FINAL REPORT

1. General Information

Country of Intervention:	**Democratic Republic of Congo (DRC)**
Implementing Agency:	**Centre for Neglected Tropical Diseases, LSTM**
Program Title:	**Co-ordinated mapping in the Democratic Republic of Congo (DRC) to determine Lymphatic Filariasis, Schistosomiasis and Soil transmitted helminthiasis endemic districts**
Total Amount of Grant:	**$371,020**
Start-up date of Operation:	**August 2013**
Period covered by this Report:	**1st January - 31st March 2014**
Submission date of present Report:	**30th April 2014**
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2. Executive Summary

Neglected Tropical Diseases (NTDs) represent the most common diseases for the 2.7 billion people living on less than US$2 per day. The infections cause loss of livelihood, disfigurement, stigma, disability and poverty. These diseases can lead to irreversible blindness, chronic illness, physical deformities and death (there are half a million deaths every year worldwide from NTDs). NTDs are preventable with proven, cost effective interventions, such as mass drug administration (MDA).

The first step in combating NTD's is to establish the extent of diseases through mapping, to enable targeting of resources to areas most in need and provide the information required for medicine donations to be established and to determine changes of disease prevalence as treatments proceed.

CNTD manages two major UKAID funded programmes in DRC working towards the goal of control and elimination of NTD's as public health problems by 2020. These programmes involve integrated mapping of lymphatic filariasis (LF), schistosomiasis (SCH) and soil transmitted helminthiasis (STH). There is an urgent need to complete the mapping of NTDs in DRC, to enable the Ministry of Health (MOH) and other donors to establish NTD programmes in the country. The END Fund provided additional top-up funding to CNTD to complete its mapping activities in DRC as part of these programmes.

This is a final report of the activities during the 8 month programme. During the period of this report the integrated mapping of the country has continued to ascertain the prevalence of various NTDs (lymphatic filariasis, schistosomiasis and soil transmitted helminths) following the current WHO protocol. Despite challenges posed by the current conflict and the extent of the endeavour coupled with logistic and transportation difficulties, mapping has progressed and it is expected to finalize in July 2014. In the meantime the MOH and partners have continued supporting:

- Completion of mapping in Kivus, Equateur and Kinshasa
- Planning for community based MDA in selected south eastern provinces of the country;
- Provision of technical support and development of planning and budgeting tools and
- Financial monitoring of mapping expenditures.

As the time for the first mass drug treatment approaches, CNTD will reinforce the team in the country to provide the MOH with the required logistic and planning support to complete a full risk assessment and a detailed implementation plan which should include all partners in the fight against NDTs. The planning will incorporate provincial and district authorities and health staff to ensure tailored community engagement, identification of areas of complex access and coordination with the malaria programme to ensure broad distribution and consistent use of bed-nets particularly in areas with Loa-loa presence or in areas where the presence of this parasite is not well known.

In the meantime data from all provinces but two is being reviewed and maps published. Analysis of the data of Norh and South Kivu will proceed as results provided are considered as preliminary.

3. Situation Analysis

3.1. Elaborate on changes & challenges in the current social/political and fiscal environment in the country related to project success.

The conflict in some areas of the country (Nord Kivu) continued to be a problem and represented a major challenge for the completion of mapping and led to delays. The current unrest in the Nord Kivu province has now decreased which has allowed for the field teams to continue their activities. The mapping report has already finished and preliminary data is included in this report. The mapping of Equateur and Kinshasa is progressing and it is estimated that all mapping activities will be completed by July 2014.

3.2. Include any updates in the NTD control sector as it relates to policy, budget, planning, International donor make-up and collaboration.

With only one province (Equateur) to be completed, the Ministry of Health and partners have started considering plans for MDA in selected provinces and districts in the last part of 2014. The planning of MDA will need to include a detailed implementation workplan with identification and potential solutions to logistic, transportation and supervision challenges.

3.3. Include assessment of risk to program due to external factors such as domestic or regional turmoil, trade disruptions, and natural phenomena such as extended drought or wet season

Insecurity due to on-going conflict in Nord Kivu delayed the completion of the mapping and resulted in extra expenses. However the mapping has been completed to the credit of the provincial and central Ministry of Health staff. However areas of Kivus and Ituri remain very insecure while new conflict in Katanga will need to be considered for the planned MDA.

