EHl), to carry out larviciding of the tributaries of the Oti and the Upper Oueme between 2003 and 2005 ended in December 2005. Negotiations for signing the second and last two-year contract (2006-2007) are still ongoing. The two parties agreed to continue activities on the basis of the expired contract, while awaiting the finalisation of the new one.

Flight hours used for larviciding

A total of 307.2 flight hours (of which 9.1 hours for the aerial identification of villages, hamlets and specific inaccessible groups on the ground, and 298.1 hours for the treatment of tributaries of the Oti river) were used from January to August 2006, as against 392.8 hours for the same period in 2005. The difference in flight hours, i.e. 85.6 hours, compared to the 2005 figure is the result of several factors including the low rate of utilisation of flight hours allocated to the national teams of Togo and Benin for aerial investigations, the early and prolonged drying up of the Mo and the Kara rivers, and the suspension of aerial treatments as a result of the excellent entomological situation.

Larvicides used

All the six insecticides available were used in accordance with the larvicide rotational scheme developed by the ex-OCP. Thus, 1279 litres of temephos, 25 371 litres of BtH14, 230 litres of permethrine, 996 litres of pyraclofos and 466 litres of etofenprox were sprayed from January through August 2006 in the Oti basin. During the same period, in 2005, a total of 2 767 litres of temephos (29% of which was sprayed on the Oueme), 22 172 litres of BtH14 (8% on the Oueme), 723 litres of permethrine (100% on the Oueme), 2 201 litres of pyraclofos (28% on the Oueme), and 679 litres of etofenprox (21% on the Oueme) were used.

2. Outcome of vector control

CDTI was established in the OCP area in 1997, and implemented concurrently with vector control as a second onchocerciasis control strategy. Since 2003, the two control methods were scaled up in the SIZ in Togo and Benin. Thus, the transmission results obtained in the SIZ area are actually the outcome of integrated control: larviciding and community-directed treatment with ivermectin.

2.1 Biting rate and transmission

The analysis of the trend of annual biting rates (ABRs) and the annual transmission potential (ATP) in the Keran, Kara, Mo and Upper Oueme basins during the SIZ period (2003 to 2005) and the OCP period, in relation to the different operational phases, reveals the following points:

2.1.1 Oti tributaries

Biting rate

➢ The start-up of the South Extension phase in 1988 had some degree of impact on the reduction in ABRs on the Oti tributaries, depending on their geographic location (Fig.1a to 1d).

➢ Despite the cessation of larviciding in the South Extension area, the ABRs were under control from 2002 to August 2006 in the Keran and Kara basins. With the exception of
the peak obtained in the two basins in 2003 (due to the exceptionally high rainfall figures, and shortage of insecticides for high tides), the rate of aggressiveness remained the same, and at times lower than that of the OCP period, which had a much wider larvicide coverage (Fig.1a, 1b).

➤ In the Mo river basin, located on the southern fringe of the SIZ, the cessation of larviciding in the South Extension at the end of 2001 brought about a high increase in blackfly density right from 2002 at Bagan and Mo (lower and middle course of the river). The situation was relatively well under control from 2003, despite the contamination of the basin by exogenous females; a substantial reduction in annual biting rates was even observed at Bagan in 2005 (Fig. 1c).

➤ From January to August 2006, the entomological situation remained excellent in all the basins. The biting rate recorded is lower than the rates of the same period in the three preceding years.

**Transmission**

➤ In the Keran river basin

The ATPs started changing to the threshold of about 100, beginning 2000. From 2002 to 2005, ATPs at Titira dropped from 153 to 35, with a fluctuation of 128 observed in 2004. During the same period, the ATPs at Tapounde dropped from 77 to 42 in 2004 and 2005; a peak of 109 was recorded in 2003 (Fig. 1a).

During the January-August 2006 period, two infective females were detected in the basin at Titira, corresponding to an ATP of 14. The ATPs at Tapounde and Kouporgou are nil.

➤ In the Kara river basin

The entomological situation is excellent in this basin. ATPs at Landa Pozanda have remained below the threshold of 100 since 2000. At Sarakawa Kpelou, this encouraging result was achieved since 1994 (Fig.1b).

During the period of January to August 2006, no infective female was caught in the Kara basin. ATPs at Landa Pozanda, Sarakawa Kpelou and Sikan are nil.

➤ In the Mo river basin

The entomological situation has been excellent in the upper part of the river basin at Aleheride for several years. From 2002 to 2005, ATPs were between 0 and 28. In the middle and lower courses of the river, ATPs, which were lower than the threshold of 100 from 1999 to 2001, greatly exceeded this threshold in 2002 following the cessation of larviciding in the forest area in Ghana. Fortunately, the reinforcement of control activities (CDTI and larviciding) helped to make amends in 2004 and 2005 when ATPs were 60 and 0 respectively. At Bagan, these rates were 29 and 28 for the same period (Fig.1c, 1d)

During the January-August 2006 period, no infective female was caught in the basin. ATPs at Bagan, Mo and Aleheride are nil.

