

AVALIAÇÃO DO PROGRAM NACIONAL PARA A ELIMINAÇÃO DA LEPRA EM MOÇAMBIQUE 6 ABRIL – 2 MAIO 2008

Resumo do Relatório

A pedido de Sua Excelência o Ministro da Saúde, duas equipas integrando quadros seniores do MISAU-OMS-ILEP visitaram 7 distritos pouco afectados e 5 muito afectados pela Lepra, nas 5 províncias mais atingidas do país, nomeadamente: Cabo Delgado, Nampula, Niassa, Sofala e Zambézia. O trabalho decorreu entre os dias 10 e 25 de Abril e as duas equipas entrevistaram Autoridades administrativas provinciais e distritais, fizeram a colecta de dados em unidades sanitárias localizadas nas capitais provinciais e sedes distritais. Fizeram a monitoria das actividades para a eliminação da Lepra em unidades sanitárias e pontos de distribuição de medicamentos. Reexaminaram 113 pacientes em tratamento, durante as visitas. Apresentam-se a seguir os resultados obtidos:

Aspectos positivos

- Grande cometimento a nível nacional, e das Autoridades Administrativas provinciais e distritais no sentido de se eliminar a Lepra
- Altas taxas de cura (acima de 90%) em análises de cohort de 2005 casos Multi Bacilares (MB) e 2006 casos Pauci Bacilares (PB)
- Papel importante desenvolvido pelos voluntários comunitários na suspeita e acompanhamento dos casos e aderência dos casos diagnosticados e em tratamento
- Supervisores provinciais e distritais motivados, bem como pessoal de saúde a nível periférico

Aspectos a melhorar

- Capacidade de trabalho dos Supervisores distritais e pessoal de saúde a nível periférico
- Visitas de supervisão a partir do nível provincial para os distritos e dos distritos para as Unidades Sanitárias e Pontos de Distribuição de medicamentos.
- Cobertura dos serviços de controlo da Lepra, através do aumento dos Pontos de Distribuição de medicamentos à responsabilidade dos voluntários comunitários
- Gestão de medicamentos e preenchimento dos vários impressos existentes, bem como a gestão informatizada de dados

Como resultado das actividades de aceleração da eliminação da Lepra implementadas em Moçambique na províncias mais endémicas, entre 2001 e 2007, apoiadas pelo cometimento político do Ministro da Saúde e envolvimento dos Governadores Provinciais e Administradores distritais, o país alcançou a prevalência de 0.90 casos por 10,000 habitantes no final do ano de 2007. Recomendações propostas pelas equipas de avaliação conduzirão Moçambique para a sustentabilidade do nível atingido a nível nacional e eliminação a níveis provincial e distrital.

REPORT

1. JUSTIFICATION

Mozambique is implementing intensified activities to eliminate leprosy. Priority is given to the 5 leprosy most endemic provinces: Cabo Delgado, Nampula, Niassa, Sofala and Zambezia. Major activities include LECs and mini-LECs, COMBI and modified COMBI projects, Updating of Leprosy Registers, increasing the number of MDT distribution points run by village volunteers, holding leprosy days at village level in most endemic districts and setting the leprosy case based computerized application as a pilot project in Cabo Delgado.

Further to these activities, the trend of leprosy prevalence increased to a maximum number of 7,131 registered cases in 2002 and since then is decreasing. A Leprosy Elimination Monitoring (LEM) was carried out in March 2007 and made recommendations to the 5 most endemic provinces for improving leprosy elimination activities and accelerating the achievement of leprosy elimination in Mozambique. At the end of 2007 third quarter, National leprosy prevalence rate was reduced to 1.1 cases per 10,000 inhabitants, making achievable leprosy elimination as a public health problem at National level by the end of 2008.

During the last quarter of 2007, the Minister of Health of Mozambique therefore requested WHO Leprosy elimination programme to carry out an evaluation of the leprosy programme to ensure that leprosy elimination goal is or would be achieved in 2008 at National level in Mozambique.

2 OBJECTIVES

2.1 General objective

To contribute in achieving leprosy elimination as a public health problem at National level in Mozambique by the end of 2008

2.2 Specific objectives

1. To assess leprosy situation in districts of five most endemic provinces (Cabo Delgado, Nampula, Niassa, Sofala and Zambezia)
2. To monitor Leprosy Elimination activities in visited health facilities and MDT distribution points of the same districts and provinces
3. To identify problems and difficulties hampering rapid progress in leprosy elimination in Mozambique
4. To make recommendations for ensuring leprosy elimination at National level in Mozambique by the end of 2008.

3. METHODS AND PATIENTS

The evaluation was carried out from 7 April to 1 May 2008 by 2 joint National-WHO-ILEP teams in the five leprosy most endemic provinces. Team 1 visited the Provinces of Sofala, Nampula and Cabo Delgado and team 2, the provinces of Niassa and Zambezia. The 2 teams were composed as follows:

Team 1: Dr Amadou Sékou Diallo, Consultant
Dr Alcino Ndeve, NPM/Mozambique
Dr Arie de Kriuf, TLMI Representative in Cabo Delgado
2 Provincial Coordinators of HIV, Malaria, TB and Leprosy, 3 Leprosy Provincial Supervisors of Sofala, Nampula and Cabo Delgado

7 Leprosy District Supervisors of Chiringoma, Maringué, Nacala Porto, Murrupula, Monapo, Montepuez and Meluco
Team 2: Dr Tiendrebeogo Alexandre, WHO/AFRO
Mr Manuel Ernesto Muianga, NPO/LEP/Mozambique
2 Leprosy Provincial Supervisors of Niassa and Zambezia
5 Leprosy District Supervisors of Maua, Sanga, Pebane, Gilé and Morrumbala

Preparatory meetings were held in Maputo from 7 to 9 April 2008 to agree on the agenda of field visits and on the forms to be used for data collection. Selected provinces were informed to plan the trips to 2 high endemic and 1 less endemic districts in each province. Due to the delay in travelling to provinces, only 2 districts were visited in the Provinces of Sofala, Niassa and Cabo Delgado. In all visited districts, health facilities (health centres or posts) and MDP were visited by the teams.

During the evaluation visit (from 10 to 25 April 2008), all leprosy patients under MDT treatment were convened to their treatment health facility, MDP or visited at their house for clinical examination and assessment of accuracy of leprosy diagnosis and MDT treatment. Registers and other leprosy programme forms (treatment files, treatment cards, and clinical files) were reviewed. Provincial and District Administrative Authorities were interviewed based on an interview guide to assess their commitment in Social Mobilisation for Leprosy Elimination. After field visits, data were compiled and indicators discussed with provincial and district health directors and leprosy supervisors.

At the return in Maputo (26 April to 1 May 2008), a synthesis meeting of the 2 teams drafted a summary report with major findings of the evaluation. Some recommendations were then proposed to ensure the reaching of leprosy elimination goal at National level. Short report and debriefing presentations were made to the WHO representative and to the Minister of Health.

4. RESULTS AND RECOMMENDATIONS

SOFALA Province (team 1)

The evaluation team visited the districts of Cheringoma and Maringué. In the two districts 8 patients were seen. Interviews were organised with the District Administrator of Cheringoma and the Permanent Secretary of the District of Maringué.

Major findings and recommendations are as follows:

- Interviewed District Administrative Authorities demonstrated a great commitment in leprosy elimination and included key messages on leprosy during speeches and public meetings. They are aware of the leprosy situation in their respective administrative areas and acknowledge the importance of the role of village volunteers
- Eight patients were re-examined in the 2 districts, and 4 errors of diagnosis were observed in the District of Cheringoma, giving 50% of misdiagnosed patients in the province. The leprosy district supervisor is the only one confirming the diagnosis. All peripheral health staff is not yet trained for the leprosy programme. Detection indicators were as follows: 100% MB and adult, 75% female, 25% grade 2 disabled, average delay of diagnosis of 36 months and average distance to health centres or MDP of 25 km. These indicators imply a late diagnosis of patients, mainly to long distance for reaching health services.
- Cure rates of 2005 MB and 2006 PB cohorts are high, respectively 99.5% and 94.9%. Availability of MDT medicines is good for all types of blister packs as well as Prednisones

- The number of volunteers is limited compared to the numbers of villages. Therefore many patients have to travel long distances for diagnosis and treatment
- Trends of Leprosy elimination indicators (prevalence and detection) in the 2 visited districts showed an increase from 2003 to 2005 (in Cheringoma) or 2006 (in Maringue) and thereafter are decreasing with a prevalence detection ratio less than 1 in 2007; (see graphs 2, 3 and 4 in annex 6). The increase of the indicators during the first years of the period could be linked with better health service coverage with the recruitment of volunteers. Based on data provided by the National level, the Prevalence rate at the end of 2007 is 1.13 cases per 10,000 at provincial level. If the decreasing trend observed in 2007 continues for 3 or 4 years, it could lead to reaching and sustaining the elimination target.

Positive points:

- Commitment of District Administrative Authorities
- High cure rates and availability of good quality blister packs
- Motivated leprosy supervisors and peripheral health staff
- Involvement of villages volunteers in leprosy elimination activities
- Decreasing detection and prevalence in 2007

Aspects to be improved:

- Poor skills of District Leprosy Supervisor
- Ineffective supervision at district level
- Lack of training and poor involvement of peripheral health staff
- Insufficiency of volunteers who are not covering all villages

Recommendations:

- Training or refresher training of District supervisors and peripheral health staff
- Recruitment of more village volunteers
- Reinforcement and quality improvement of supervision by using the supervision guidelines

NIASSA (team 2)

The evaluation team visited the districts of Maùà and Sanga. In Maùà, 9 patients were seen, mainly in villages or MDT Distribution points (MDP). Interview with the District Administrator occurred during courtesy call. The team also reported the results and recommendations of the visit to the District Director of Health and Leprosy Supervisor. In Sanga only 1 patient was currently under treatment. Interviews with the District Administrator of Sanga and the Provincial Governor were also organised.

