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National Tuberculosis Control Programme

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NATIONAL TUBERCULOSIS STRATEGIC PLAN 2010-2014

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ABBREVIATIONS

CMX :	Cotrimoxazole
COPD :	Chronic Obstructive Pulmonary Disease
CPC :	Centre Pasteur du Cameroun
CPT :	Cotrimoxazole Preventive treatment
DOT :	Diectly observed treatment
DOTS :	The internationally recommende strategy for TB control
DST :	Drug Sensitivity Test
EMLs :	Essential Medicines Lists
EPI :	Expanded Programme of Immunisation
EQA :	External Quality Assurance
FDCs :	Fixed doses combinations
GFATM :	Global Fund Against Aids, Tuberculosis and Malaria
GLC :	Green Light Committee
HIPC :	Heavily Indebted Poor Country
HIV :	Human Immuno Defficiency Virus
HMIS :	Health Management Information System
INH :	Isoniazid
KAP :	Knowledge, attitudes and practice
M&E :	Monitoring and Evaluation
MCH :	Mother and Child Health services
MDR :	Multi-Drug Resistance
MoH :	Ministry of Health
MoPH :	Ministry of Public Health
NACC :	National Aids Control Committee
NGO :	Non Gouvernemental Organization
NTCP :	National Tuberculosis Control Programme
NTP :	National Tuberculosis Programme
PTB :	Pulmonary Tuberculosis
PAL :	Practical Approach to Lung Health
EPI :	Expanded Programme of Immunisation
PR :	Principal Recipient
PTB :	Pulmonary Tuberculosis
Rd 9 :	Round 9
RDPH :	Regional Delegations of Public Health
RH :	Rifampicine and isoniazid
RHEZ :	Pyrazinamid, Rifampicine, isoniazid and

	Etambuthol
SDA :	Service Delivery Area
SQI :	System Quality Improvement
SRHEZ :	Streptomicin, Pyrazinamid, Rifampicine, isoniazid and Etambuthol
ss+ PTB :	Sputum Smear positive pulmonary tuberculosis
STGs :	Standard Treatment Guidelines
SWAp :	Sector Wide Approach
SYNAME :	National System of drugs supply
TB :	Tuberculosis
The Union :	International Union Against Tuberculosis and Lung Disease
UPEC :	HIV/AIDS patient management unit
VCT :	Volontary counseling and testing for HIV infection
WHO :	World Health Organisation

1. Vision

A Cameroon free from Tuberculosis

2. Mission

To provide efficient and high quality diagnosis, treatment, and care to people contracting TB and to prevent TB

3. Context

3.1 General information

Cameroon is a sub-Saharan African country situated in the golf of Guinea. The country has a surface area of 475 440 km2 and a population estimated in 2007 at 16.6 million. The population density is 35 inhabitants per km2. The annual population growth rate is estimated at 2.7%. The under 15 years old population is estimated at 42.7%, and the urban population stands at 49.6% (UNDP). According to UNDP, in 2007 Cameroon had a human

development index (HDI) of 0.522 (HDI rank 144),[1] making her to belong to the group of countries where the demographic and economic transformation is progressing slowly, in spite of its socio-economic potential.

Cameroon is a presidential democracy. Administratively, the country has 10 Regions with 58 divisions, the latter being subdivided in 269 sub-divisions and 53 administrative districts. The relative economic prosperity which the country experienced during the post independence years was undermined by the effects of the severe economic crisis that hit the country in the late 80s. The annual economic growth rate is estimated today at about 4.8%.[2] Per capita GNP in 2006 is estimated at about 626 USD. The proper implementation of Government macroeconomic and structural reform programmes since 1996, with support from its development partners, brought Cameroon to the decision point of the HIPC initiative in October 2002. In spite of these gains, the economic and financial situation remains fragile. According to the household survey conducted in Cameroon in 2004, 40.2% of the population lives below the poverty line.[3]

3.2 The health care system

a. Government health care system

The Governmental health care is organised in a pyramidal form with three levels: seven central hospitals, eleven regional hospitals, 178 district hospitals (DH) and 1650 health centres (HC). District hospitals and corresponding health centres constitute the main health care delivering units. At régional level, the health system is co-ordinated by the Regional Delegation of Public Health with a Regional Delegate who is answerable to the Minister of Public Health (MPH). Complementary care packages for DHs and HCs as well as reference/counter-reference procedures are defined, but in many places are still not