Overall, there is some improvement in the entomological situation on the Keran, Kara and Mo river basins.
Fig. 1: Trend of entomological indicators (ABR-ATP) on the Oti tributaries

2.1.2 Upper Oueme

The entomological situation of the upper course of the Oueme river was satisfactory at the time of OCP closure in December 2002. This area was added to the SIZ in Benin, so as to avoid any possible contamination of the upper courses of the tributaries of the Oti by females, which may migrate from the Upper Oueme. It must be noted that, at the closure of OCP, larviciding was interrupted on the middle and lower courses of the Oueme.

ATPs, which were 98 and 49 at Beterou and Wari-Maro respectively in 2002, changed concomitantly with blackfly densities, from 116 and 136 in 2003, to 264 and 253 respectively in 2005, despite the maintenance of good larvicide coverage in the area. It was decided, during the workshop held in Ouagadougou, 1-2 March 2006, to stop larviciding in the Upper Oueme basin on the basis of observations, which indicate the absence of involvement of this basin in the dynamics of blackfly populations on the tributaries of the Oti. However, it was recommended that entomological surveillance be strengthened in the upper Oueme river basin.

As part of this enhanced surveillance, during the period January to August 2006, a total of 7 infective females were caught at Beterou and 9 at Wari-Maro. Annual Biting Rates were 9123 at Beterou and 10803 at Wari-Maro as against an average of 20 000 to 40 000 before treatment. Mid-way during the peak transmission period, crude ATPs were already higher than the threshold of 100, i.e. 135 and 174 at Beterou and Wari-Maro respectively. The upward trend of infectivity rates, noted in 2003, continues.

Pending the outcome of the investigations under way on the origin of these infective females, the available partial results seem to confirm the very low transmission rate or non-involvement of this basin in the transmission recorded on the Oti. Thus, while the ATPs were far above the threshold of 100 in the upper course of the Oueme, transmission remained low in
the tributaries of the Oti; only a crude ATP of 14 was recorded in the three tributaries of the Oti.

**B. RESULTS OF CDTI ACTIVITIES**

**Introduction**

CDTI reinforcement activities are ongoing in the five SIZ countries and the budget earmarked for ivermectin distribution, and epidemiological evaluations has been increased in 2006. Prospection activities enable national teams to discover new villages and hamlets and include them in CDTI. The reinforced prospections, using saved flight hours (due to the suspension of aerial larviciding on the Upper Oueme) in the Keran, Kara and Mo river basins in Togo have greatly enhanced the identification of villages/hamlets and specific groups (nomad Fulani, gold diggers, fishermen) that have been included in CDTI. The main challenges include replicating this exercise in the upper Keran and Oueme river basins in Benin. Improved ownership of the programme by the health staff at all levels, and Community ownership of the strategy has been observed mainly in Benin and Sierra Leone. Nevertheless, sensitisation and mobilisation must continue at all levels of the health delivery system and in the communities living in the hyper and meso-endemic Oncho areas, so as to ensure sustainability. A series of workshops on CDTI have been carried out in an effort to encourage the central, district and peripheral levels to further own the CDTI strategy and involve the communities in the planning and implementation of CDTI activities, such as sensitisation, the choice of CDDs and the incentives communities would like to give them.

The reception of ivermectin by the Ministries of Health through WHO offices, the placement of ivermectin tablets at peripheral health centres, and collection by communities through the CDDs, have greatly improved. In Benin, ivermectin could now be received by the Ministry of Health through the WHO country office in Benin without paying taxes. However, the estimation of ivermectin needs should be improved.

The strategic re-organisation of CDTI activities in Sierra Leone is being satisfactorily implemented with the support of the health authorities, SSI, HKI, the World Bank and the APOC/SIZ Management.

In the SIZ areas in Togo, Benin and Guinea, biannual treatment is carried out, usually in April and October. Organising second-round CDTI treatments seem to be difficult for all programmes in the SIZ, which carry out two rounds of treatment. A survey will be conducted with the national Oncho team to identify the problems, and find appropriate panaceas for this situation.

**TOGO**

CDTI was organised as planned (2 rounds/year) from 2003 to 2005. The mean therapeutic and geographical coverage rates in the Keran, Kara and Mo river basins in Togo from 2003 to 2005 are given in table 1. The geographical coverage varied between 95.52% and 99.25% while the therapeutic is maintained above 85%.

In 2006, the partial results of the first round of distribution show high coverage for 9 districts for which results are available: 98.4% geographical and 85.1% therapeutic coverage.
The list of villages under CDTI has been reviewed by the NOCP and a standard list of 1042 villages and Hamlets has been identified, and will serve as the denominator for geographical coverage in Togo. The total population is just over 816,171 persons.

The difficulties encountered are mainly: insufficient logistics for supervision, dearth of CDTI data management (data collection, verification and on-the-spot correction of these data). In some communities, inappropriate measuring sticks are used, and some CDDs complain of lack of incentives by their communities. These problems could explain why the geographical coverage of 100% is difficult to achieve.