4. Planned Program/Project Response

4.1. Main results planned and outcomes achieved as per the approved country program for the period under review.

- **PRIMARY GOAL**: to determine the endemicity and distribution of three preventive chemotherapy diseases (LF, SCH and STH) across 8 provinces.
- **RESULTS PLANNED**: 367 health zones mapped in DRC over a 12 month period.
- **RESULTS ACHIEVED**: 4 provinces mapped by March 2014; North and South Kivu have been completed at the time of writing this report (June 2014), Kinshasa and Equateur are on going. The completion of the mapping is expected by July 2014 which will allow for the MOH and partners to focus on planning and budgeting for MDA in the last quarter of 2014.

4.2 Include number of direct & indirect beneficiaries reached through these activities explaining calculation methodology.

The result of the mapping exercise enables the implementation of large scale integrated treatment of preventive chemotherapy against LF, SCH and STH across the country, planned to commence later in 2014 by the MoH and its partner organizations. This directly benefits all individuals in the endemic districts as they will receive treatment for all the PC-NTDs that are present.

Table 1: Estimated population at risk of Lymphatic Filariasis according to mapping results, Democratic Republic of Congo, May 2014

	LF Endemic		LF Non endemic		LF Not mapped		Total	
Region	**# of ZS**	**Total population**	**# of ZS**	**Total population**	**# of ZS**	**Total population**	**# of ZS**	**Total population**
Bandundu	23	3,124,663	25	3,950,852	4	441,034	52	7,516,549
Bas-Congo	14	1,301,276	16	1,918,454	1	58,170	31	3,277,900
Kasai Occidental	21	3,525,236	23	3,617,574			44	7,142,810
Kasai Oriental	12	2,188,249	39	6,771,532			51	8,959,781
Katanga	28	4,616,179	37	5,984,575	2	215,295	67	10,816,049
Maniema	6	670,059	12	1,305,194			18	1,975,253
Orientale	59	6,402,963	23	2,745,452	2	211,700	84	9,360,115
Grand Total	**163**	**21,828,625**	**175**	**26,293,633**	**9**	**926,199**	**347**	**49,048,457**

Table 2: Estimated population at risk of schistosomiasis according to mapping results, Democratic Republic of Congo April 2014

Schistosomiasis												
	high risk		moderate risk		low risk		non endemic		not mapped		Total	
Region	# ZS	Total population	# ZS	Total population	# ZS	Total population	# ZS	Total population	# of ZS	Total population	# ZS	Total population
Bandundu	1	120,215			22	3,408,424	27	3,810,495	2	177,415	52	7,516,549
Bas-Congo	3	410,289	17	1,866,692	9	847,734	1	95,015	1	58,170	31	3,277,900
Kasai Occidental			1	132,217	8	1,314,159	35	5,696,434			44	7,142,810
Kasai Oriental	1	267,468	14	2,787,234	11	1,969,589	19	2,255,433	6	1,680,057	51	8,959,781
Katanga	1	229,916	16	3,401,385	18	2,257,828	28	4,317,815	4	609,105	67	10,816,049
Maniema	4	617,750	13	1,280,433			1	77,070			18	1,975,253
Orientale	6	843,620	29	3,008,516	42	4,728,325	5	567,954	2	211,700	84	9,360,115
Grand Total	**16**	**2,489,258**	**90**	**12,476,477**	**110**	**14,526,059**	**116**	**16,820,216**	**15**	**2,736,447**	**347**	**49,048,457**

#ZS: number of health districts (zones de santé in French)

Table 3: Estimated population at risk of infestation by soil transmitted helminths according to mapping results, Democratic Republic of Congo, April 2014