Major findings and recommendations of this evaluation are as follows:

- Interviewed Provincial Governor and District Administrators demonstrated a great commitment in leprosy elimination and included key messages on leprosy during speeches and public meetings. They are aware of the leprosy situation in their respective administrative areas and acknowledge the importance of the role of village volunteers
- Ten patients were re-examined in the 2 districts, and only one case had a dubious diagnosis. It was a MB case demonstrating more than 6 nodular lesions without any nerve enlargement or disability. The visiting team requested a lab test for confirmation. One of the seen patients in Maùà had completed his treatment in March 2008 and was withdrawn from the register. Detection indicators were as follows: 100% MB and adult new cases, 90% of females, 10% grade 2 disabilities, an average delay of diagnosis of 43.7 months

and an average distance to health centres or MDP of 4.5 km. These indicators imply a reduced ongoing transmission of the disease in communities

- Village volunteers encountered in Maùã (4) are well motivated and doing well in providing regular treatment to leprosy patients. However there is a lack of volunteers despite the big number which were trained (50 in Maùã and more than 14 in Sanga). Volunteers are not motivated when there is no case of leprosy to assist in their villages. Blister packs in MDP and Health facilities were good and sufficient in quantity for complete treatment of registered patients.
- Health facilities (health centres or posts) are poorly involved in case finding and treatment of leprosy patients. The district leprosy supervisors usually interact directly with the volunteers at community level. Blister packs stored at district level are sufficient. Some MBC, PBA and PBC will expire this year in Sanga and need to be replaced by newer stocks. Cure rates of 2006 PB patients and 2005 MB ones are high in the 2 districts: 89% for PB and 95% for MB.
- Trends of Leprosy elimination indicators (prevalence, detection, percentages of MB, children and grade 2 disables new cases) in the 2 visited districts and at provincial level showed a slight increase of numbers during campaigns (2002 or 2005) and then a decrease towards elimination threshold; (see graphs 5, 6 and 7 in annex 7). Prevalence rates per 10,000 populations at the end of March 2008 are 1.91 in Maua District and 0.19 in Sanga District. At provincial level, prevalence rate was 1.13 at the end of 2007. Elimination of leprosy is achievable in the Province at the end of 2008.

Positive points: Good quality of diagnosis and early detection, high cure rates, motivated leprosy supervisors and volunteers, good availability of good quality blister packs, decreasing of detection and prevalence which could mean reduced transmission and incidence in communities.

Weaknesses: Poor involvement of peripheral health staff, insufficiency of volunteers who are not covering all villages, un-sustained IEC activities in villages by volunteers, incompleteness of form filling in mainly clinical file, treatment cards

Recommendations:

- To improve filling in of patients' clinical forms and treatment cards, especially the treatment follow up tables with volunteers
- To update the register and quarterly reports accordingly
- To supply all volunteers with complete treatment blister packs of each registered patient
- To hold semester meeting with all trained volunteers of the district, whenever they have cases on treatment or not, in order to brief or update them and supply them with IEC materials
- To train newly appointed peripheral health staff on their role in case finding, treatment, filling in of forms, blister packs supply to volunteers and follow up of patients and volunteers
- To organise District Leprosy supervisors briefing on filling in case based report form for data computerisation at provincial level
- To brief District Administrators and Provincial Governor regularly and maintain their commitment in leprosy elimination

NAMPULA Province (team 1)

In Nampula Province, Nacala Porto and Murrupula were selected as high endemic and Monapo as low endemic districts. In the visited districts 34 patients were examined. Interviews were organised with the 3 District Administrators.

Major findings and recommendations are as follows:

- Interviewed District Administrators demonstrated a great commitment in leprosy elimination and included key messages on leprosy during speeches and public meetings. They are aware of the leprosy situation in their respective administrative areas and acknowledge the importance of the role of village volunteers
- Out of the 34 re-examined patients 5 (15%), all from Monapo district, were not leprosy cases. The leprosy district supervisor is the only one confirming the diagnosis. Detection indicators were as follows: 72% MB, 7% Child cases, 48% female, 28% grade 2 disabled, 14% patients with leprosy reactions, average delay of diagnosis of 32 months and average distance to health centres or MDP of 1.9 km. These indicators imply late diagnosis of patients. High rate of misdiagnosis in Monapo district needs to be addressed for confirming the low endemicity of leprosy in this district.
- Cure rates of 2005 MB and 2006 PB cohorts are high, respectively 93.3% and 100%. Availability of MDT medicines is good for all types of blister packs as well as Prednisones
- Trends of Leprosy elimination indicators (prevalence and detection) in Nacala Porto and Murrupula districts showed an increase from 2003 to 2005 or 2006 and thereafter a decrease with a prevalence detection ratio less than 1 in 2007. If this decreasing trend observed in 2006 and 2007 continues for 3 to 4 years, it could lead to reaching the elimination target. On the other hand, in Monapo district prevalence and detection decreased from 2003 to 2006 and increased in 2007. This latest increase of both indicators brings one to think that the low endemicity of leprosy in the district should be closely monitored. Based on data provided by the National level, prevalence rate in the province at the end of 2007 is 1.55 cases per 10,000. The province would hardly reach the elimination threshold, probably beyond the year 2008; (see graphs 8, 9, 10 and 11 in annex 8).

Positive points:

- Commitment of District Administrative Authorities
- High cure rates and availability of good quality blister packs
- Motivated leprosy supervisors and peripheral health staff
- Involvement of village volunteers in leprosy elimination activities

Aspects to be improved:

- Poor skills of the District Leprosy Supervisor in Monapo
- Lack of training and poor involvement of peripheral health staff
- Insufficiency of volunteers who are not covering all villages
- Increased prevalence and detection in 2007 in Monapo district, requesting a close monitoring

Recommendations:

- Training or refresher training of Monapo District supervisor and peripheral health staff
- Recruitment of more volunteers, mainly in remote villages
- Close follow up of elimination indicators in Monapo district
- Reinforcement of supervision

ZAMBEZIA Province (team 2)

In Zambezia Province, Pebane and Gile were selected as the 2 most endemic districts and Morrumbala as the less endemic one. In the 3 visited districts (Pebane, Gile and Morrumbala), 27, 15 and 7 patients were seen respectively. Out of this total of 49 patients, 14 were reviewed in

MDT Distribution points (MDP). Interviews with Local Authorities occurred with the Provincial Governor, the District Administrator of Gile and the Permanent Secretary of the District of Morrumbala. Pebane District Administrator was absent during the team visit.

Major findings and recommendations are as follows:

Pebane District

- Out of 27 reviewed patients only one misdiagnosis was observed and the patient was withdrawn from treatment file and register. Among the 26 confirmed leprosy cases, 3 were diagnosed by the evaluation team in suspected cases presented by volunteers. Percentages of MB, Grade 2 disabled, Children and female cases were respectively 46%, 15%, 11.5% and 58%. Average distance for treatment is 6 Km while average delay of diagnosis is 35 months.
- Total of patients registered in the visited health facilities and MDP is 36 among which the 3 new cases diagnosed by the visiting team, giving a prevalence rate higher than 1.6 per 10,000. Trends of prevalence and detection decreased from 2003 to 2005 but then increased in 2006. In 2007, the detection decreased, but the prevalence still increased giving a prevalence detection ratio of 1.9. (See graph 12 in annex 9) The district remained high endemic for leprosy and the prevalence rate at the end of 2007 was 4.09 per 10,000. The trend of detection with MB child cases and PB adult cases means persistent high transmission of leprosy in the communities.
- Village volunteers encountered in Pebane (8) are well motivated and doing well in providing regular treatment to leprosy patients. However they do not have bicycles and most of them are working in health facilities. Patients are poorly informed on the duration of their treatment
- Peripheral health staff are poorly involved in case diagnosis and some of them are new on their post and not trained or briefed on the LEP and TB programmes. Diagnosis after suspicion by volunteers is done by the district LEP supervisor. Treatment files and cards are often partially filled in or have non coherent information
- Stocks of blister packs are not enough for complete treatment of patients

Positive points:

- Good quality of diagnosis which is done by the supervisor
- High cure rates (99-100%)
- Motivated volunteers

Weaknesses:

- Poor involvement of peripheral health staff in case finding and treatment of cases
- No bicycles for village volunteers and linked reduced IEC and case suspicion
- Non updated or inconsistent information in filled in forms (treatment cards, files and clinical forms)
- Ongoing high transmission of the disease in communities
- Insufficient stocks of blister packs in health facilities and MDP
- Little information is given to patients on the duration of their treatment
- The district would not achieve leprosy elimination at the end of 2008

Recommendations:

- To train on the job peripheral health staff during supervision visits and meetings at district level and brief newly appointed staff on the various programmes (LEP, TB, etc.)
- To provide volunteers with bicycles to allow them to carry out IEC and case suspicion and treatment in their villages
- To improve the filling in of various information forms

- To improve the management of blister packs with check up of stocks during supervision visits
- To delegate diagnosis to peripheral health staff, while the district LEP supervisor during his supervision will focus on confirmation of cases, treatment of leprosy reactions, filling in of forms and blister packs management

Gile District

- Out of 15 reviewed patients no misdiagnosed was observed. Out of these confirmed leprosy cases, 2 were diagnosed by the evaluation team among suspected cases presented by volunteers. Percentages of MB, Grade 2 disabled, Children and female cases were respectively 80%, 27%, 7% and 60%. Average distance for treatment is 4 Km while average delay of diagnosis is 27 months.
- Total of patients registered in the visited health facilities and MDP is 29 among which the 2 new cases diagnosed by the visiting team, giving a prevalence rate higher than 2 per 10,000. Trend of prevalence remained stable from 2003 to 2005 while the detection doubled from 126 to 257 during the same period. After 2005, both prevalence and detection are decreasing with a prevalence/detection ratio less than 1. (See graph 13 in annex 9). The district remained high endemic for leprosy and the prevalence rate at the end of 2007 was 3 per 10,000. The trend of detection with MB child cases and PB adult cases means persistent high transmission of leprosy in communities.
- Village volunteers encountered in Gile are well motivated and doing well in providing regular treatment to leprosy patients. However supplies of blister packs are not enough for allocating complete treatment stock to each patient. Patients are poorly informed on the duration of their treatment. Nevertheless cure rates of 2005 MB and 2006 PB patients are high (100 and 99% respectively).
- Peripheral health staff are poorly involved in case diagnosis and some of them are new in their post and not trained or briefed on the LEP programme. Diagnosis after suspicion by volunteers is done by the district LEP supervisor, further to the high rate of misdiagnosed cases (67%) revealed by the LEM of 2007.