Nevertheless, CDTI is integrated into the health system at all levels, as attests the quality of presentations made by the district medical officers during the annual review meetings of Oncho activities in Togo. Data collection and analysis, as well as decision-making are taken care of at the district and peripheral health centres. The issue of lack of qualified personnel, and of appropriate facilities for data management was reported by most of the district medical officers.

There is the need to:

- Sensitise the communities to own CDTI, and to find appropriate incentives to their CDDs where necessary. An evaluation of the degree of CDTI ownership should be conducted.
- Encourage government and NGDOs to increase their support to CDTI activities;
- Train staff at all levels on CDTI data management. At the central level, there is also the need to appoint a new data manager as the one at post is retiring.
- Identify all specific groups and new villages/hamlets to be treated.

**BENIN**

In 2003, only one CDTI round was carried out in April due to a cholera epidemic, which interrupted the conduct of the second round that was scheduled for November. CDTI was organised as planned (2 rounds/year) in 2004 and 2005. It is worth noting that in 2004, the second round of CDTI in November was coupled with the treatment of LF.

The therapeutic and geographical coverage in the upper Keran and Oueme river basins from 2003 to 2005, given in table 1, indicate a drop in the geographical coverage in 2004 and 2005 while the therapeutic coverage is always around 80%.

In 2006, data of 1st round treatment are still being gathered by the NOCP.

The difficulties encountered have to do with the delay in placing the 2005 ivermectin order with MDP. The Togo national team had to lend 1,700,000 tablets to the Benin national team to enable it carry out the first round of distribution. The situation has since been put in order.

In 2006, the issue of importating ivermectin through Togo was resolved by Benin government.

The integration of CDTI into the health system is improving as more District Medical Officers have understood the CDTI strategy and are willing to implement. This is the result of the numerous meetings and workshops held with them by the SIZ Management. This could partly resolve the issue of reduction in the geographical coverage observed in the second rounds. The continual change of National coordinators is a major issue that might have an
impact on the supervision of activities and the overall performance of the Programme in Benin. There is also the need for the NOCP to get better population data, as it has been reported that many villages in the meso and hyper-endemic zones are not treated. Advantage should be taken of the saved flight hours to scale up the identification of specific groups and villages/hamlets in hard-to-reach areas.

GUINEA

In 2003, only one CDTI round was conducted. In 2004, a disturbing situation occurred during the second round of CDTI, i.e. the shortage of ivermectin, due to wrong estimates of drug needs for two rounds.

The treatment data from 2003 to 2005 in the Upper Niger-Mafou and Tinkisso basins given in table 1 indicate that the therapeutic coverage varied between 77 and 80%, while the geographical coverage was between 98.8 and 100%. It should noted that in 2005 new villages were discovered and included into CDTI.

The results of the first round of treatment in 2006 show a 100% geographical coverage and a therapeutic coverage of 80.2%.

Among the difficulties mentioned over the years are the late reception of ivermectin, the lapses in CDTI data collection at all levels, lapses in the supervision of CDDs by head nurses of peripheral health centres. The issue of incentives to CDDs is yet to be solved. The response from the CDDs seems to be very positive, but there is need to continue sensitisation of the communities and the CDDs on the issue. There have been a lot of efforts made by the NOCP to overcome many of these difficulties. In particular, the distribution of certificates of satisfaction to CDDs has greatly enhanced their ownership of the programme.

GHANA

The limits of the SIZ in the Pru river basin have been changing since 2003 passing from five districts with 280 villages in 2003 to four districts in 2004.

In 2005, re-defining exercises in the SIZ zone in the Pru river basin showed that a total of 247 communities made up the SIZ in 7 districts.

Following recommendations of the 2005 Review and Planning meeting of the SIZ, the NOCP has provided a new list of districts, but the list of communities is still awaited.

To help reorganize CDTI in Ghana, SIZ Management recently supported a workshop on the CDTI strategy, which was held in Sunyani. The Management of APOC/SIZ (Director) is also planning an advocacy visit to the highest authorities in the near future.

SIERRA LEONE

In 2003, the partial CDTI results were as follows: 28.3% geographical coverage, and 34% therapeutic coverage. In addition, about 3,042 persons were treated in the Bandajuma refugee camp.

In 2004, partial CDTI results indicated therapeutic and geographical coverage rates as 22.5% and 28% respectively.
In 2005, the strategic re-organisation process of CDTI in Sierra Leone was completed through the joint efforts of the health authorities, SSI, HKI, the World Bank and the APOC/SIZ Management.

Due to the late start-up of CDTI activities (August 2005), and the difficulties encountered in accessing the funds promised by one of the partners, 2005 planned activities were not completed.

In 2006, Ivermectin distribution using the CDTI method was conducted in Bonthe and Pujehun Districts in January 2006, and later in May 2006 in Moyamba District. Community Directed Distributors (CDDs), who are selected within communities, conduct distribution of Ivermectin.