Soil transmitted helminthes												
	high risk		low risk		no risk		non endemic		not mapped		Total	
Region	# ZS	Total population	# ZS	Total population	# ZS	Total population	# ZS	Total population	# ZS	Total population	# ZS	Total population
Bandundu	9	1,311,158	12	1,744,544	25	3,588,885	4	694,547	2	177,415	52	7,516,549
Bas-Congo	6	561,001	16	1,638,348	8	1,020,381			1	58,170	31	3,277,900
Kasai Occidental	19	2,688,272	17	2,747,590	8	1,706,948					44	7,142,810
Kasai Oriental	12	1,288,986	11	1,783,689	25	5,135,892	3	751,214			51	8,959,781
Katanga			11	1,846,977	46	7,519,444	6	840,523	4	609,105	67	10,816,049
Maniema	6	836,422	10	902,820	2	236,011					18	1,975,253
Orientale	20	2,013,696	18	1,839,374	40	4,661,129	4	634,216	2	211,700	84	9,360,115
Grand Total	**72**	**8,699,535**	**95**	**12,503,342**	**154**	**23,868,690**	**17**	**2,920,500**	**9**	**1,056,390**	**347**	**49,048,457**

For North and South Kivu preliminary results are as follows:

1. **Lymphatic Filariasis** – preliminary mapping results indicate that six districts (zones de santé) have a prevalence equal or higher than 1% while two districts have a lower than 1% prevalence and 24 have been found non endemic. In South Kivu 16 districts are endemic from which 11 have a prevalence equal or higher than 1% and are therefore eligible for mass drug administration (Table 4).

Table 4: Lymphatic filariasis prevalence by district, North and South Kivu, June 2014

Prevalence ICT	ZS North Kivu	ZS South Kivu
Prevalence ≥ 1 %	6 (18.7 %)	11 (32.4 %)
Prevalence < 1 %	2 (6.2 %)	5 (14.7 %)
Prevalence 0%	24 (75 %)	18(52.9%)
Total	**32 (100%)**	**34 (100%)**

2. **Schistosomiasis** - mapping results indicate a high prevalence (over 50%) of infection in four districts, a medium prevalence in 10 and lower and no prevalence in 18 districts which makes almost the whole province eligible for mass treatment with Praziquantel. In South Kivu the endemicity is lower and the parasite prevalence is medium in 10 districts and lower in 18 with 6 districts having a prevalence lower than 1% or nil (Table 5)

Table 5: Schistosomiasis prevalence by districts, North and South Kivu, June 2014

Endemicity	ZS North Kivu	South Kivu
High prevalence (≥ 50 %)	4 (12.5%)	0 (0%)
Medium prevalence (≥10% et < 50 %)	10 (31.2%)	10 (29.4%)
Low prevalence (≥ 1% et < 10%)	16 (50%)	18 (52.9%)
Prevalence < 1%	2 (6.2%)	4 (11.8%)
Prevalence 0%	0 (0%)	2(5.9%)
Total	**32 (100%)**	**34 (100%)**

3. Soil Transmitted Helminths - 27 health districts in North Kivu and 24 in South Kivu have a prevalence considered as medium or high with only 5 district in the north and 10 districts in the South having a low prevalence of less than 20% infestation of the target population (Table 6)

Table 6: Soil Transmitted Helminths prevalence by district, North and South Kivu, June 2014

Endemicity	ZS North Kivu	ZS South Kivu
High prevalence Forte (≥ 50 %)	**13** (41%)	**12** (35%)
Medium prevalence (≥20% et < 50 %)	**14** (44%)	**12** (35%)
Low prevalence (< 20 %)	**5** (16%)	**10** (29%)
Total	**32** (100%)	**34** (100%)

4.3 Geographic coverage (include map).

Mapping was completed in the Provinces of Katanga, Kasai–Oriental, Kasai Occidental, Bandundu, Bas-Congo, Maniema and Orientale by the end of January 2014. Following some delays to the schedule, the mapping in the North Kivu and South Kivu has now been completed and, Equateur and Kinshasa Provinces (white areas in Figure 1) are on- going and will be completed by July 2014 according to the estimations of the national NTD programme.

Results of the mapping are presented below and these show the extent of the challenge ahead to control and eliminate these parasites as a public health problem in the country. In fact, virtually all health districts (zones de santé) are affected by one or another parasite, with a combination of infestation which means each district will require a tailored approach to MDA. In addition, the presence of Loa loa and the possibility of adverse reactions to Ivermectin further complicates the planning for integrated MDA. All of these considerations will be taken into account in the process for agreeing the next year's workplan between the MOH and CNTD in coordination with other implementing partners working in NTD and malaria control programmes. Synergies between both the NTD and malaria control programmes will be considered during the planning as it is clear that integrated vector control will be the recommended strategy for areas where Loa is present in line with current WHO protocol for treatment in these areas.