[1] UNDP, Human Development Report 2007 (http://hdrstats.undp.org/country_fact_sheet/cty_fs_CMR.html), accessed 05/02/08)
[2] The Economist Intelligence Unit Limited. Country Report Cameroon June 2007 (www.eiu.com)
[3] EDS 2004

operational. A central pharmacy supplies essential drugs to regional pharmacies which in turn supply DHs and HCs.

b. Non Governmental health care system

Parallel to the governmental health care sector, there exist a private not-for-profit and a private for-profit health sector. The private not-for-profit sector is mainly composed of missionary health facilities. There are about 40 mission hospitals and 350 HCs. Depending on the Region, the missionary not-for-profit sector accounts for 40-60% of the curative activities. In certain well defined programs like Expanded Program of Immunisation (EPI) or TB for example, government and missionary health care networks collaborate in a complementary way.

Beside the two above described systems, a private-for-profit health care sector exists. It comprises health centres and specialist clinics which are founded particularly in bigger cities.

Finally, a vast variety of traditional healers offer health care to the population.

3.3 Epidemiology of TB in the country

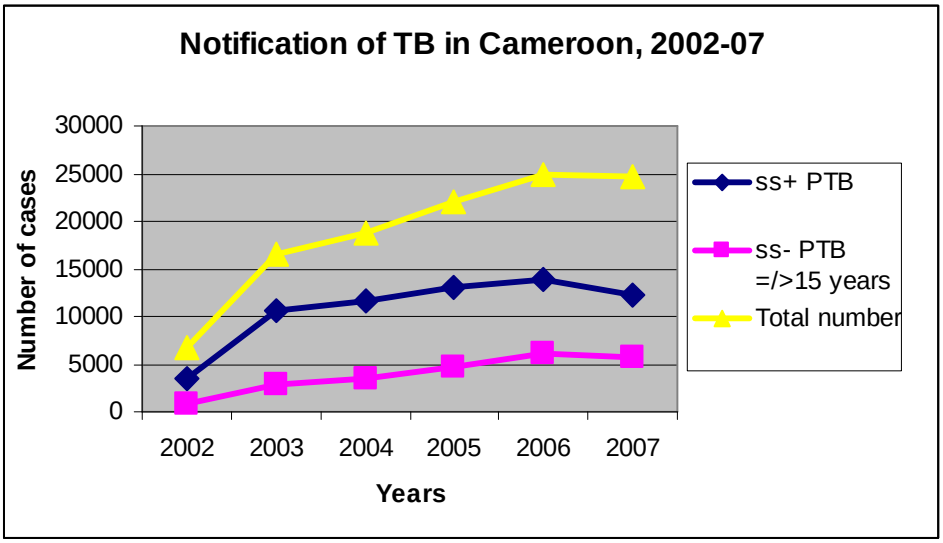
The annual risk of TB infection (ARI) for Cameroon is estimated to be 1-2% or 50-100 new smear positive cases per 100 000 population (Cauthen *et al.*, 1988) which means a annual case load of about 12 150 new smear positive pulmonary TB (PTB) cases. Accordingly, the number of new PTB cases for 2006 was estimated by WHO to be 12 486 (total case load: 28 451). This rather conservative estimate does not take into account an accelerating HIV epidemic. The reported number of PTB cases by the NTP for this year was 13 001 cases or 106 % of the number of cases estimated by WHO.[4] - The estimated incidence of PTB cases for Cameroon corroborates with the results of a recent (2002) study of the

[4] WHO, Global Tuberculosis Control. Surveillance, Planning, Financing: WHO report 2007. Geneva 2007 (WHO/HTM/TB/2007.376).

ARI, performed in the West Region of the country and showing an ARI of 1.8 (figures not published). But this region notifies since the implementation of the NTP regularly a proportionally less important number of PTB cases than the national average, in spite of a rather well-performing TB-programme. – In Cameroon like in other countries of the region the population aged 15-44 years is the one most affected by TB. The male-female ratio among TB patients is 5:3.

Notification figures between 2002, the year when national coverage of the NTP was achieved, and 2007 show that TB notification rates stabilize.

Figure 1Notification of TB in Cameroon, 2002-07



d. In 2007, Cameroon had 73 functional prisons with a total prison population of about 24 000. A study in the Central Prison of New Bell realized in 2004/05 revealed a TB point prevalence of 3.5%, among the inmates a prevalence 30 times higher than in the comparable general male population of Douala.[5] The two biggest prisons (Kondengui in

[5] Noeske J, Kuaban C, Amougou G, Piubello A, Pouillot R. Pulmonary Tuberculosis in the Central Prison of Douala, Cameroon. EAMJ Year? 83 (1), 25-30.