The other nine districts (Bo, Kenema, Kailahun, Kono, Bombali, Tonkolili, Koinadugu, Port Loko and Kambia) conducted Mass Drug Administration (MDA) in May 2006. This decision was taken by the NOCP, together with members of the DHMT of these nine districts, and in consultation with Partners and members of the Top Management Team (TMT) of the MOHS because of time constraints and difficulty in accessing funds for community meetings, census and CDD training. Since 800 PHU Health workers were trained in 2005, they were used to conduct MDA in their respective districts. MDA was completed at the end of May 2006 in these districts. Because of the difficulties experienced by the NOCP to access World Bank funds in Sierra Leone, and on the suggestion of the World Bank, APOC/SIZ management increased the budget for CDTI activities from US $ 108 535 to US $ 508 128 for proper implementation of CDTI activities in 2006.

The results of CDTI in Bonthe and Pujehun and Moyamba Districts are as follows:

- **Bonthe District**: 32,347 people treated out of 44,429 total population. 183 villages were targeted for treatment. A total of 90,785 tablets of Ivermectin were used (2.8 per person treated).

- **Pujehun District**: 91,277 people treated out of 131,639 total population. 502 villages were targeted for treatment. A total of 264,976 tablets of Ivermectin were used (2.9 per person treated).

- **Moyamba District**: 101,658 people treated out of 152,319 total population. 1,000 villages were targeted for treatment. A total of 293,056 tablets of Ivermectin were used (2.9 per person treated).

The MDA results in the other nine districts are in annexe 1. It is worth noting that the therapeutic and geographical coverage rates recorded in Districts, where CDTI is implemented, are higher than the rates in areas where the MDA strategy is used.
<table>
<thead>
<tr>
<th>Country</th>
<th>Sequence</th>
<th>Year (month)</th>
<th>Villages</th>
<th>Population</th>
<th>Geogr. coverage</th>
<th>Therapeut. coverage</th>
<th>Number of tablets per person treated</th>
<th>Number of CDGs trained/retained</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ghana</td>
<td>1st round</td>
<td>2003 (Oct.-Nov.)</td>
<td>316</td>
<td>276</td>
<td>173 412</td>
<td>126 245</td>
<td>100%</td>
<td>59,5%</td>
</tr>
<tr>
<td></td>
<td>2nd round</td>
<td>2004</td>
<td>316</td>
<td>262</td>
<td>190 705</td>
<td>139 451</td>
<td>83,8%</td>
<td>67,5%</td>
</tr>
<tr>
<td></td>
<td>3 districts</td>
<td>2005</td>
<td>247</td>
<td>38</td>
<td>247 446</td>
<td>15 627</td>
<td>16,4%</td>
<td>6,3%</td>
</tr>
<tr>
<td>Sierra Leone</td>
<td>Partial results</td>
<td>2003 (July)</td>
<td>18 209</td>
<td>5 154</td>
<td>2 269 451</td>
<td>771 590</td>
<td>28,3%</td>
<td>34,0%</td>
</tr>
<tr>
<td></td>
<td>No treatment</td>
<td>2004</td>
<td>6 879</td>
<td>416</td>
<td>338 887</td>
<td>94 785</td>
<td>22,2%</td>
<td>28,0%</td>
</tr>
<tr>
<td></td>
<td>No treatment</td>
<td>2005</td>
<td>6 879</td>
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</tr>
</tbody>
</table>

C. EPIDEMIOLOGICAL EVALUATION ACTIVITIES

1. On the Keran river basin

In Benin

At Kouporgou on the Koumongou, the disease prevalence varied between 46.5% in 2000 and 16.22% in 2004, with a Community Microfilarial Load (CMFL) of 0.45mf/b in 2004.

In 2005, Taconta was the only village, out of 7, that underwent epidemiological evaluation and had a prevalence of 6.9% with a Community Microfilarial Load (CMFL) of 0.42mf/b.

The epidemiological evaluation has not yet been conducted in 2006.
In Togo

The prevalence at Titira was 64.5%, with a CMFL 10.98 in 1995. This prevalence rate dropped to 39.1% in 2000 and to 22.7% in 2003. It must be noted that the CMFL at Titira dropped from 0.90mf/b in 2000 to 0.19mf/b in 2003. The villages around Titira also had high prevalence rates (Kpesside ferme: 50% with a CMFL of 0.34 in 2002, and 11.6% with a CMFL of 0.16 in 2005; Kpesside Narita: Prevalence rate of 24.9%, with a CMFL of 0.29 en 2002, and 22.3%, with a CMFL of 0.27mf/b in 2005).