The results for Kivu provinces have been provided at the time of reviewing this report and are not yet included in the overall mapping of NTD in the country. For this reason they are presented separately.

Figure 1: Lymphatic filariasis endemic districts in DRC.

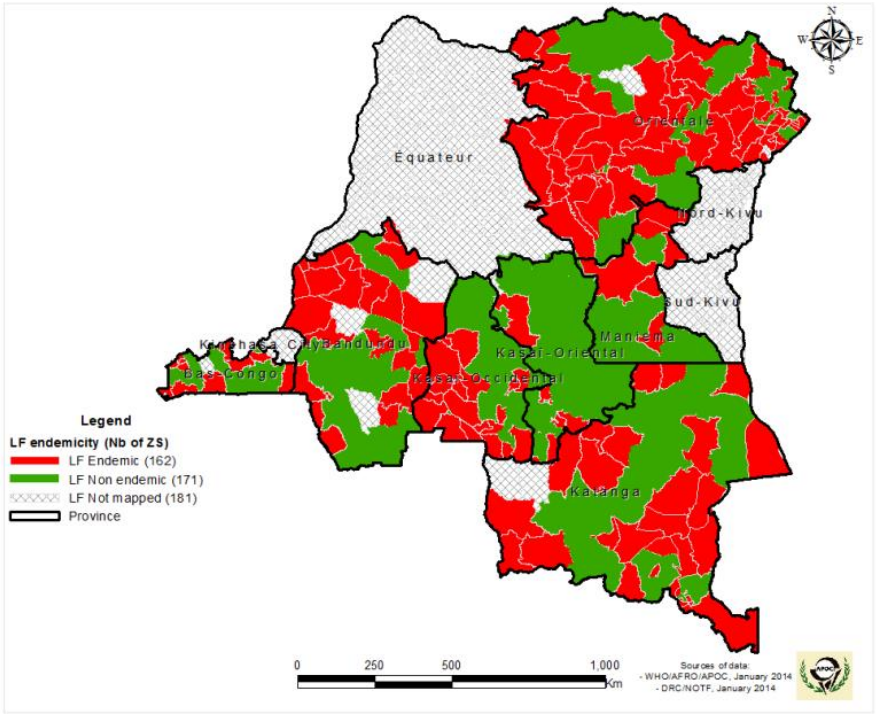