Yaounde, the administrative capital, and New Bell in Douala, the economic capital), comprising one third of the total prison population, as well as the prison of Buea are DTCs, diagnosing, treating and reporting like the DTCs in the civilian sector. The following table shows notification figures for these three prisons for 2004-07.

Table 1. TB notification in prisons in Cameroon, 2004-07

	Smear positive				Smear negative		Extra-pulmonary TB	**Total**
	New cases	Relapses	Failures	Treatment after default	<15	>=15		
Prison								
New Bell Prison 2004	64	3	0	0	0	19	0	86
New Bell Prison 2005	42	5	0	0	0	10	0	57
New Bell Prison 2006	34	6	0	0	0	26	0	66
New Bell Prison 2007	52	9	0	0	0	24	12	97
Kondengui Prison 2004	73	13	0	0	0	9	1	96
Kondengui Prison 2005	27	5	0	0	0	4	0	36
Kondengui Prison 2006	33	8	0	1	0	4	0	46
Kondengui Prison 2007	54	8	0	0	0	16	0	78
Buea Prison 2004	1	0	0	0	0	0	0	1
Buea l Prison 2005	1	0	0	0	0	0	0	1
Buea Prison 2006	2	0	0	0	0	0	1	3

Buea l Prison 2007	2	0	0	0	0	1	0	3

The rest of prison population is covered in what concerns TB control by individual arrangements between the prison concerned and a near-by DTC, often with the mediation of a humanitarian or missionary organism. - In the Littoral Region, GTZ supports the prison administration with the control of TB in prisons.

3.4 Epidemiology of HIV in the country

The prevalence of the HIV infection rate among the 15-49 years old population is estimated at 5.5 % with 6.8% of women versus 4.1% of men HIV infected (UNAIDS, based on Demographic and Household Survey Data, 2004).

The HIV infection rate in TB patients in Cameroon differs from Region to Region with a mean of about 40% (range 20-45%). The HIV-TB co-infection rate still shows a rising trend.[6]

4. The existing TB control programme (NTP)

4.1 Structure of the NTP

Since 1997, Cameroon has a National TB Control Programme (NTP) according to WHO's and the UNION's recommendations with a policy paper and technical guidelines (2nd edition in 2004) according to the recommendations of WHO and the IUATLD. A central management unit, Tuberculosis Central Technical Group (TB-CTG), is piloting the programme since 2004. It is headed by a permanent secretary and made up of six sections (the case management section, the social mobilisation, communication and partnership section, the training and research section, the laboratory section, the administrative and

[6] Noeske J, Kuaban C. Are smear-positive pulmonary tuberculosis patients a "sentinel" population for the HIV epidemic in Cameroon? Int J Tub Lung Dis 2004; 8(3): 346-51.

financial section, and the monitoring, follow-up and evaluation section). At regional level, the NTP is managed by a Regional Technical Group, headed by a coordinator who is assisted by an experienced nurse. - Within the above described health sector, public and mission hospitals as well as HCs with sufficient laboratory skills and management capacities have been identified as Diagnosis and Treatment Centres (DTC) of TB. Actually (May 2009), a network 207 public and private DTCs is functional throughout the 10 regions of the country, on average one DTC per 81 500 inhabitants. - The programme is backed by the national referral laboratory found in the Centre Pasteur of Cameroon, which provides training to laboratory technicians and ensures quality control. - Since 2004, the NTP is funded almost entirely by the GFATM. Other donors are: the national office of WHO, German Technical Cooperation (GTZ), ALES-Emmaus Swiss, and the French Cooperation.

4.2 Objectives

The NTP has three main objectives

- To cure 85% of all detected TB cases latest by 2014
- To continue to detect at least 70% of the estimated number of sm+ pulmonary TB cases
- To continue to immunize at least 80% of infants with BCG at birth

4.3 Number and type of professional staff involved in the dispensation of TB services

The following table shows the number and type of professional staff involved in the dispensation of TB services (situation as in December 2008).