2. On the Kara river basin in Togo

The epidemiological evaluations conducted in 2006 in 4 villages indicate noticeable reduction of prevalence rate on the Lower Kara river basin where results have been so far bad (see annexe 2). The prevalence rates registered are as follow:

- Tougou: the prevalence rate went down from 41.4%, with a CMFL of 1.97mf/b in 2000 to 28.6%, with a CMFL of 0.19mf/b in 2003 and to 10.8% with a CMFL of 0.04mf/b in 2006.
- Sakpoin: prevalence dropped from 37.7%, with a CMFL of 1.44mf/b in 2000, to 16.8%, with a CMFL of 0.13mf/b in 2003 and to 4.5% with a CMFL of 0.28mf/b in 2006.
- Sikan: prevalence went down from 53.5% with a CMFL of 3.25mf/b in 2000 to 39.9% with a CMFL of 0.24mf/b in 2003 and to 13% with a CMFL of 0.17mf/b in 2006.
- Kadjol 2: the prevalence rate dropped from 29.1%, with a CMFL of 0.08mf/b in 2000 to 10.9% with a CMFL of 0.10mf/b in 2003, and to 1% with a CMFL of 0.04mf/b in 2006.

Two villages evaluated in this river basin out of 4 have a prevalence rate below the threshold of 5% in 2006. All the CMFL in this river basin are below the threshold of 0.5mf/b. The two remaining villages have a prevalence of 10.8% and 13%.

3. On the Oti main river basin in Togo

All the two villages evaluated in 2006 have prevalence rates below the threshold of 5% (0 and 4.5%)(see annexe 2).

4. On the Mo in Togo

The prevalence rates in the two sentinel villages on the middle and lower courses of the Mo are, at Bagan: 2.7% with a CMFL of 0.02mf/b in 2000, and 3.8% in 2005 with CMFL of 0.04mf/b, and at Mo: 9% in 2000 with CMFL of 0.05mf/b, and 8.6% with CMFL of 0.17mf/b in 2005.

There is a slight increase in prevalence rates, though they are still lower than the threshold of 5% at Bagan; At Mo the prevalence is above the 5% threshold and has remained almost stationary although a slight increase in the CMFL is observed.

In 2006, the epidemiological evaluations conducted in 13 villages revealed that 5 villages have a prevalence below the threshold of 5% (varying from 0% to 3.8%), and 8 villages still have prevalence rates above 5% (varying from 5.7% to 21.7%). All the CMFL are
below 0.5 mf/b (between 0 and 0.43 mf/b). A total of 7 villages out 13 villages evaluated show a significant decrease in prevalence rates. A slight increase of prevalence is observed in the remaining villages (see annexe 2).

In conclusion, in the Kara and the Oti main river basins the epidemiological evaluations results in 2006 show a significant decrease in prevalence rates; 4 out of 6 villages evaluated have prevalence rates below 5% (varying from 0 to 4.5). Two villages have prevalence rates of 10.8 % and 13%; the prevalence rates in these two villages were 41.4% and 53.5% in 2000.

In the Mo river basin, 53% of villages examined have prevalence above the 5% threshold in 2006 with CMFL below the threshold of 0.5mf/b. Prevalence has remained almost the same in some villages over the years, and even an increase is observed (Koida 19, 8% in 2000; 19% in 2003 and 20% in 2006; Mo village as shown above). These are frontline villages on the Mo river.

It is worth noting that the Mo river basin situated to the southern border of the SIZ are actually invaded on a regular basis by migrant females at the time of monsoon winds and also most of the flies involved in the transmission are forest species.

5. Upper Niger/Mafou and Tinkisso river basins in Guinea

The SIZ in Guinea are made of the upper Niger/Mafou and Tinkisso river basins. Overall, the results in these basins are satisfactory. From 2003 to 2005, 87 villages in all were evaluated in these basins and the results show that:

- 36 villages (41 %) had a prevalence rate of zero (0 %);
- 46 villages (53 %) had a prevalence rate below 5 %;
- 5 villages (6%) had a prevalence rate above 5 %. These are Boroto on the Tinkisso (6,6 %); Walla Dabourou on the Niger (8,7 %); Mamouria on the Niger (12 %); Herako on the Mafou (5,3 %) and Serekoroba (5,4 %) on the Mafou.

The CMFL has remained below the threshold of 0.5 mf/b.

The positive status of a 9-year old girl, who was declared negative in 2002 in the village of Yalawa on the Mafou, and that of a young man of 20 after 3 successive evaluations (1999, 2002, 2005) who declared taking ivermectin every year, is of concern. All these observations call for greater vigilance in this zone, and necessitate further efforts in ivermectin distribution, in order to reach the therapeutic coverage rate of 80 - 85%.

In 2006, the epidemiological evaluations conducted in 13 villages (6 villages on the Mafou/Niger, 7 villages on the Tinkisso) revealed excellent result. The prevalence rates in all the basins varied from 0% to 2.9% and the CMFL from 0 to 0.09 mf/b (see annexe 3).

6. Sierra Leone

No epidemiological evaluation has been conducted in 2006 as "pre-control" data have been collected and it is important that control efforts be well installed before evaluating the impact of the treatments.
7. The Pru river basin in Ghana:

According to the report of the Joint Programme Committee (JPC23.4a), at the closure of OCP in 2002 the prevalence of onchocerciasis in the Pru river basin was around 7.8% with CMFL close to 0 mf/b (2001 results).