Positive points:

- Good quality of diagnosis which is done by the supervisor
- High cure rates (99-100%)
- Motivated volunteers

Weaknesses:

- Poor involvement of peripheral health staff,
- Ongoing high transmission of the disease in communities
- Insufficient stocks of blister packs at district, health centre and MDP levels
- The district would not achieve leprosy elimination before the end of 2008

Recommendations:

- To train on the job peripheral health staff during supervision visits and meetings at district level and brief newly appointed staff on the various programmes (LEP, TB, etc.)
- To improve the management of blister packs with check up of stocks during supervision visits
- To delegate diagnosis to peripheral health staff when possible, while the district LEP supervisor during his supervision will focus on confirmation of cases, treatment of leprosy reactions, filling in of forms and blister packs management

Morrumbala District

- Out of 7 reviewed patients no error of diagnosis was observed. Two defaulters were readmitted to treatment in the current year. One of these defaulters was presented as a relapse but he did not have had a complete course of MDT at his first treatment 5 years

ago. A new MB case was diagnosed by the visiting team with a leonine face and grade 2 disabilities. Percentages of MB, Grade 2 disabled, Children and female cases were respectively 100%, 43%, 14% and 29%. Average distance for treatment is 1 km but suspect cases have to travel more than 10 km to the nearest health centre for diagnosis. Average delay of diagnosis is 85 months (more than 7 years). These detection indicators mean a residual transmission of the disease in communities, mainly due to late diagnosed MB cases, living in remote areas

- All patients registered in the district are those of the visited 2 health centres, totalling 9 and giving a prevalence rate of 0.19 per 10,000. Trend of prevalence and detection decreased from 2003 to 2005 and then increased in 2006. In 2007, the prevalence decreased while the detection still increased giving a prevalence detection ratio of 0.35 (See graph 14 in annex 9). The district remained low endemic for leprosy but the detection of leonine faced MB patient and high percentage of grade 2 disabled cases (43%) could mean a hidden backlog of leprosy cases in the communities. This is supported by the distance patients should travel to be diagnosed. As the burden of the disease is reducing, latest cases of leprosy are located in remote and difficult to access areas, poorly covered by health services
- Village volunteers encountered are motivated but there is shortage of blister packs so many patients are irregularly treated and taking longer time to complete their MDT. Shortage of MDT is also observed in the visited health centres and at district level. Cure rates of 2005 MB and 2006 PB were however good (100 and 99% respectively)
- At district level, the LEP supervisor needs a new motorcycle to be able to supervise the peripheral health staff who still have leprosy cases under treatment and which facilities are located very far from the District capital.

Positive points:

- Good quality of diagnosis which is done by the supervisor or health centre staff
- High treatment completion rates (99-100%) and prevalence detection ration less than 1
- Motivated volunteers
- The district reached the leprosy elimination threshold

Weaknesses:

- Long distances travelled by suspect cases for diagnosis in health centres
- Possible hidden backlog of leprosy cases in some communities and residual transmission by late diagnosed MB cases
- Acute shortage of blister packs at district, health centre and MDP levels

Recommendations:

- To supply urgently the district, health centres and MDP with blister packs
- To provide transportation means to the district leprosy supervisor as well as health centre staff and bicycles for volunteers in remote villages
- To organise active case finding in villages where MB cases were diagnosed during the last 2 years with the involvement of volunteers, communities health staff and local authorities

AT PROVINCIAL LEVEL

Trends of prevalence and detection are decreasing regularly since 2003 and based on data provided by the National level, the prevalence rate at the end of 2007 is 1.14 cases per 10,000; (See graph 15 in annex 9). Considering the trends in the 2 visited high endemic district (Pebane and Gile) and the persistence of hidden and highly contagious cases in communities in the less endemic district of Morrumbala, we can say that the elimination threshold would be hardly reached at the end of 2008. This should not compromise the reaching of the elimination goal at National level at the end of 2008. However, efforts should be maintained in high and low endemic districts

of Zambezia to ensure sustained elimination of leprosy at national level and further at provincial level. Implementation of recommendations made in each visited district would help in achieving the leprosy elimination goal at National level by the end of 2008.

CABO DELGADO Province (team 1)

The evaluation team visited the districts of Montepuez (high endemic) and Meluco (low endemic). In the two districts 12 patients were seen. Interviews were organised with the 2 District Administrators.

Major findings and recommendations are as follows:

- Interviewed District Administrators demonstrated a great commitment in leprosy elimination and included key messages on leprosy during speeches and public meetings. They are aware of the leprosy situation in their respective administrative areas and acknowledge the importance of the role of village volunteers
- A total of 12 patients were re-examined in the 2 districts, and 2 errors of diagnosis were observed (1 in each District), giving 17% of misdiagnosed patients in the visited districts. The leprosy district supervisor is the only one confirming the diagnosis during supervisory visits to health facilities. However few supervision visits were carried out during the six latest months in Montepuez. Peripheral health workers are poorly involved in leprosy case finding and treating and newly appointed staff needs training. Detection indicators were as follows: 100% MB, 10% Child cases, 60% female, 20% grade 2 disabled, average delay of diagnosis of 25 months and average distance to health centres or MDP of 3.5 km. These indicators imply a late diagnosis of patients and ongoing transmission of the disease in communities.
- Cure rates of 2005 MB and 2006 PB cohorts are both 100%. Availability of MDT medicines is good for all types of blister packs as well as Prednipac ones. Some stocks of MDT blister packs expiring in May 2008 were replaced in visited health facilities
- The number of volunteers is limited compared to the numbers of villages. Therefore many patients have to travel long distances for diagnosis
- Trends of Leprosy elimination indicators (prevalence and detection) since 2005 are decreasing in Montepuez District while increasing in Meluco district that is supposed to be low endemic for leprosy; (see graphs 16, 17 and 18 in annex 10). Based on data provided by the National level, the prevalence rate at provincial level is 1.76 cases per 10,000 inhabitants at the end of 2007 and the elimination threshold could be reached but beyond the year 2008 if current intensified leprosy elimination activities are sustained.

Positive points:

- Commitment of District Administrative Authorities
- High cure rates and availability of good quality blister packs
- Motivated leprosy supervisors and peripheral health staff
- Involvement of villages volunteers in leprosy elimination activities

Aspects to be improved:

- Insufficient supervisory visits from Provincial level to districts and from districts to peripheral health facilities
- Lack of training and poor involvement of peripheral health staff
- Insufficiency of volunteers who are not covering all villages
- Not updated leprosy computerised database
- Poor ownership of the database by the provincial health team who do not master the new leprosy software

Recommendations:

- Refresher training of Provincial and District leprosy supervisors and training of peripheral health staff
- Strengthening of supervision at all levels and updating the leprosy database
- Recruitment of more village volunteers and involving them in other health activities
- Empowerment of the provincial health team to master and own the leprosy software by the Central level

GENERAL COMMENTS

Globally, elimination indicators show a decrease of prevalence and detection in visited most endemic provinces and at National level. Patient case management indicators are also good for the cure rates by cohort analysis of 2005 MB and 2006 PB patients. However, long delays of diagnosis are observed in all provinces, mainly in low endemic districts with few village volunteers and long distance between health facilities and communities.

Comparing the trends of elimination indicators of the last 5 years (2003 to 2007) between the 12 evaluated districts, the 5 high endemic provinces and the National level, one can observe the similar and regular decrease of prevalence while the decreasing trend of the detection presents a slight increase in 2005, which could be linked to the social mobilisation campaigns for leprosy elimination, supported by the Minister of Health with the involvement of Provincial Governors and District Administrators in high endemic provinces (See graphs 19, 20 and 21).

Since the introduction of MDT in Mozambique in 1996, more than 100,000 patients were diagnosed and cured with the WHO recommended regimens. The country deployed consequent efforts and resources with the support of the WHO, the Novartis Foundation for Sustainable Development, Sasakawa Health Memorial Foundation/The Nippon Foundation and ILEP Members NGOs working in Mozambique (AIFO, DF, LEPR, NLR and TLMI), to achieve this tremendous achievement and reaching the prevalence rate of 0.9 at the end of 2007 – based on Population number and leprosy data provided by the National level - (See graph 22). If the ongoing activities are sustained and improved by the implementation of recommendations made by the evaluation teams, Mozambique should maintain the elimination goal at the end of 2008 at National level and in 3 of the visited provinces (Niassa, Sofala and Zambezia).