Table Professional staff by category involved in TB services, NTP Cameroon

Type of personal	Generalist	Lung specialist	Nurses	Lab technicians

Number	210	7	700	240
Role	Diagnosis, follow-up	Diagnosis, follow-up	(Diagnosis in some situations), Follow-up, drug intake monitoring	Microscopic exams

4.4 Strategies and methods for case finding and contact tracing.

TB control relies on passive case detection through the general and primary health care (PHC) services. Sputum examinations are performed for all suspect TB cases in the DTCs either for suspects presenting directly in one of the DTCs or for referred suspects. Algorithms for the detection of ss- PTB cases are conceived and applied according to WHO's and the UNION's recommendations. - Regularly, awareness campaigns are performed through the media in order to diffuse knowledge about TB signs and symptoms, the localisation of DTCs and the conditions for being diagnosed and treated. Some Regions produce and distribute continuously flyers with information about TB and TB treatment facilities, too, for special populations like prison inmates. In some missionary networks, routinely contact tracing among family members is done during systematic home visits of TB patients. – Active case finding for under-five children of infectious cases is recommended in the national guidelines but still not applied systematically.

4.5 Treatment strategies for TB cases

New cases (NC) are treated for 6 months with SCC consisting of 2 months of daily rifampicine (R), isoniazide (H), pyrazinamide (Z) and ethambutol (E) (intensive phase), followed by 4 months of daily RH (2RHZE/4RH). Retreatment cases [relapses, treatment

failure cases, defaulters – according to the international definitions (Int J Tuberc Lung Dis 2001; 5 (3): 213-215) are treated for 2 month with RHZE and streptomycin (S), and a third month without S (intensive phase), followed by 5 months of RHE daily (2RHZES/1RHZE/5RHE).

4.5.1 Treatment in the intensive phase

Treatment in the intensive phase (2 or 3 months, respectively) is administered during hospitalisation under supervision or through weekly appointments with the patient. Compliance during the continuation phase is assessed by, at least, monthly return for drug collection. During treatment, patients' sputum is checked three times for the presence of bacilli, at the end of the intensive phase (2^{nd} or 3^{rd} month), after 5 and after 6 months of treatment. The outcome of treatment is recorded as *cured*, *completed*, *failure*, default, *died* or *transferred out* - according to the international definitions (Int J Tuberc Lung Dis 2001; 5 (3): 213-215]. The three sputum exams for TB suspect patients are paid 1000 F CFA (equivalent of 2 USD). Once TB is diagnosed, follow-up exams are free-of-charge as are all first-line treatments and retreatments. Patients are notified and followed up through patient cards and patient files and in laboratory and treatment registers according to the recommendation of the UNION and WHO, and the DTCs are reporting quarterly according to international recommendations.

4.5.2 Defaulter tracing system and means to enhance adherence to treatment

Defaulter tracing is done in many DTCs – be it not always systematically - by members of the communities trained by the PNT in regional workshops. Members have been trained by the NTP and are in charge of tracing and recuperation of eventual defaulters. As the work is voluntary and there are as good as no means for "motivation" available, the system does not function as well as planned for. - In some contexts with an unacceptable high defaulter rate (Douala and Yaounde especially) the following – successful

- mechanisms have been established during the last 2 years: 1) Patients from overburdened DTCs are referred to other DTCs nearer to their homes and the effective reference is controlled by cards, registers and telephone calls; 2) In the catholic health facility network in Douala, a team of "accompagnateurs" has been engaged who's members accompany each individual patient to his home, do the contact tracing and assure the regularity of the drug intake (this measure as reduced the number of defaulters from >25% to a 'spectacular' 3.5% within a period of 2 years); 3) Several DTCs are experimenting with a especially designed reference person within the health-team to be responsible for a series of equally designed TB patients under treatment; 4) A series of DTCs distribute systematically flyers with information to each new TB patients. – Since two years, 2-, 3- and 4-drug FDCs have been introduced in Cameroon in order to avoid inappropriate anti-TB drug intake.

4.6 Pharmaceutical regulations

All drugs being imported to Cameroon have to receive a "Visa" from the MoH. The drugs with a "Visa" are entered in a list thus defining the drugs authorized to be imported, sold, and prescribed. The list is revised regularly by a commission convoked by the MPH under the responsibility of the pharmaceutical department of the MPH; the commission which is composed by health officials, private and public service pharmacologists, medical specialists, university teachers and other experts is convoked at least service once per year. Besides the general list of drugs with a "Visa" there exists a list of essential drugs for which the prices are fixed. – Concerning first-line anti-TB drugs, the list comprises actually R, H, S, E, Z, RH, RHE, RHEZ. Concerning second-line anti-TB drugs, Km and Ofx form part of the list. A demand for including Pto and Gfx in the list has been submitted.