Epidemiological evaluation results in this river basin in 2004 show that out of 17 sentinel villages evaluated in 2004 there is a tendency in the increase of the prevalence in 14 villages. For example, it went from 7.7% in Akraakuba village in 2001 to 26.5%; 4.8% in Asubende in 2000 to 8.8%; 0.7% in Faowomang in 1997 to 6.8%

In Asubende 02 male children in the age group 0-4 years were found positive. In Mentukwa 01 female child in the age group 0-4 years was found positive. This indicates that transmission of Onchocerciasis is still ongoing in these two villages.

In 2004 out of 2400 people surveyed 18 were blind, 19 had severe visual impairment and 13 had visual impairment. The highest number of blind was in the age group 11–20 years old. It is not possible to say if the blind and severe visuals impaired are a consequent of Onchocerciasis. This can only be ascertained after a cause of blindness survey in these villages.

The epidemiological evaluation results of 2005 are equally alarming. Out of 9 sentinel villages evaluated in 2005 the prevalence of onchocerciasis is above the threshold of 5% in 4 of the villages. It ranges between 8.1% (Tanfim village) to 25.7% (Damongo Nkwanta village). The community microfilarial load CMFL, which is an indicator of the risk of blindness in a community, is on the increase, varying from 0.11mf/b (Tanfim village) to 2.65mf/b (Damongo Nkwanta). This situation calls for concern and efforts should be made to carry out regular ivermectin treatment in these communities.

Epidemiological evaluation of sentinel villages has not yet been conducted in 2006.

D. MEETINGS

1. Annual Review and Planning Meeting on SIZ activities (Ouagadougou, 9-11 November 2005)

Participants in the meeting included national Oncho coordinators of the former OCP countries, representatives of NGOs (SSI, HKI and OPC), and the MDSC. The objective was to review all aspects of onchocerciasis control in the countries, and agree on plans to be implemented to avoid any risk of recrudescence of the disease.

The main issues that came up during fruitful discussions were:

1) Integrating Onchocerciasis and LF control Programmes, as much as possible, at national level for increased efficiency and efficacy; 2) drafting up a basic standard list of all villages eligible to CDTI; 3) priority to be given by countries to sentinel villages and catching points to be put under surveillance, and which are on the list of sites selected by each country at the closure of OCP; 4) need for countries to solicit financing from various partners in order to enhance CDTI, where results would still be deemed unsatisfactory after the end of SIZ activities in 2007; 5) support to all initiatives toward the resumption of national CDTI-based onchocerciasis control activities in Côte D'Ivoire; 6) need for a better delineation of the SIZ area in Ghana; Ghana National Team should provide the elements...
necessary to re-define the SIZ, prior to the next CDTI activities in the Pru basin; 7) advocacy to be made at the highest level in Benin for the abrogation of the municipal sanitation tax on the importation of ivermectin into the country; 8) invitation of the NGDO coordinator to SIZ and ex-OCP country review and planning meetings; 9) need to develop a brochure on advocacy activities, in collaboration with the World Bank and HKI for resource mobilisation in the countries; 10) need for enhanced collaboration between the usual partners and the OOAS to ensure good coordination of onchocerciasis control in West Africa.

2. Tripartite meeting between sight savers international (SSI) country representatives and national onchocerciasis control programmes (NOCP) staff of Sierra Leone, Guinea and Liberia (26 January)

The objective of the meeting was to improve onchocerciasis control in the border areas between Sierra Leone, Guinea and Liberia by synchronizing CDTI activities in these areas.

The main recommendations of this meeting were:

1) the harmonization of ivermectin distribution in the three countries; 2) the Holding of a tripartite meeting twice a year during which achievements and problems can be discussed and recommendations made to solve the problems; 3) the need to strengthen communications between the three member countries of the Mano River Union through e-mails, reports, letters, telephone calls. NGDO partners promised to continue to provide support for Oncho control in the various countries of the Mano River Union.

3. Workshop on onchocerciasis control operations in the tributaries of the Oti river basin in Benin and Togo and in the upper Oueme river basin in Benin (Ouagadougou, from 1st-2nd March 2006)

The objectives of the workshop were to review the onchocerciasis control activities carried out in the tributaries of the Oti and Upper Oueme river basins since 2003, to review the CDTI, entomo-epidemiological and socio-anthropological data for a better understanding of the impact of the control operations, and to propose appropriate activities to be carried out in the basins before the closure of the SIZ programme in 2007.