In Sofala province where intensified activities to eliminate leprosy started only in 2007 increasing the health service coverage by the involvement of volunteers could increase the numbers of new cases. Therefore prevalence rate at provincial level could become more than 1 case per 10,000 inhabitants.

For a sustained elimination of leprosy at National level and later in other 2 high endemic provinces (Nampula and Cabo Delgado), ongoing elimination activities should be pursued for at least 3 years. This could lead Mozambique in reaching leprosy elimination as a public health problem at National, provincial and district levels.

CONCLUSION

Further to intensified leprosy elimination activities in most endemic provinces of Mozambique, backed by political commitment at National level of the Minister of Health and involvement of Provincial Governors and District Administrators, the country reached a prevalence rate of 0.90 case per 10,000 inhabitants at the end of 2007-based on data provided by the National level. The 2 evaluation teams during their visits in leprosy 5 high endemic and 5 low endemic districts in 5 provinces (Cabo Delgado, Nampula, Niassa, Sofala and Zambezia) assessed great achievements, mainly on high cure rates due to the key role played by village volunteers. They also pointed out some aspects which need to be improved through supervision with guidelines, increasing health service coverage by MDT Distribution points, training, refresher training and on the job training of Leprosy supervisors and peripheral health staff, better

management of MDT blister packs and updating the leprosy database complemented by mapping endemic pockets of the disease. This would enable Mozambique to durably sustain leprosy elimination at National, provincial and district levels.

OVERALL RECOMMENDATIONS

1. To maintain the current political commitment at National, Provincial and District levels in eliminating leprosy as a public health problem in Mozambique
2. To increase the health service coverage by recruiting more volunteers to cover all main villages
3. To maintain village volunteers commitment by involving them in other health activities like Mass Drug Administration (MDA) for Neglected Tropical Diseases (NTDs), TB Community DOTS, Self care groups and holding periodical meetings at district level (once or twice a year)
4. To organise refresher training for Leprosy district supervisors in low endemic districts and train all peripheral health workers, mainly those who are newly appointed, in the 5 most endemic provinces
5. To reinforce and improve the quality of supervision visits carried out by provincial and district leprosy supervisors using supervision guidelines and updating the computerised leprosy database
6. To map the new cases distribution and focus specific activities in remaining leprosy endemic pockets
7. To increase the number of District Leprosy Supervisors in some high endemic districts or districts with many health facilities and MDP
8. To improve the management of MDT blister packs at all level including supplies and adjustment of stocks (inputs & outputs) at various levels (provincial, district, health facilities, village volunteers)
9. To carry out active case finding among contacts of MB cases diagnosed in low endemic districts of the 5 visited provinces
10. To provide transportation means to the Leprosy National Programme Officer (NPO) for strengthening his technical support to all endemic provinces

ACKNOWLEDGEMENTS

The evaluation teams greatly thank all Administrative Authorities who welcome the external team members for interviews. Their commitment in leprosy elimination and involvement in IEC activities during meetings and speeches are acknowledged and appreciated

The evaluation teams are also thankful to the Health staff from Provincial to district levels who prepared the field visits and give support to the external team members. Their efforts in eliminating leprosy in the Country are effective and greatly acknowledged

The evaluation team are also grateful to the villages volunteers met during visits as well as leprosy patients who were present for clinical assessment and questioning on their treatment

Appendix 1

Composition of visiting teams

| Team 1 | | Team 2 | |
|--------|--|--------|--|
| 1 | Dr Amadou Sékou Diallo, WHO consultant | 1 | Dr Tiendrebeogo Alexandre, WHO consultant |
| 2 | Dr Alcino Ndeve, National LEP Manager | 2 | Mr Manuel Ernesto Muianga, NPO-LEP |
| 3 | Dr Fernanda Jose | 3 | Mr Evaristo Valentin, LEP Niassa Supervisor |
| 4 | Mr Guire, LEP Sofala Supervisor | 4 | Mr Tiago Portugal, LEP Zambezia Supervisor |
| 5 | Mr Gonçalo Silva Guirengane, Chiringoma LEP District Supervisor | 5 | Mr Gabriel Xavier Metonga, Maua District LEP Supervisor |
| 6 | Mr Jose Alberto Raul, Meringue LEP District Supervisor | 6 | Mr Antonio Luis, Sanga LEP District Supervisor of |
| 7 | Mr Juma Molide, LEP Nampula Supervisor | 7 | Mr Musa Raos Hassan, Pebane LEP District Supervisor |
| 8 | Mr.... , Nacala Porto LEP District Supervisor | 8 | Mr Armindo Sozinho, Gile LEP District Supervisor |
| 9 | Mr Mario Raja, Murrupula Leprosy District Supervisor | 9 | Mr Joachim Mapoconhure Zakarias Gine, Morrumbala Leprosy District Supervisor |
| 10 | Mr Artur Majido, Monapo Leprosy District Supervisor | | |
| 11 | Dr Bequezela Camal, Cabo Delgado Coordinator HIV, TB, MAL & LEP | | |
| 12 | Mr Silvestre Joao, LEP Cabo Delgado Supervisor | | |
| 13 | Dr Arie de Kruffe, Representative TLMI, Cabo Delgado | | |
| 14 | Dr Nidze Guiloviça, Medical Director, District Hospital of Montepuez | | |
| 15 | Mr Victor Amisse Antonio, Montepuez LEP District Supervisor | | |
| 16 | Mr Estevao Macario, Meluco LEP District Supervisor | | |

Appendix 2

List of met people

| | Names | Posts |
|----|----------------------------|---|
| 1 | Mr Assane Omar Jackson | Maua, District Administrator |
| 2 | Mrs Edite Juliao Baloi | Maua, District Health Director |
| 3 | Mr Ferreira Mahamane | Sanga, District Administrator |
| 4 | Mr Principio Jose | Sanga, District Health Director |
| 5 | Mr Vicente Arnaldo Bimbe | Lichinga, Governor, Province of Niassa |
| 6 | Dr Violenti Viola | Lichinga, Chief Medical Officer, Province of Niassa |
| 7 | Mr Dimis Viegas | Lichinga, Coordinator, TB-LEP-HIV, Niassa |
| 8 | Dr Armindo Tonela, | Quelimane, DPS of Zambezia, |
| 9 | Mr Filipe Traquinho | Pebane, District Health Director |
| 10 | Gildo Domingo Luis Veluz | Pebane, Director, District Hospital |
| 11 | Dr Orlando Moti | Gile, District Administrator |
| 12 | Dr Kisito Gondo | Gile, District Health Director |
| 13 | Rejabo Ismael Francisco | Morrumbala, District Permanent Secretary |
| 14 | Mrs Teresa Nazario Mbawa | Morrumbala, District Health Director |
| 15 | Mr Carvalho Moaria | Quelimane, Governor, Province of Zambezia |
| 16 | Mr Ricardo Guilande | Cheringoma, District Governor |
| 17 | Mr Mario Zandamela | Cheringoma, Clinical Director |
| 18 | Mr José Menezes | Maringue, Permanent Secretary |
| 19 | Mr Chale Ossufo | Nacala Porto, District Governor |
| 20 | Dr Flavio Wate | Nampula, Provincial Director of Health |
| 21 | Dr Manuel Edouardo | Nacala Porto, Clinical Director |
| 22 | Mr Afonso das Neves Ussene | Murupula, District Governor |
| 23 | Mr Amilcar Ezequiel | Murupula, Assistant Director of Health |
| 24 | Mr Fernando Saide | Monapo, District Governor |
| 25 | Dr Rosa Bene | Monapo, Clinical Director |
| 26 | Ms Veroni Isabel | Monapo, Administrative Director |
| 27 | Mrs Fatima Chibequete | Montepuez, Permanent Secretary |
| 28 | Dr Nidze Guiloviça | Montepuez, Clinical Director |
| 29 | Mr Chauque Vitorino | Meluco, District Governor |
| 30 | Mr Muhindy Jamal | Meluco, Clinical Director |
| | | |

Appendix 3

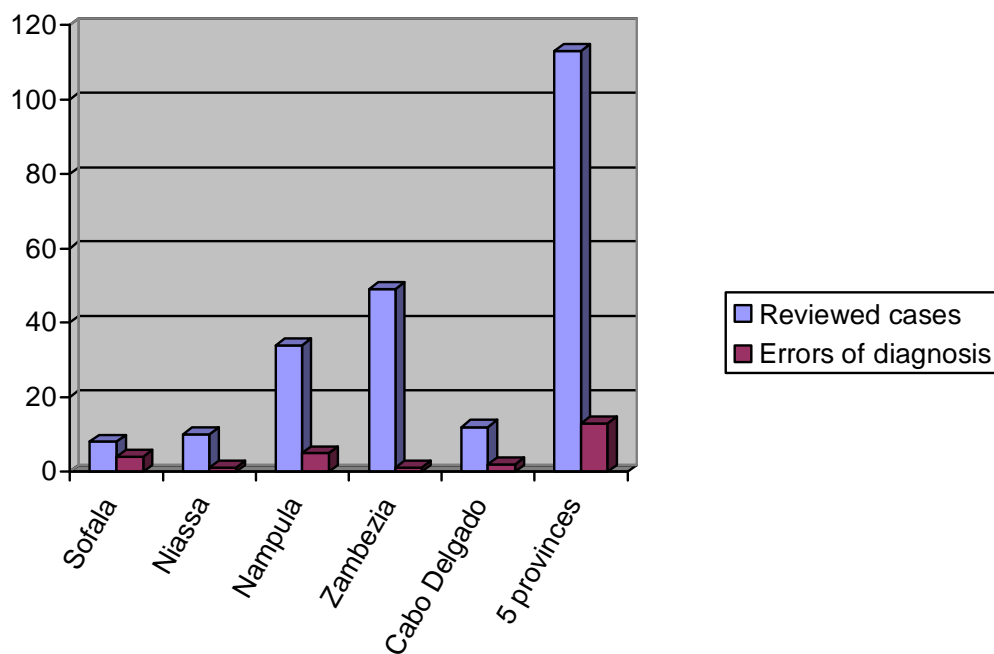
List of visited districts, health centres and MDP