4.7 TB drugs supply mechanisms

The PNT procures its drugs through the National Pharmacy (CENAME). Annually, CENAME buys anti-TB drugs through an international call for tender according to the quantities ordered by the MPH after proposal of the TB-CTG. CENAME stocks the TB drugs and supplies bi-annually the regional pharmacies which supply quarterly the DTCs. Drug orders by the regional pharmacies are authorized by the TB-CTG; drug orders by the DTCs are authorized by the regional technical TB-units. - In 2005 and 2006, GDF as furnished the anti-TB drugs following a request of the MPH.

5. Achievements 2002-2008

inal coverage of the country with the TB programme was achieved in 2002. The evolution of the total number of TB cases in Cameroon, all forms confounded, are represented in the following table. We note an increase until the year 2006 with a trend to stabilization since than:

Table Evolution of case notification

	Sm+ PTB				Sm- PTB		Extra-pulmonary	Total
	New	Relapse	Failure	Defaulter	<15	>=15		
2002	7 284	416	31	380	54	1 566	817	**10 548**
2003	10 661	672	82	463	138	2 813	1 649	**16 478**
2004	11 656	767	103	470	212	3 478	2 104	**18 790**
2005	13 001	1 016	93	481	350	4 671	2 461	**22 073**
2006	13 810	901	88	475	489	6 080	3 035	**24 878**
2007	13 220	938	110	417	433	6 319	3 152	**24 589**
2008	14 232	917	91	412	440	5 842	3 191	**25 125**

The number of sm+ pulmonary TB cases notified represents about 95% of the estimated cases (WHO 2008). On the contrary, there is a detection gap of more then 50% with regard to sm- and extrapulmonary TB cases according to WHO estimations (WHO 2008).

In the next table treatment outcomes for TB cases notified and treated in Cameroon between 2003 and 2007 are represented. We note a steady, be it slow, increase of the proportion of sm+ pulmonary TB cases with a positive treatment outcome. But the objective is still not attained.

Table. Evolution of treatment outcome in New cases

	Cases notified	Cured	Tmt finished	Failure	Died	Lost	Trans-fered	Total	*% analysed*
2003	10 909	64%	8%	1%	5%	19%	2%	**10 744**	*98%*
2004	11 506	64%	8%	1%	6%	18%	2%	**11 167**	*97%*
2005	12 961	66%	8%	1%	6%	15%	3%	**12 794**	*99%*
2006	13 857	65%	10%	1%	6%	14%	4%	**13 744**	*99%*
2007	13 025	*61%*	*15%*	*1%*	*7%*	*11%*	*5%*	**13 008**	*100%*

Table Evolution of treatment outcomes in Retreatment cases

	Cases notified	Cured	Tmt finished	Failure	Died	Lost	Trans-fered	Total	*% analysed*
2003	1 472	73%	3%	2%	4%	15%	3%	**2 063**	*140%*
2004	1 317	48%	9%	4%	7%	30%	2%	**1 116**	*85%*
2005	1 578	56%	8%	4%	8%	20%	4%	**1 358**	*86%*

2006	1 452	50%	12%	3%	10%	20%	6%	**1 283**	*88%*
2007	1 522	*50%*	*15%*	*2%*	*9%*	*15%*	*7%*	**1 483**	*97%*

6 Information on drug resistant TB in the area and past use of second-line drugs

6.1 Information on drug resistant TB

No national drug resistance surveillance system exists. Between 1997/98 and 2004/05 two drug resistance surveys have been done in the West Region of Cameroon. Sampling followed the protocol, recruiting systematically all consecutive new and re-treatment cases during one year. The following table (Table 7) shows the evolution of the anti-TB drug resistance profiles during a 7-years period, separated for new patients and for re-treatment patients. Looking at the trends of resistance patterns we observe a) a statistically not significant decrease of initial and acquired overall resistance and b) a statistically not significant rise of initial and acquired MDR. The decrease is principally due to the decrease of resistance to S (initial resistance) and H and S (acquired resistance). We further observed a very pronounced decrease of the proportion of re-treatment cases (23% in 1997/98 versus 8% in 2004/05) which means a decrease of the total reservoir of resistance. - If we extrapolate these figures to the rest of the country we can expect annually between 2% - 4% of new sm+ cases or at least about 280 patients to be primary resistant MDR-TB cases.