Following SIZ Management presentations and intensive discussions, experts drew the following conclusions/recommendations:

1) the interruption of vector control in the Upper Oueme river basin for 2006 - 2007 the period. Only surveillance activities will be maintained on the basin by carrying out capture/dissection, morphological identification of adult flies, cytological identification of larvae and pool screening to monitor the infection level in the vectors; 2) the investigations to be conducted to identify the origin of these infected blackflies; 3) the continuation of larviciding in the Oti tributaries , while maintaining a high level of ivermectin delivery; 4) the use of savings made from unused larvicides and flight hours on the Oueme, for identification of untreated endemic villages and detailed mapping of settlements in order to reinforce CDTI hence ensuring 100% geographical coverage; 5) the need to strength CDTI by training/retraining more CDDs, and adopt the hamlet treatment strategy, intensify community sensitisation, mobilisation and advocacy to enhance compliance to long-term treatment, providing enhanced supervisory support by the health system; 6) the need to reinforce epidemiological evaluation activities in the SIZ to ensure longitudinal follow up of impact of
control activities on transmission, to use onchocim model to predict the epidemiological situation beyond 2007; 7) the need to continue advocacy with governments and NOCP, to integrate CDTI into national health systems; 8) the organization of cross-border meetings between Benin and Nigeria.

The full recommendations of the meeting are presented as annexe 4.

4. Annual meeting of the Special Advisory Committee (SAC) for SIZ (Ouagadougou, 13-16 June 2006)

The meeting was attended by all members of the committee, and a full-house participation of the three Programmes, namely APOC, SIZ and MDSC. The subjects discussed touched on the evaluation of the activities presented by the coordinators, the technical and administrative management of activities at SIZ Management level. Members of the Committee made observations and recommendations to SIZ Management, MDSC and the health authorities of SIZ countries. These recommendations relate mainly to:

1) the preparation of the cessation of SIZ activities; 2) the human and material resources required for the smooth running of the molecular biology laboratory of the MDSC and a task force on the pool screening technique, and its applicability to the operational context; 3) the integration of onchocerciasis control programmes and those of Lymphatic Filariasis (LF), at various levels, depending on the country; 4) CDTI reinforcement activities in the SIZ and the continuation of efforts to document persons who remain positive, though they claim to take ivermectin on a regular basis; 5) maintaining of the conventional entomological evaluation in the Upper Oueme basin, and conducting of a study on the source of blackflies invading this basin on a seasonal basis; 6) the problem of frequent changes of National oncho coordinator and the Health Ministry's lack of respect for its budget commitments; 7) Need for APOC Director to carry out a high-level advocacy visit in the near future to Ghana.

5. 2nd Cross Border Meeting Nigeria and Benin Republic Onchocerciasis Control held in Abeokuta, Ogun State (Nigeria, 17-20 July 2006)

The Federal Ministry of Health of the Republic of Nigeria in collaboration with the Ministry of Health of the Republic of Benin, and the APOC/SIZ Management held the 2nd Cross Border Meeting between Nigeria and Benin on Onchocerciasis control in Abeokuta, Ogun State, Nigeria from 17th – 20th July 2006.

The major outcome of this meeting includes the creation of a joint monitoring team, the development of a plan of action for synchronized activities, the development of the format for listing of communities in border LGA/Commune, and the development of a strategic plan for epidemiological and entomological surveillance on Nigeria side of the border.

The main recommendations were:

1) the need to establish epidemiological and entomological surveillance along the Nigerian border; 2) the necessity for the government and projects to identify and mobilize internally sustainable sources of funding, for implementation of CDTI activities at the border areas; 3) the need for CDTI projects to submit by November 2006 to their national offices comprehensive and reliable list of communities and their populations in the border; 4) the holding of stakeholders meetings once a year at local levels between adjacent districts and communities of both countries; 5) the reinforcement of supervision and monitoring in Nigeria and Benin in order to achieve and sustain 100% geographic and 85% therapeutic coverage; 6) the next cross border meeting will be held in Benin Republic in July 2007.
6. 2ND tripartite meeting between the National Onchocerciasis Coordinators of the Mano River Union Counties

The meeting was held in Liberia from 1–2 August 2006, as recommended during the first one held in Sierra Leone. Participants included representatives of SSI Sierra Leone, SSI Liberia, SSI Guinea, the Mano River Union (MRU) Secretariat, The WHO Country Office in Liberia, and the top management team of the Ministry of Health of Liberia.

During the 2 days of the meeting the recommendations made were related mainly to:

1) collaboration between the three countries as they have similar problems; 2) the conduct of joint surveillance in border areas, and sharing of surveillance results; 3) synchronized treatments with Ivermectin in the 3 countries or at least in the border areas; 4) the invitation of the National Coordinator of the Ivory Coast to the 3rd meeting; 5) the 3rd meeting be held in Guinea in January 2007.

E. APOC SUPPORT TO SIZ

⇒ APOC Director ensures the overall supervision of financial, administrative and technical activities of SIZ.
⇒ The SIZ get considerable administrative and technical support from assigned APOC staff.
⇒ The APOC Director and the Coordinator of the APOC Director's Office organise, guide coordinate all SIZ activities.
⇒ APOC puts its know-how at the disposal of the SIZ for putting in place a data bank of CDTI activities, of entomological and epidemiological evaluations in the SIZ, and contributed to drawing up the document of the CDTI strategic reorganisation in Sierra Leone.