| Provinces | Districts | Health facilities | MDT distribution posts | Visiting teams |
|--------------------|---------------------|--|---|----------------|
| Sofala | Chiringoma | -CS Pungue -CS Inhaminga | - Beta | 1 |
| | Maringue | -CS Maringue -CS Nhamakala - CS Gumbalansai -PS Subue | | |
| Niassa | Maua | 3: Maua, Queta, Chapalanga | 4: Motopa, Nikuta, Pahua, Nacache | 2 |
| | Sanga | 1: Sanga HC 7 de Sept | | |
| Nampula | Nacala Porto | -General Hospital -PS Naherenque | | 1 |
| | Murrupula | -CS murrupula -CS Tiponha | -Mucare -Baroni -Nachaca -Namope -Muchelene -Intapeia -Ratane | |
| | Monapo | -Rural Hospital -CS Monapo | - Canapue - Muezia -Mahuca | |
| Zambezia | Pebane | 3: Naburi, Malema, Mulema | Namehipe | 2 |
| | Gilé | 4: Alto Ligonha, Moneia, Gile Sede, Uape | 3: Namereco, Mamala, Nanhope | |
| | Morrumbala | Manipea and Derre | | |
| Cabo Delgado | Montepuez | | | 1 |
| | Meluco | | | |
| 5 provinces | 13 districts | HC | MDP | 2 teams |

Appendix 4:

Assessment of leprosy diagnosis quality in 2007-2008 leprosy cases on treatment

| Provinces | Districts | New cases clinically reviewed | Confirmed leprosy cases | Errors of diagnosis | Percentages of misdiagnosis |
|--------------------------|------------------------|-------------------------------|-------------------------|---------------------|-----------------------------|
| Sofala | Chiringoma | 5 | 1 | 4 | 80% |
| | Maringué | 3 | 3 | 0 | 0% |
| | Total Sofala | 8 | 4 | 4 | 50% |
| Niassa | Maua | 9 | 8 | 1? | 11% |
| | Sanga | 1 | 1 | 0 | 0% |
| | Total Niassa | 10 | 9 | 1 | 10% |
| Nampula | Nacala Porto | 6 | 6 | 0 | 0% |
| | Murrupula | 15 | 15 | 0 | 0% |
| | Monapo | 13 | 8 | 5 | 38.5% |
| | Total Nampula | 34 | 29 | 5 | 14.5% |
| Zambezia | Pebane | 27 | 26 | 1 | 3.7% |
| | Gilé | 15 | 15 | 0 | 0% |
| | Morrumbala | 7 | 7 | 0 | 0% |
| | Total Zambezia | 49 | 48 | 1 | 2% |
| Cabo Delgado | Montepuez | 10 | 9 | 1 | 10% |
| | Meluco | 2 | 1 | 1 | 50% |
| | Total Cabo Delg | 12 | 10 | 2 | 16.7% |
| TOTAL 5 Provinces | | 113 | 100 | 13 | 11.5% |



Graph 1: Number of re-examined patients and errors of diagnosis

Appendix 5: Leprosy diagnosis and case management indicators in Patients

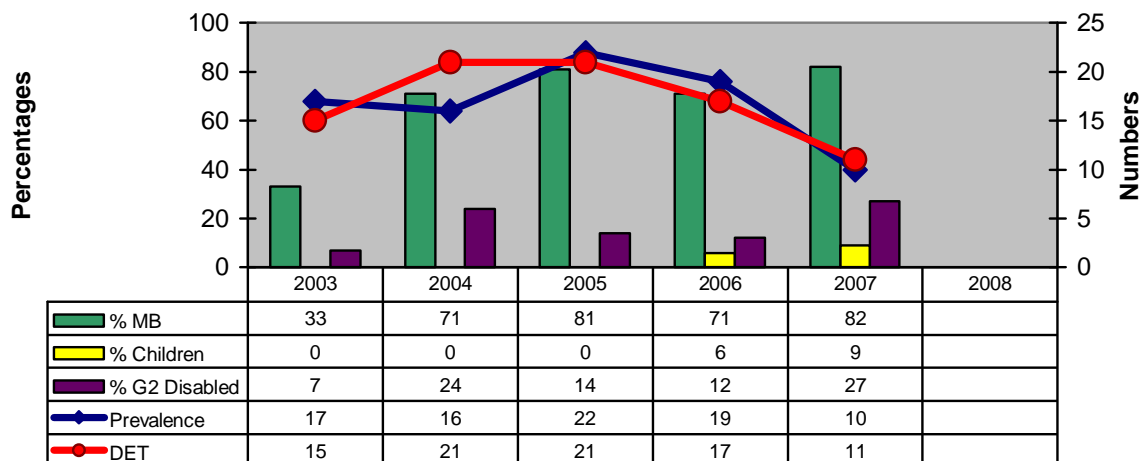
| | Sofala | Niassa | Nampula | Zambezia | Cabo Delgado | 5 Prov |
|--|----------|-----------|--------------|----------|--------------|--------------|
| Total 2007 new cases reviewed | 8 | 10 | 34 | 49 | 12 | 113 |
| Misdiagnosis | 4 (50%) | 1 (10%) | 5 (15%) | 1 (2%) | 2 (17%) | 13 (11.5%) |
| Confirmed New cases | 4 (50%) | 9 (90%) | 29 (85%) | 48 (98%) | 10 (83%) | 100 (88.5%) |
| Female | 3 (75%) | 9 (90%) | 14 (48%) | 26 (54%) | 6 (60%) | 57 (57%) |
| MB | 4 (100%) | 10 (100%) | 21 (72%) | 31 (65%) | 10 (100%) | 75 (75%) |
| Children | 0 (0%) | 0 (0%) | 2 (7%) | 8 (17%) | 1 (10%) | 11 (11%) |
| Gr 2 disabled | 1 (25%) | 1 (10%) | 8 (28%) | 8 (17%) | 2 (20%) | 20 (20%) |
| Reactions | 1 (25%) | 2 (20%) | 4 (14%) | 12 (26%) | 0 (0%) | 19 (19%) |
| Treated in MDT Distribution Points | 1 (25%) | 4 (40%) | 0 (0%) | 30 (63%) | 3 (30%) | 38 (38%) |
| Steroid treatments | 1 (100%) | 2 (100%) | 3 (75%) | 8 (67%) | 0 (0%) | 13 (69%) |
| Average delay of diagnosis in months | 36 | 44 | 32 | 40 | 25 | 37 |
| Average distance for treatment in km | 25 | 4.5 | 1.9 | 4.7 | 3.5 | 4.6 |
| Average cost (consultation, travel, blister packs) | 0 | 0 | 0 (except 3) | 0 | 0 (except 1) | 0 (except 4) |

Appendix 6: Leprosy case holding indicators in Health facilities and MDT distribution points

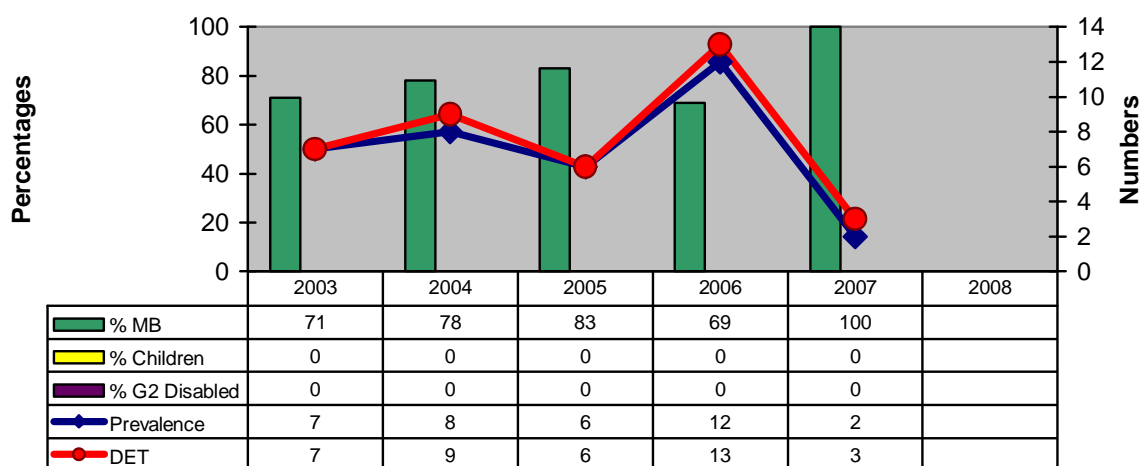
| | Sofala | Niassa | Nampula | Zambezia | Cabo Delgado | 5 Prov |
|-------------------------------|--------|--------|---------|-----------------|--------------|--------|
| 2005 MB cure rate | 99.5% | 95% | 93.3% | 99% | 100% | 98.6% |
| 2006 PB cure rate | 94.9% | 89% | 100% | 100% | 100% | 98.5% |
| Availability of blister packs | | | | | | |
| MBA | Good | Poor | Good | Shortage | Good | Poor |
| MBC | Good | Good | Good | Poor | Good | Good |
| PBA | Good | Good | Good | Poor | Good | Good |
| PBC | Good | Good | Good | Poor | Good | Good |