Table Number and percentages of Cat.II treatment cases notified in Cameroon in 2005 and 2006 (denominator all cases notified) and chronic TB cases (denominator all failures of Cat.II treatment cases evaluated from 2005 and 2006 cohorts) in Cameroon.

Year	Cat. II treatment cases (%)	Failure Cat. II (%)
2005	1 590 (7.2)	25 (1.6)
2006	1 464 (5.9)	35 (2.4)

6.2 Reasons for the emergence of drug resistant TB in the region

For the emergence of drug resistant TB in Cameroon several reasons may be evoked:

Firstly, the economic crisis of the country during the late 80ies and the beginning of the 90ies had led to a complete decline of the TB programme – structured and free of charge before the crisis. Diagnostic, treatment and care of TB patients were let to the individual responsibility of the treating physicians and the alea of drug availability. Treatment of TB patients was anarchic until the re-implementation of a National TB Programme (NTP) from 1996 onwards. National coverage was reached only in 2002.

Secondly, primary and secondary INH resistance of Cameroonian TB patients can be estimated to be about 12% and 40%, respectively, if we extrapolate the data of the anti-Tb drug resistance survey from 2004-05 from the West Region to the rest of the country.[7] Additional resistance to R can develop during treatment with the actual treatment scheme. So we can consider the rise of MDR-TB as a result of a shift from an older type of resistance where R was not used systematically throughout the treatment to a 6-months-R-throughout type of resistance pattern where a rise of MDRTB is not totally unexpected.

[7] Noeske J, Kuaban C. Impact of Tuberculosis Control on Resistance to Anti-Tuberculosis Drugs in the West Region of Cameroon. Int J Tuberc Lung Dis 2007; 11 (11), Suppl. 1 (PS-71525-10).

Thirdly, no instructions were neither conceived nor available for physicians nor specialists treating TB patients within the guidelines of the new NTP as how to take care of treatment failures after a re-treatment regimen ("Refer to a specialist" was the only instruction). Several specialists, not being associated with the NTP, experimented with repeated re-treatment schemes, sometimes associating Thioacetazone – however without curing their patients.

Fourthly, as a treatment for MDR-TB is not readily available (geographic, financial and health system constraints), MDR-TB patients without treatment transmitted their germs to their environment.

Fifthly, a proportion of patients not being regular during the intake of their anti-TB drugs or defaulting may develop MDR-TB

The majority of the cases presenting now with a confirmed diagnosis of MDR are supposed to originate from the group of patients being partially resistant to anti-TB drugs and developing MDR-TB during their treatment, spontaneously, or developing MDR during incorrect intake of their treatment, and, eventually, consecutive incorrect treatment and care by physicians within and 'at the edge' of the NTP.

6.3 The drug resistance profile of MDR-TB patients

The drug resistance profile of the MDR-TB patients notified in Cameroon between 2005 and 2007 was as follows: 41% resistant to RHES, 35% resistant to RH, 17% resistant to RHE, and 7% resistant to RHS.

6.4 Actual management of MDR-TB case in Cameroon

Actually, MDR-TB cases are managed within of the TB control programme in Cameroon in a temporary setting waiting to be formalized. Lung specialists, public health experts, representatives of the NTP, of the MoH and of the National Reference Laboratory adopted a treatment scheme together with technical guidelines. Since 2005,

three specialized units are in charge of MDR-TB diagnosis and treatment: Jamot TB Reference Hospital in Yaounde (Jamot), the Centre of Pneumo- Phtysiology of Laquintinie Hospital (Laquintinie) and Dibamba Catholic Health Centre (Dibamba). Failures among re-treatment case either presenting spontaneously in or being referred to Jamot or Laquintinie or Dibamba are proposed to undergo sputum culture (in the National TB Reference Laboratory (CPC) in Yaounde or in CEBEC Baptist Hospital (CEBEC) in Douala. DST for both laboratories is done in CPC. In case of culture-confirmed MDR-TB diagnosis, patients pay their entire treatment as a 'kit' at the office of health programme of the German Technical Cooperation (GTZ) in Douala which is then delivered directly to and managed in one of the three specialized MDR-TB treatment units. - GTZ is in charge of the drug procurement. The GTZ office imports the drugs. Prices vary actually between 300 USD and 500 USD according to patients' weight.

From 01/07/06 until now (may 2009), 140 MDR patients have been put under MDR treatment.