F. SIZ MANAGEMENT SUPPORT TO NON-SIZ ZONES

The Management of SIZ gives technical support in the following areas:

Technical assistance in organising surveillance activities, and data collection/management in the non-SIZ zones in Togo, Benin, Ghana and Guinea.

Yearly organisation of review and planning meetings to which national Oncho coordinators of the six non-SIZ countries are invited. This helps them to take stock of activities carried out in each country since the closure of OCP, and to share experiences among themselves and with other participants.

Participation in the annual review meetings on onchocerciasis control activities in Togo, and in the evaluation organised by SSI on the relevance and efficiency of the support of SSI to the onchocerciasis control programme in Togo.

Contribution to the shooting of a documentary film on onchocerciasis in the endemic zones of Togo.
G. PARTNERSHIP WITH NON-GOVERNMENTAL DEVELOPMENT ORGANISATIONS (NGDOS)

HKI continues to give support to IEC activities relating to CDTI, and which have to do with vitamin A and iron distribution in several West African countries, including Guinea, Cote d'Ivoire, Burkina Faso, Mali, Niger and Sierra Leone.

SSI actively supports CDTI activities, especially in the area of training/re-training, supervision and supply of logistics to teams in former OCP countries including Benin, Ghana, Guinea, Mali, Senegal, Sierra Leone and Togo. Plans are made to extend support to Guinea Bissau.

OPC actively supports CDTI activities in Guinea, Mali and Senegal.
ANNEXES
ANNEXE 1: SUMMARY FOR DISTRIBUTION OF IVERMECTIN IN SIERRA LEONE (MAY 2006)

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ANNEXE 2: EPIDEMIOLOGICAL EVALUATION IN THE SIZ IN TOGO (2000-2006)

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ANNEXE 4: RECOMMENDATIONS OF THE WORKSHOP ON THE OTI TRIBUTARIES AND UPPER OUEME (Ouagadougou, 1st - 2nd March 2006)

The objective of the workshop were:

a) To review the onchocerciasis control activities carried out in the Keran, Kara, Mo and Upper Oumee river basins since 2003

b) To review the CDTI, entomo-epidemiological and socio-anthropological data for a better understanding of the impact of the control operations

c) To propose appropriate activities to be carried out in the basins before the closure of SIZ programme in 2007.

The recommendations made during this workshop by the experts are listed as follows:

COMMUNITY DIRECTED TREATMENT WITH IVERMECTIN (CDTI)

Recommendation 1

Strengthening CDTI in Togo and Benin as recommended by this group and the mid term review committee by:

- Training/retraining more CDDs and adopt the hamlet treatment strategy
- Intensify community sensitization, mobilisation and advocacy to enhance compliance to long term treatment
- Providing enhanced supervisory support by the health system.
VECTOR CONTROL

Recommendation 2
Interrupt vector control in Upper Oueme river basin (Benin) for the period 2006 – 2007. Use the saved flight hours for identification of untreated endemic villages and detailed mapping of settlements in order to reinforce CDTI hence ensuring 100% geographical coverage.

Recommendation 3
Concerning Keran, Kara and Mo (KKM) river basins (Togo and Benin), the group recommends that vector control should continue till end of 2007 as it provides as much protection as possible against transmission.

SURVEILLANCE/EVALUATION

Recommendation 4
Strengthen the entomological surveillance in the Upper Oueme river basin (Benin) by maintaining entomological monitoring activities (capture/dissection, pool screening, morphological identification of adult flies and cytological identification of larvae).

Recommendation 5
Reinforce epidemiological evaluation activities in the KKM (Togo and Benin) to ensure:

- Longitudinal follow up of impact of control activities on transmission
- To determine the prevalence of oncho in the specific groups (e.g. nomad fulanis, gold miners, fishermen and in the newly identified communities)

Recommendation 6
Given the prevailing epidemiological and entomological situation the group recommends that SIZ management explores the possible benefits of using the onchosim model to predict the epidemiological situation beyond 2007 on the basis of the interventions proposed by the group and the SIZ mid term review.

SIZ MANAGEMENT

Recommendation 7
The group considered that CSA should be cognizant of the need to maintain SIZ achievements in particular strengthen CDTI given that the epidemiological situation at the end of 2007 is unlikely to be compatible with the overall objectives and expectations of former OCP. The risk of recrudescence is considered a threat to the former programme area and too high for control options to be abandoned at this stage (given the geographical and sociological conditions, the proximity of borders and migration of populations),

The workshop recommends that opportunities of funding post SIZ activities should be explored to maintain enhanced CDTI through country budgets or with external support e.g. NGDOs.

The group further recommends that the cost of on going activities be estimated and any opportunity for integrated approaches in the future be explored.
Recommendation 8
SIZ management will take necessary action to implement the plan of action 2006 – 2007 elaborated during the workshop.