Annexe 6: Leprosy prevalence and detection trends in Sofala province

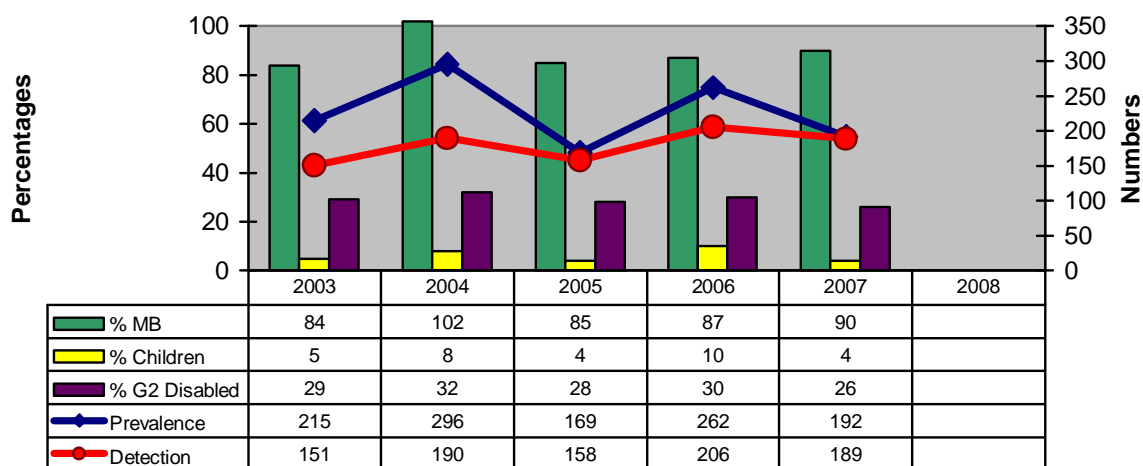
Graph 2: CHERINGOMA District



Graph 3: MARINGUE district

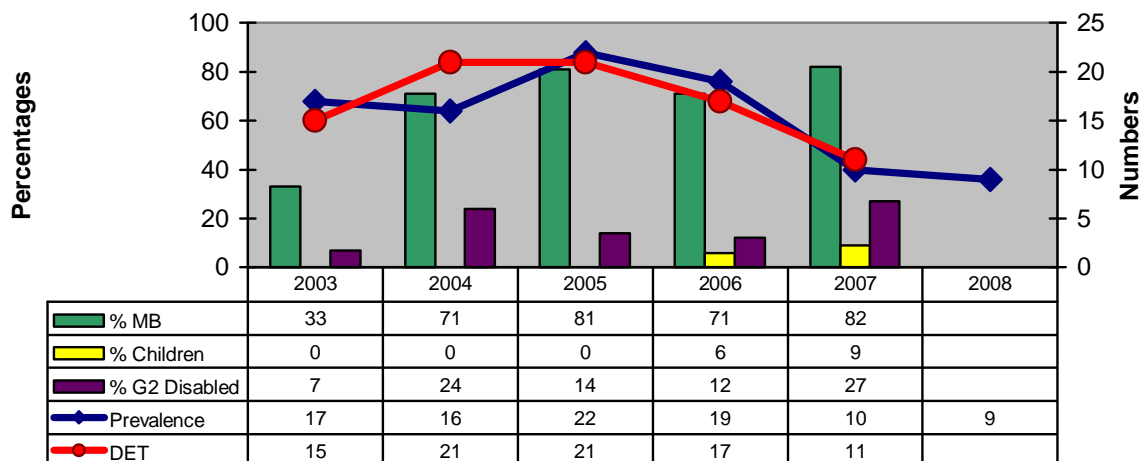


Graph 4: Province of SOFALA

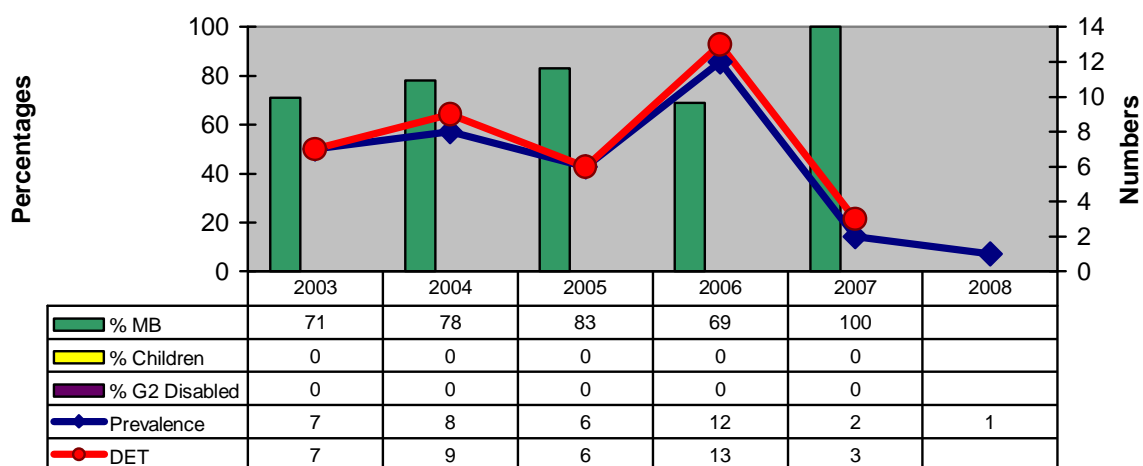


Annexe 7: Leprosy prevalence and detection trends in Niassa province

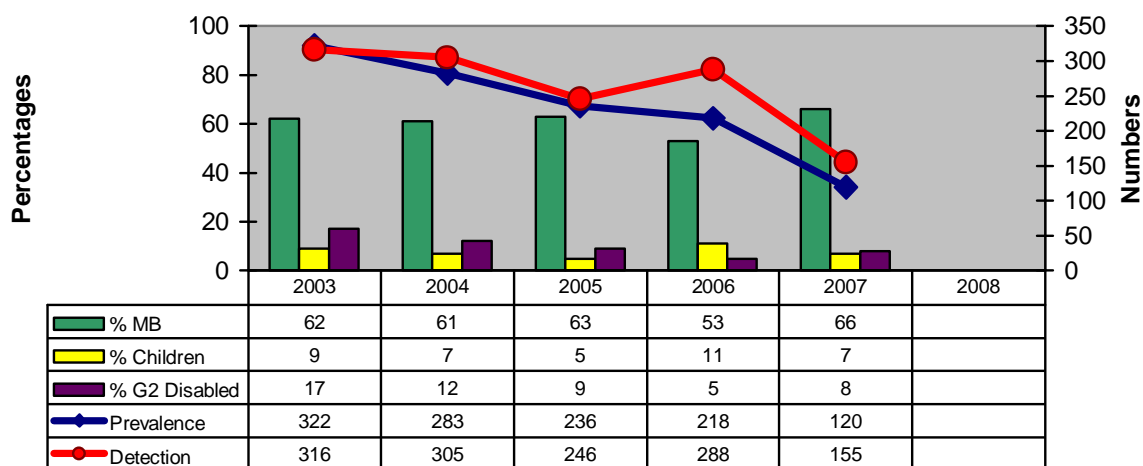
Graph 5: MAUA District



Graph 6: SANGA district

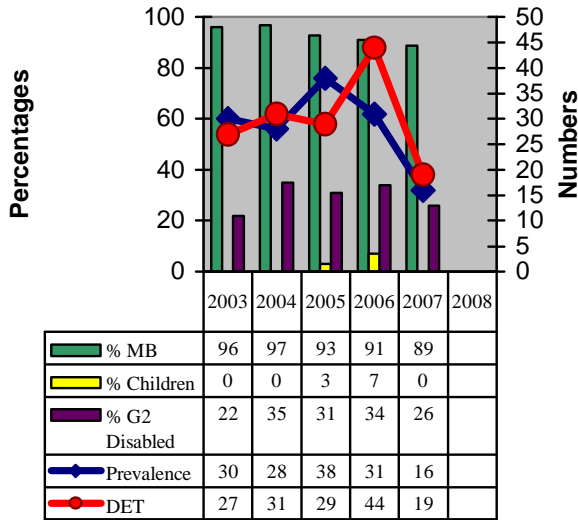


Graph 7: Province of NIASSA