7. Government Commitment and Partnership

7.1 Government commitment to the NTP

The NTP is under the direct responsibility of the Minister of Health – like the two other GFATM dependent programmes, HIV/Aids and Malaria. The execution of the programme as conceived and planned within the current GFATM financing (2004-2008) is closely followed up by high-ranking MoH officials. Gaps in the GFATM financing are covered by a MoH TB programme budget. The following table shows the financial commitment of the MoH to TB control in Cameroon from 2003-06.

Table Government expenditures for the NTP in Cameroon, 2003-06, in F CFA

Exercice	Operational Budget	Investments	HIPC (for drugs ans labo items)	Additional funding (investments)	Total
2003	75 000 000		350 000000	75 000 000	425 000 000
2004	80 000 000		350 000 000	80 000 000	430 000 000
2005	80 000 000		450 000 000	80 000 000	430 000 000
2006	80 000 000	25 000 000	450 000 000	105 000 000	555 000 000

8. Review of weaknesses in the implementation of the current TB programme and its strategies

The main weaknesses in the implementation of the current tuberculosis program identified are the following:

- The Central Technical Group of the NTCP as well as the Provincial Management Units of TB Control have a limited capacity in terms of human resources, equipment, communication means and management skills.

- The main hospitals in the big cities (Douala, Yaoundé) concentrate too much TB patients which makes a good follow-up during treatment difficult; peripheral health centres in these cities are often overburdened and lack staff.

- The financing of anti-tuberculosis drugs is never secured.

- The DOT strategy is only partially implemented because of financial constraints of patients to attend daily centres and because of lack of personal.
- Tuberculosis awareness is still too low among the health personal and in the general population leading to diagnostic delays.
- Access to second line drugs has been so far very difficult…
- Low implication of communities (NGOs/associations and former TB patients), mass media (public and private) in education and sensitisation activities.

These weaknesses affect achievements of planned national tuberculosis outcomes in the following way:

- The lack of human resources and management skills make difficult the implementation of new instructions from the central level in the field (TB/HIV activities for example).
- The detection rate, even if satisfying at the national level, remains low in certain geographical areas and in populations at high risk (in high risk population like prisoners TB prevalence is estimated to 3,5% with only a fraction of these cases timely and properly diagnosed.
- Only a small fraction of MDR-TB cases are correctly diagnosed and managed.
- The treatment success rate in the general population remains fare beneath the objective (76% instead of 85% in 2007); this low success rate is particularly important in the main hospitals of the 2 metropolis (Douala and Yaoundé); here, motivated staff is lacking while more peripheral health facilities are reluctant to manage more TB patients; the treatment success rate in high risk population like prisoners does not exceed 60%.

Existing gaps in the delivery of services to target populations

- BMUs in remote rural areas are characterized by difficultly geographical, financial, and cultural access; services in rapidly growing urban centers confront populations with large waiting times; TB services are not systematically accessible to populations at high risk like prisoners
- Comprehensive TB service delivery is menaced by lack of (motivated) personnel and sometimes suffers from shortages of laboratory consumables and extreme tensions on anti-TB drugs.

- Tracing of irregular patients is not a systematically implemented strategy in BMUs with high patient load.

- Only about 60% of diagnosed TB patients are proposed to and undergo HIV testing; less than an estimated 20% of TB/HIV co-infected patients are taking CMX prophylaxis; the reference and counter-reference system of HIV-infected TB patients between BMUs and HIV care-taking units is still not fully implemented.

- TB prevention for children in household with PTB+ patients has not been systematically implemented.

- Delayed diagnosis, financial barriers to treatment and follow-up exams, and non-adapted hospitalization facilities render the correct management of MDR-TB patients difficult. Only a small fraction of existing MDR patients is diagnosed and treated correctly.

- Infection control measures have not been implemented systematically up to date.

9. Strategic objectives, strategies and implementation approaches

9.1 **For the period 2010-2014 the NTP has the following strategic objectives:**

1. Improve the quality of DOTS services

2. To control TB and HIV co infection , MDR TB ,and TB in special populations

3To enhance TB control by empowering affected people, individuals and communities through education and ACSM activities

4 To conduct operational research

9.2 **The NTP will be based on the following strategies and implementation approaches, in alignment with the Stop TB Strategy 2006-1015.**