Figure 2: Schistosomiasis endemic districts in DRC

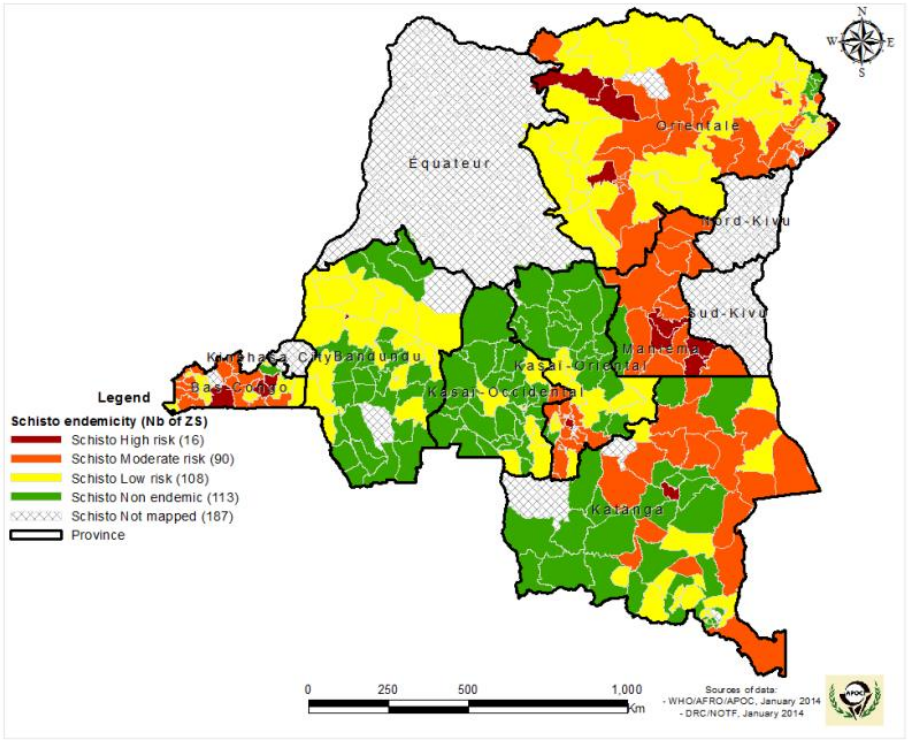


Figure 3: Soil-Transmitted helminth endemic districts in DRC

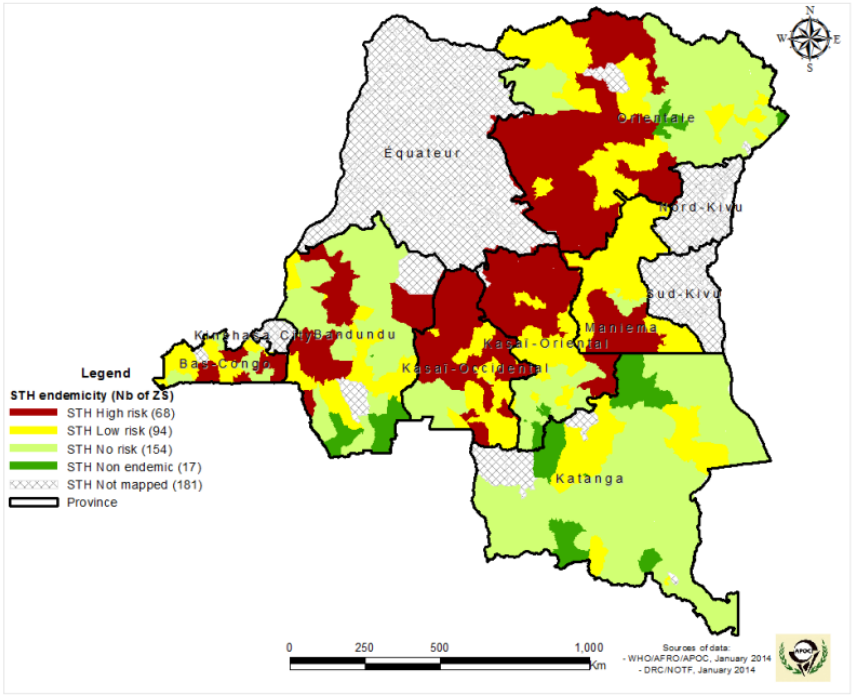
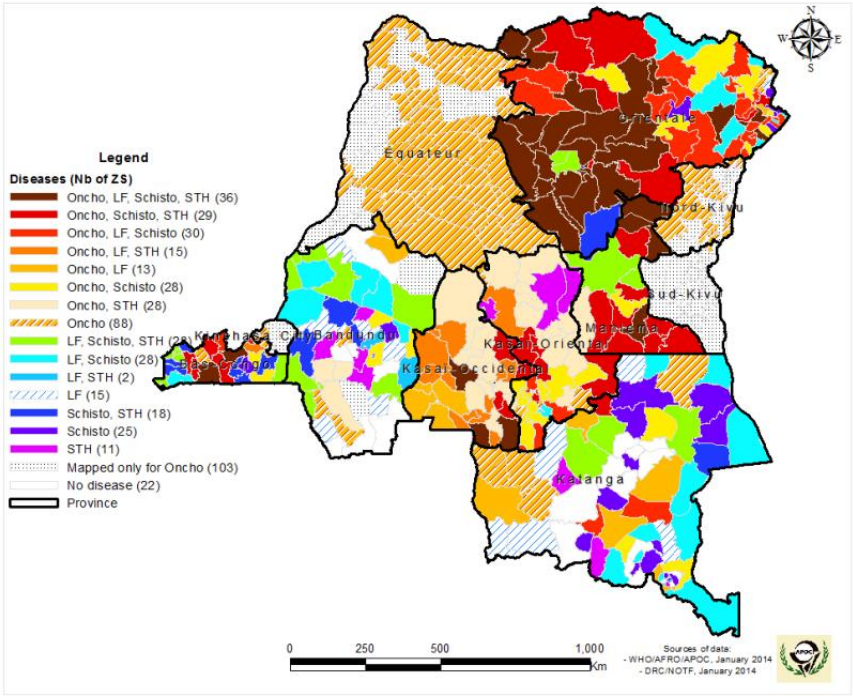
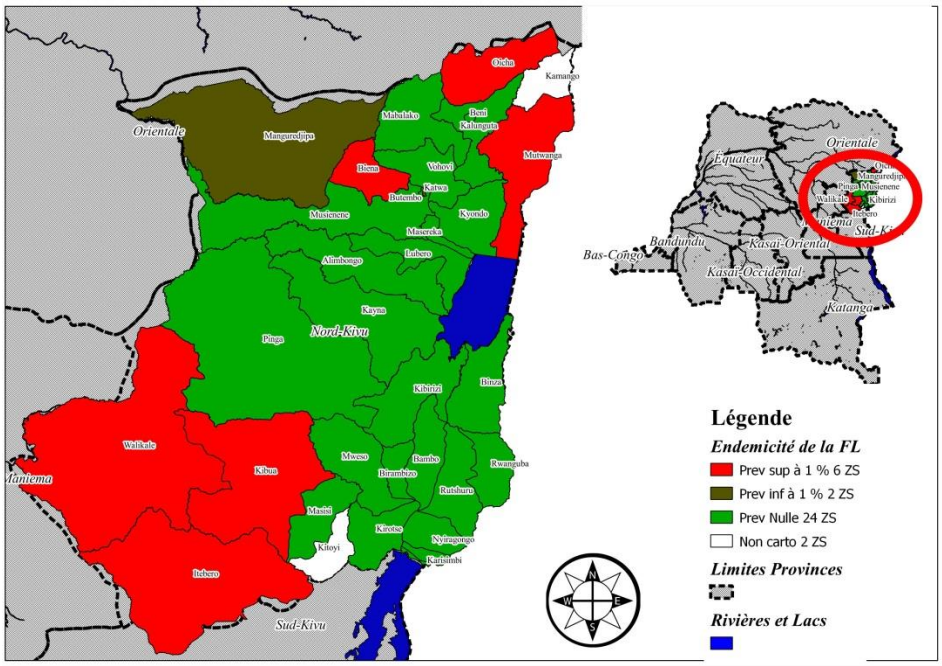