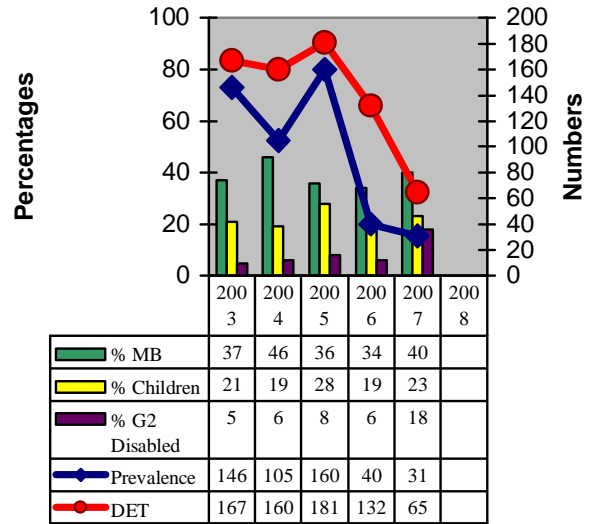


Annexe 8: Leprosy prevalence and detection trends in Nampula province

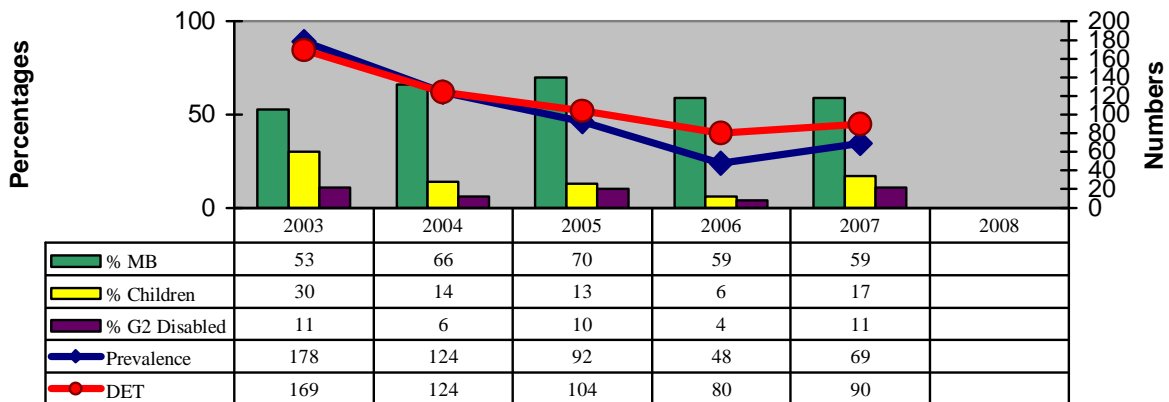
Graph 8: NACALA PORTO District



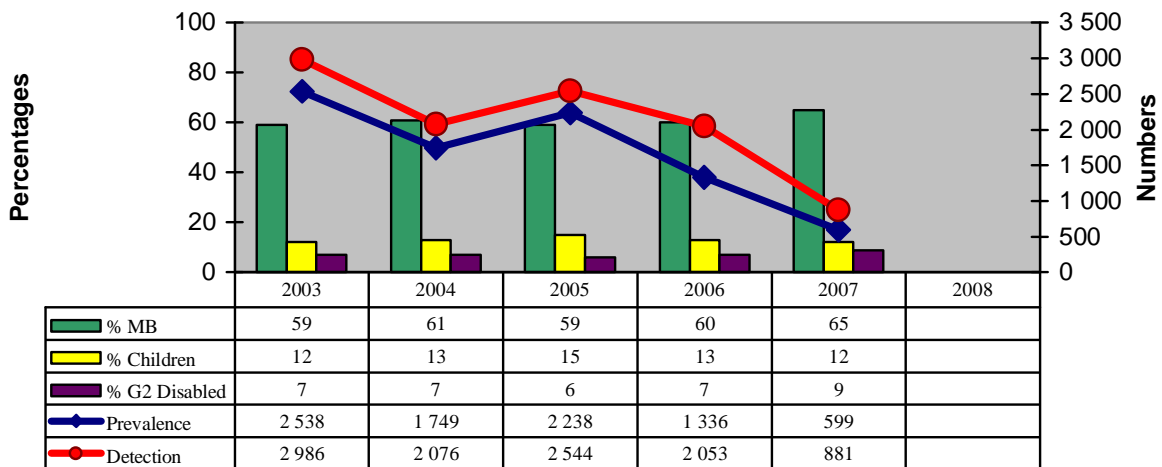
Graph 9: MURRUPULA district



Graph 10: MONAPO District



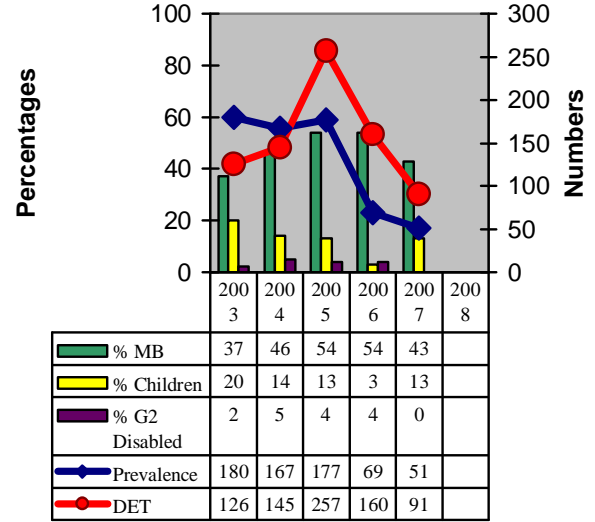
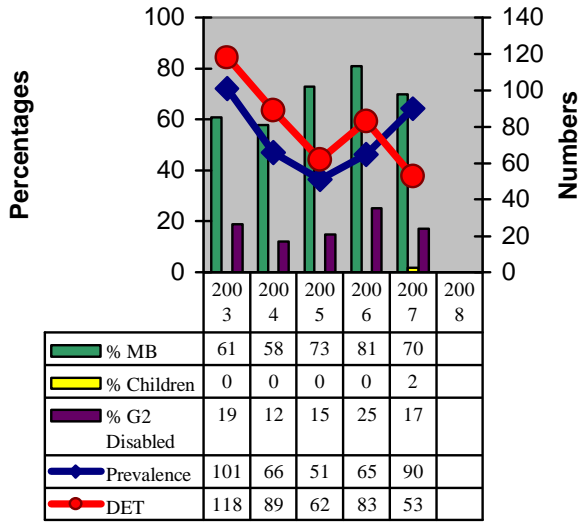
Graph 11: Province of NAMPULA



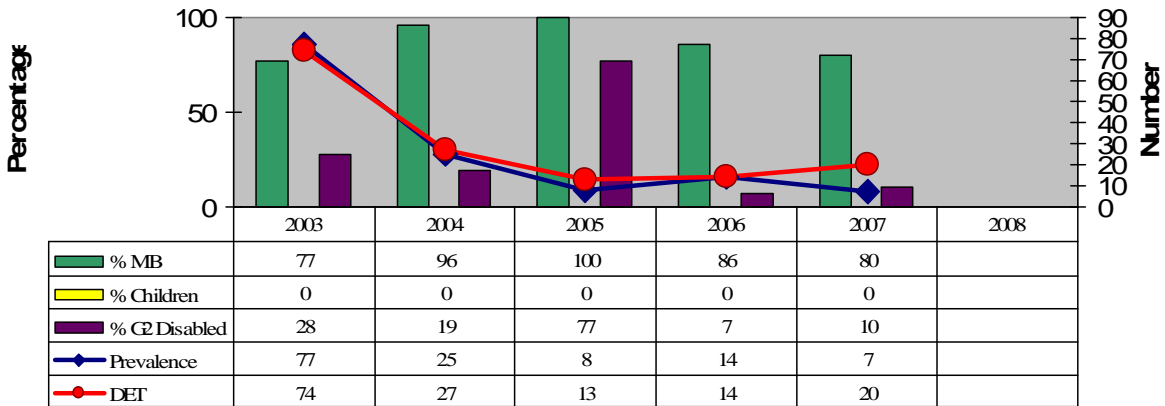
Annexe 9: Leprosy prevalence and detection trends in Zambezia province