1. Pursue high-quality DOTS expansion and enhancement

a. Continue advocacy activities with regard to political commitment of the Cameroonian MoH for achieving increased and sustained financing

b. Continue to detect cases through the regional laboratory networks assuring quality-bacteriology

c. Apply standardized treatment, with supervision and patient support

d. Maintain, via the central and the regional pharmacies, an effective drug supply and management system

e. Continue to cover the entire NTP with the present monitoring and evaluation system, and to measure regularly the impact of our activities

2. Address TB/HIV, MDR-TB and other challenges

a. Assure for all TB patients during their TB treatment availability of HIV tests, prophylactic CXM, access to CD4 counts and reference to HIV services if necessary

b. Assure access to MDR diagnosis, treatment, and care for all Cameroonian suspects and control MDR-TB

c. Address TB and HIV in eventually all Cameroonian prisoners by a comprehensive TB and HIV prevention and treatment programme in collaboration with the health system

3. Contribute to health system strengthening

a. Actively participate in efforts to improve system-wide policy, human resources,

financing, management, service delivery, and information systems

b. Including the Practical Approach to

Lung Health (PAL)

c. Adapt innovations resulting from operational research and from other fields

4. Engage all care providers

a. Reinforce existing collaboration with private-confessional and privat-for profit health networks and facilities

b. Orient trainings on the International Standards for Tuberculosis Care (ISTC)

5. Empower people with TB, and communities in collaboration with Partners, NGOs, CBOs

a. Advocacy, communication and social mobilization

b. Community participation in TB care

c. Patients' Charter for Tuberculosis Care

6. Enable and promote research

Programme-based operational research such as anti-TB drug resistance, TB (and TB/HIV) prevalence in prisons, KAP surveys on TB, transmission studies on molecular basis)

10. Budgetary Requirements

The budgeting for this plan has been done using the GFATM Planning and Budgeting Tool and covers the five years period 2010-2014. Funding for the plan will be from government funding (HIPC and others), the private sector, international multi- and bilateral donors and – hopefully – GFATM funding. The first table below shows the annual needs and the different inputs for the past two years, the actual year (2009) and the years to be

covered by the strategic plan (2010-2014). The second table shows the summary budget per cost category for the two funding sources (GFATM – hopefully) and non-GFATM for the years 2010-2014.

Table the annual needs and the different inputs for the past two years, the actual year (2009) and the years to be covered by the strategic plan (2010-2014)

	2007	2008	2009	2010	2011	2012	2013	2014
FINANCIAL FRAME	3 500 000	4 500 000	4 800 000	5 900 000	4 800 000	5 700 000	4 650 000	4 000 000
DOMESTICS FUNDINGS	1 329 047	1 889 466	1 866 565	1 810 206	1 812 206	1 814 206	1 816 206	1 818 206
EXTERNAL FUNDING	800 000	800 000	800 000	80 000	80 000	80 000	85 000	95 000
GFATM GRANT ONGOING	764 929	717 339	700 000	-	-	-	-	-
TOTAL CURRENT AND PLANNED RESSOURCES	2 893 976	3 406 805	3 366 565	1 890 206	1 892 206	1 894 206	1 901 206	1 913 206
TOTAL FUNDING GAP	606 024	1 093 195	1 433 435	4 009 794	2 907 794	3 805 794	2 748 794	2 086 794
ROUND 9 FORESEEN				**3 942 658**	**2 880 353**	**3 767 464**	**2 753 535**	**2 078 463**
RESIDUAL FUNDING GAP				67 136	27 441	38 330	- 4 741	8 331

Table summary budget per cost category for the two funding sources (GFATM – hopefully) and non-GFATM for the years 2010-2014

	GFATM	**LOCAL FUND**	**TOTAL BUDGET**
Summary budget by cost category	*Total 5 years*	*To be budgeted by National assembly*	
Human Resources	1941783	2 025 000	3 966 783
Technical & Management Assistance	1187499		1 187 499
Training	568499	500 000	1 068 499
Health Products and Health Equipment	801454	1 982 527	2 783 981
Pharmaceutical Products (Medicines)	4492895	400 000	4 892 895
Procurement and Supply Management Costs (PSM)	514500		514 500
Infrastructure and Other Equipment	452455	4 000 000	4 452 455
Communication Materials	490306		490 306
Monitoring and Evaluation (M&E)	1407938	200 000	1 607 938
Living Support to Clients/Target Population	1505473	20 000	1 525 473
Planning and Administration	1914939	500 000	2 414 939
Overheads	0		-
Other	144732		144 732
TOTAL	15 422 473	9 627 527	25 050 000

ANNEX 1: Structure of NTCP