Figure 4: NTD co-endemic districts in DRC

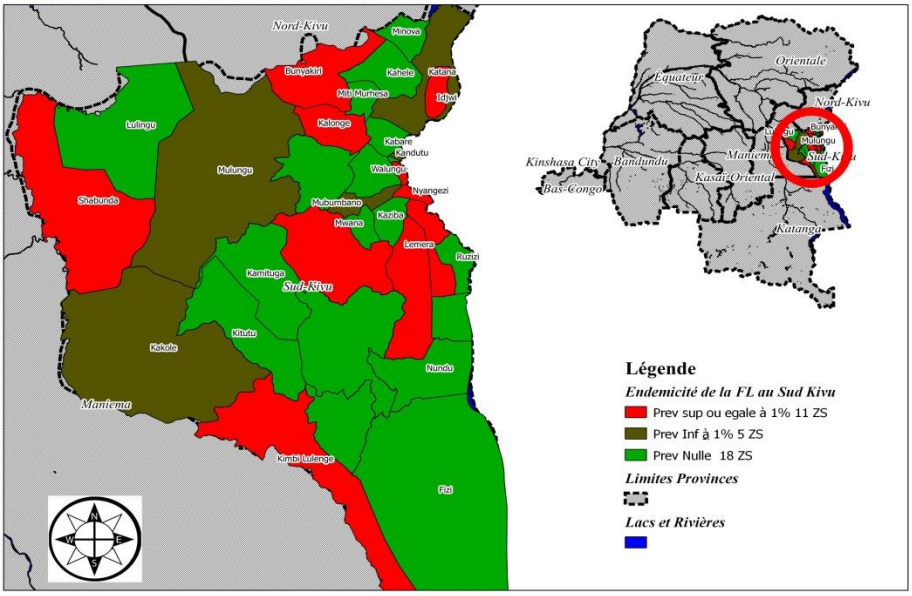


North and South Kivu preliminary maps for LF, Schistosomiasis and STH

1. LF endemicity by district, North Kivu, June 2014.



2. LF endemicity by district, South Kivu, June 2014



4.4 List the main implementing local partners included in quarterly activities and assess their operational effectiveness.