Graph 12: PEBANE District

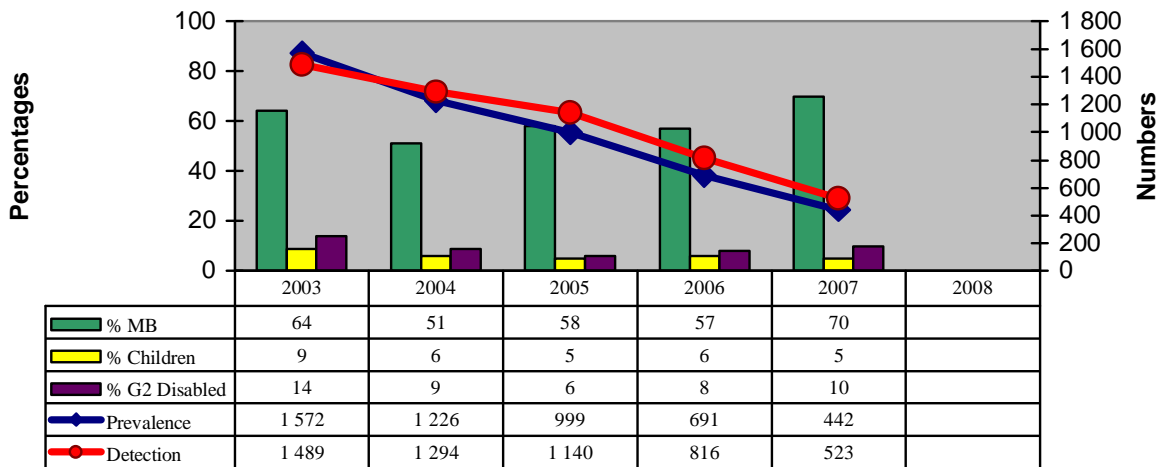
Graph 13: GILE district



Graph 14: MORRUMBALA District

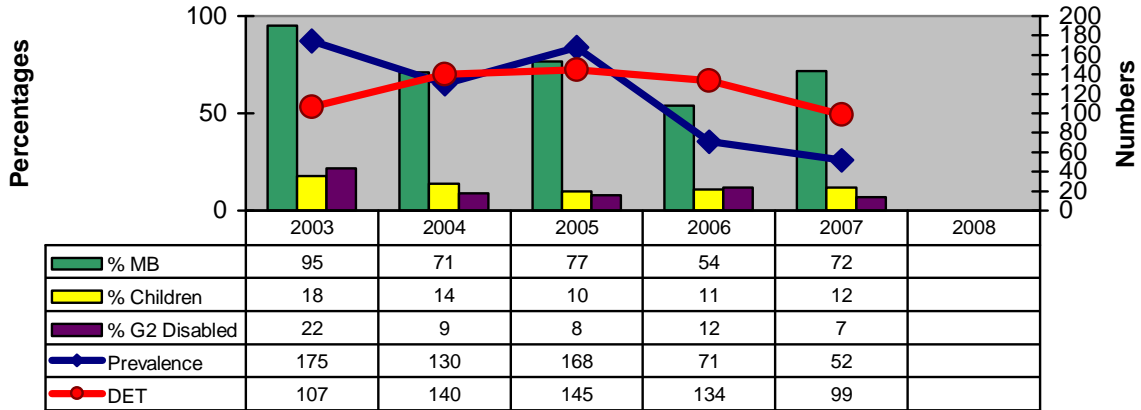


Graph 15: Province of ZAMBEZIA

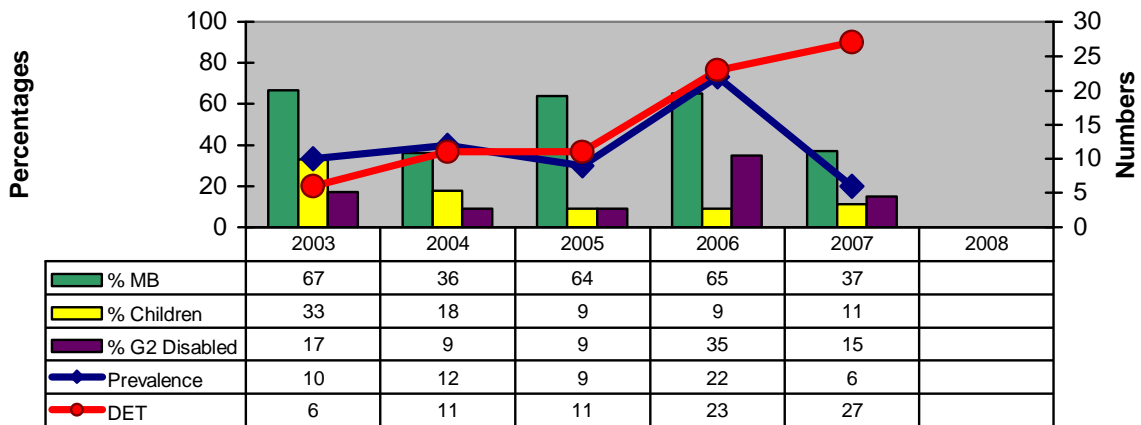


Annexe 10: Leprosy prevalence and detection trends in Cabo Delgado province

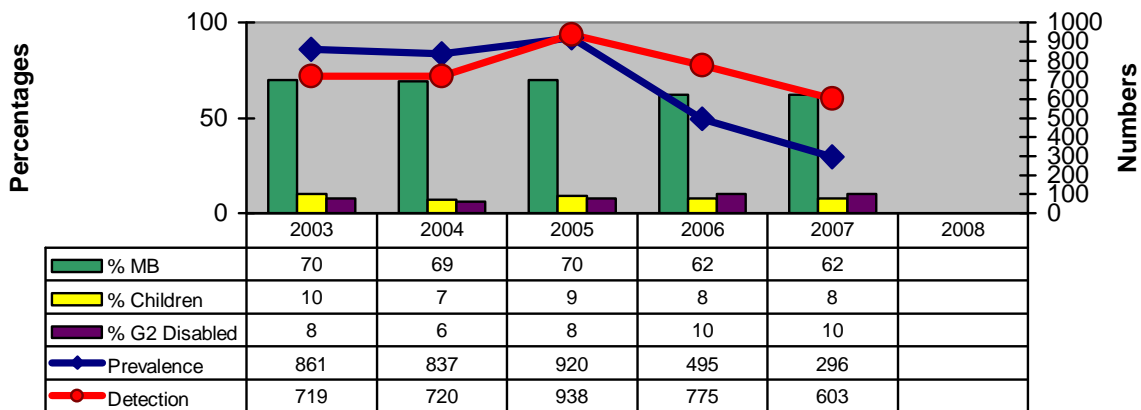
Graph 16: MONTEPUEZ District



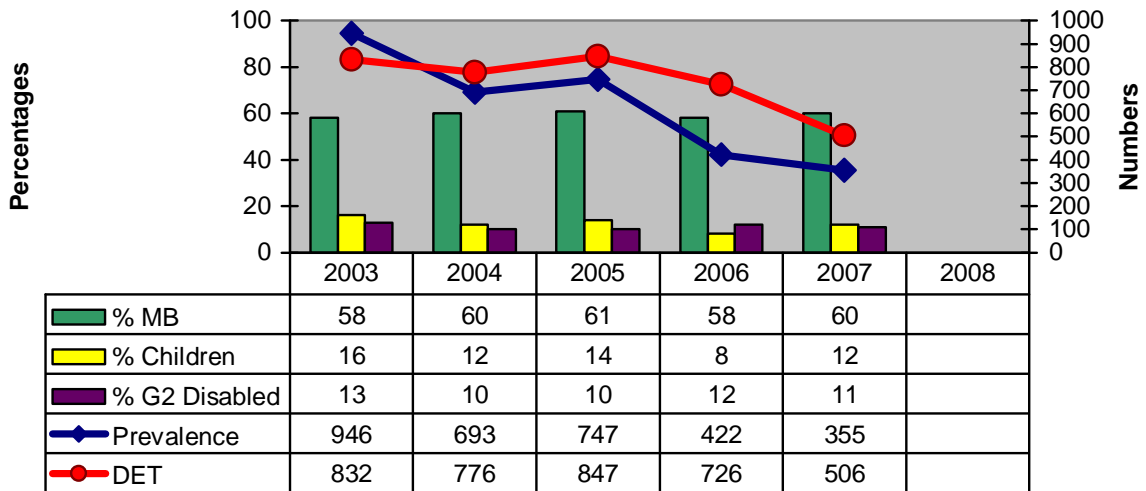
Graph 17: MELUCO district



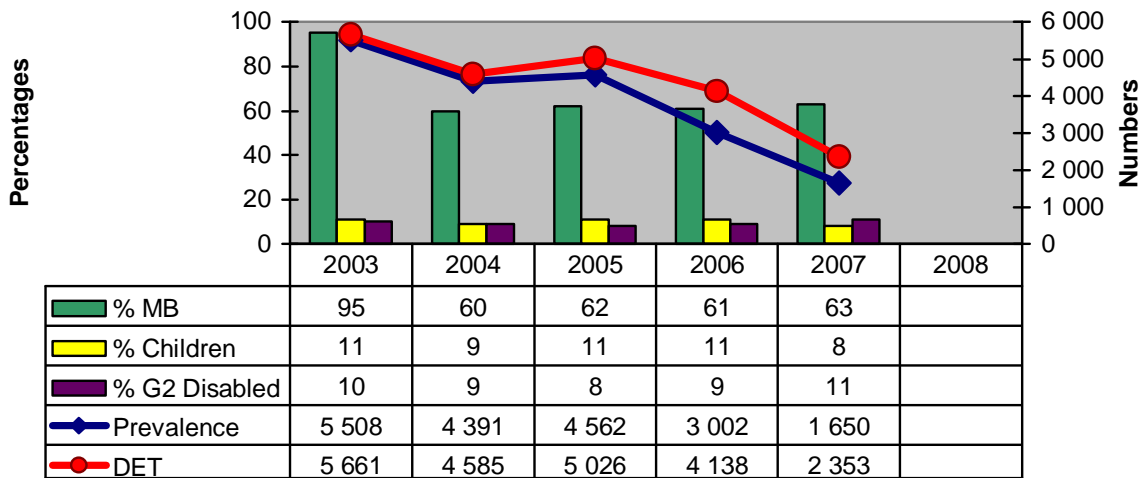
Graph 18: Province of CABO DELGADO



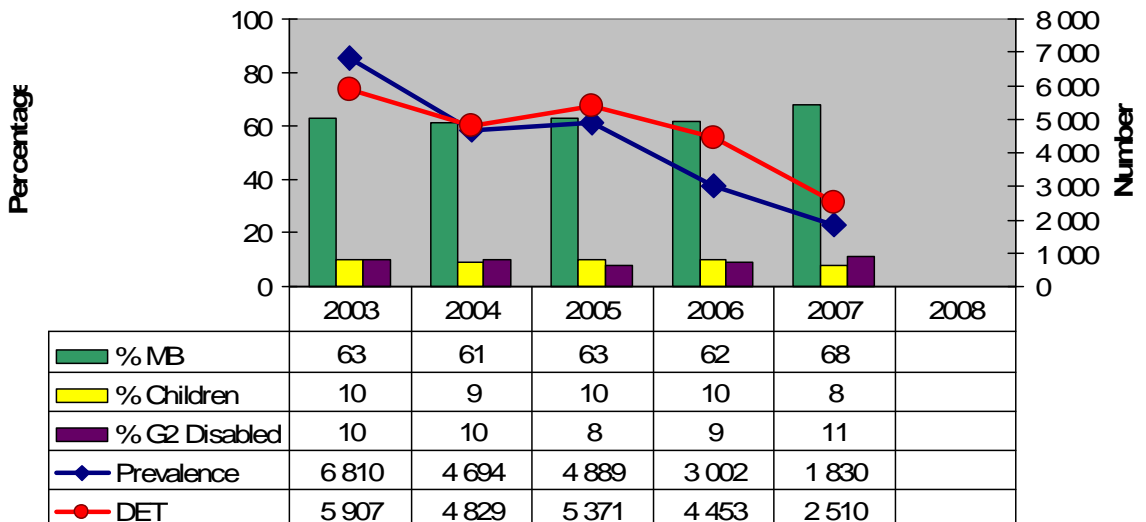
Graph 19: Leprosy prevalence and detection trends in the 12 visited Districts



Graph 20: Leprosy prevalence and detection trends in the 5 evaluated Provinces



Graph 21: Leprosy prevalence and detection trends in all Mozambique Provinces



Graph 22: Trends of leprosy elimination indicators in Mozambique from 1996 to 2007