The primary implementing partners in the integrated NTD mapping of DRC that are included in quarterly activities and assess the operational effectiveness are as follows:

- **Ministry of Health (MOH)** – Conducting mapping and related technical activities.
- University technicians from the **Faculty of Medicine**, **University of Kinshasa** are involved on the field activities (data collection and analysis).
- **CBM** – Responsible for financial management. An accountant has been hired to support the project in Kinshasa. At CBM HQ quality assurance of the financial reports is undertaken.
- However though not strictly partners, CNTD coordinates activities with RTI- ENVIISON project, the programme for control/elimination of Onchocerciasis in Africa (APOC, Sight savers and organisations working in DRC such as Helen Keller International , Interfaith Medical Aid (IMA) and Wold Vision.

5. Periodic Program Achievements

5 Reporting should follow the numbered line items of the original proposal. For example, reports should follow a tabulated format that specifies all outputs, outcomes and impacts with associated comments defined under the components.

Mapping has proceeded in the remaining provinces of the country for the mapping to be completed by July 2014.

4. Highlight difficulties encountered during the implementation with recommendations.

Logistic and transportation difficulties have increased the cost of mapping in the Kivus and delayed its completion. Those have been compounded by insecurity and impassable roads due to the increased rainfall in the area. However, the mapping has been completed though at higher cost and later than expected.

Field supervision is contingent on security but also on the availability of experts willing to travel to remote locations, which again has increased costs of transportation of Ministry of Health staff to conduct supervision and increased time for field activities and per diems of the supervision and mapping teams. All of these issues will be considered during the planning of the MDA. A proposal for ensuring the quality of the mapping and a detailed implementation plan for the proposed MDA will be discussed with the MOH during the next visit of the new CNTD programme manager for DRC (week commencing 9th June). CNTD plans are to deploy experts to the country to maintain a constant presence. This will facilitate support activities and ensure the smooth implementation of the MDA process.

5.1 Are the current targets realistic and are they likely to be met?

Targets of the contract have been met although with delays as expected in an activity which covers the biggest country in Africa, high in the list of fragile states (www.fundforpeace.org0 which presents consistent governance, management, technical and operational challenges.

6 Financials

The financial report will be sent separately for each of the provinces with due account of budgets and expenditures. Expenditure has exceeded the funding provided by END Fund, but the shortfall will be met from CNTD. Extra expenses have been the consequence of travel to remote and insecure locations with rental companies (and individuals) requiring additional payments, extended time for teams to reach locations and complete the surveys and increased prices for fuel and other commodities, particularly in the Kivu.

7 Communication

7.1 Include human-interest stories, communication material (newspaper articles, press releases) and evidence (video/photo) of workshops, training sessions and launches.

Communication Material

No new communication material has been developed or used since the previous report. See below for existing communication material as stated in previous report.

7.3 Describe and attach all relevant communication material produced, plus any published educational material.

No new communication material has been produced since the previous report.

7.4 Submit, via separate file if necessary, relevant pictures of structures built/rehabilitated as well as instances of children engaging in activities demonstrating learning and positive behavior (e.g. washing hands, receiving treatment, reading/writing). This needs to align with implementing organization's policies on photographing children.

N/A

8 Requests for Operational Modification

Please note that modifications in the program budget, timeline, target areas, number of beneficiaries as well as the removal/addition of activities must be disclosed to and approved in advance by the END Fund in writing.

N/A

9 Conclusion

The integrated NTD mapping activities in DRC have overall been very successful. Despite challenges only two provinces remain to be completed for three diseases (lymphatic filariasis, schistosomiasis and soil transmitted helminths). Due to unrest in the province of Nord Kivu, logistic, transportation and technical difficulties as well as reduced possibilities for field quality control and administrative bureaucracy in DRC, the mapping of the Kivus was delayed. The remaining provinces of Kinshasa and Equateur are currently being mapped and will be completed by July 2014. Data entering and analysis of prevalence data will be completed by August 2014.

To date all the current data on the activities has been sent in previous reports to END Fund and is currently being disseminated to national and international stakeholders to enable the country to move to large scale distribution of preventative medication in 2014.

APPENDICES

Preliminary data has been provided as submitted to CNTD. Datasets of the mapping are not yet available.