

SHORT PAPER

## Mozambique Country Profile

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### Introduction

Mozambique is a country in Southeast Africa bordered by the Indian Ocean on the east. The country gained independence from Portugal in 1975, followed by a long civil war till 1992.

Republic of mozambique	
	
<p>Area: 801,590 km<sup>2</sup> water: 13,000 km<sup>2</sup></p> <p>Capital Maputo and largest city 25°57'S 32°35'E</p> <p>Official language : Portuguese</p>	<p>GDP (PPP) 2011 estimate</p> <ul style="list-style-type: none"> <li>- Total \$23-886 billion</li> <li>- Per capita \$1,085</li> </ul> <p>GDP (nominal) 2011 estimate</p> <ul style="list-style-type: none"> <li>- Total \$12-827 billion</li> <li>- Per capita \$582</li> </ul>
<p>Population</p> <ul style="list-style-type: none"> <li>- 23,515,934 (July 2012 est.)</li> <li>- 2007 census 21,397,000</li> <li>- Density 28-7/km<sup>2</sup></li> </ul> <p>Age structure:</p> <ul style="list-style-type: none"> <li>0–14 years: 45.7%</li> <li>15–64 years: 51.3%</li> <li>65 years and over: 3%</li> </ul> <p>Population growth rate: 2.442% (2012 est.)</p>	<p>Health</p> <p>Infant mortality rate: total: 76-85 deaths/1,000 live births</p> <p>Life expectancy at birth: total population: 52-02 years</p> <p>Children under the age of 5 years underweight: 21.2% (2003)</p> <p>Maternal mortality rate: 490 deaths/100,000 live births (2010)</p>

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Since 2001, Mozambique's annual average GDP growth has been among the world's top ten. The human development index, inequality rating and average life expectancy are, however, amongst the worst in the world.<sup>1</sup>

More than 75% of the population engages in small-scale agriculture, which still suffers from inadequate infrastructure, commercial networks, and investment. However, much of Mozambique's arable land is still uncultivated.

#### LEPROSY CONTROL SERVICES

Leprosy services are managed by the National Leprosy Control Programme with a National Coordinator in Maputo, which as of 2012, falls under the control of the National Neglected Tropical Diseases (NTDs) department. Each province has a Provincial Leprosy Supervisor currently also working together with a Provincial contact person for NTDs. On a district level the roles are less well defined with District Supervisors responding to a growing list of tasks related to Tuberculosis, NTDs and often HIV. Health-post nurses at peripheral clinics have a small contribution to new case finding especially in more endemic districts, but the program execution is mainly dominated by the district supervisors. These in turn depend greatly on the nearly 2500 Community volunteers contributing to half of new case finding and the majority of treatment follow-up being done in Mozambique. Healthcare volunteers have also had a very active role in the growth of self-care groups in Mozambique. In various provinces we see that the role of community volunteers is also changing with many programmes wanting to make use of them, and some even including monetary incentives which was previously uncommon.

Up until the WHO target of elimination as a public health problem was reached at the beginning of 2009, the National Leprosy strategy was mainly geared towards case finding and treatment. Since then the programme has attempted to maintain diagnostic capacity and has invested in self-care groups which have seen good growth over the past 3 years with strong political commitment. Active case finding initiatives contribute to around 60% of all new cases found and include activities like Leprosy days, involvement of school children and traditional healers in identifying suspected new cases.<sup>2</sup>

Although the Provinces north of the Zambezi river contribute 90% of all cases, the distribution within provinces is very uneven with the majority of cases coming from 4-5 high endemic districts in each province. There is support from ILEP partners in the provinces of Nampula (NLR and AIFO), Niassa (NLR), Cabo Delgado (TLMI), Manica (AIFO) and Tete (DFB). NLR is currently acting ILEP coordinator. Notably there has not been an ILEP member in the Zambezia province for the past 4 years after one of the ILEP partners had to withdraw due to financial limitations.

#### Methods

The National Leprosy Control programme receives statistical data on leprosy indicators from Provincial supervisors. Provincial supervisors receive their information from Leprosy registers at district level. The data for 2008–2011 are considered fairly accurate but do not have detailed information like the percentage of women or MB cases. The National Leprosy data for 2012 had many inconsistencies and gaps.

Over the years various attempts have been made to improve and standardise the collection of leprosy data from districts, including Excel spreadsheets and an Epi-Info database. An

SMS case notification system was introduced in 2011 and the more endemic provinces have been sporadically using the system.

Information was gathered from the data received from the National Leprosy Control programme, as well as recent evaluations of the Nampula and Niassa provinces. Information from the SMS case notification system was used to correlate data where possible. Contributions were also received from other ILEP members working in country.

## Results

### I TRENDS OF MAJOR LEPROSY INDICATORS

The epidemiological trends since elimination has been fairly flat. New case detection continues to hover above 1000 new cases per year, which may be significant in the light of the continued slow waning of leprosy knowledge and skills (Table 1).

In looking at the rate of Grade 2 disabilities per 100,000 population with 2010 as the baseline for comparison the target (0.46) as suggested by WHO is a 35% decrease to be reached by 2015. Assuming the decrease till 2012 was accurate and the same decline continues till 2015, the county is unlikely to reach this target.

In the wake of rapid mobile network expansion, Mozambique has in the past 3 years implemented a countrywide SMS based case notification system for leprosy. Health personnel of all levels who are registered on the system can also get up to date statistical information on their cellphone or more detailed reports sent to their email address. A recent external evaluation of the SMS project revealed that according to the key informants, the project improved the management of leprosy in Mozambique, as 'accuracy, reliability and availability of leprosy control information' shared between levels of care clearly improved.<sup>3</sup>

### II PREVENTION OF DISABILITIES AND REHABILITATION

Prevention of disabilities and rehabilitation has traditionally lagged behind in Mozambique. Recently, with the growth of the self-care groups in various provinces, this area has gained some more impetus and much needed sustainability. Nearly 200 self-care groups have been started in the last 3 years with an estimated 2000 members. These groups are in varying stages of maturity, but the impact on the ground has been felt by people affected by leprosy and even the provincial programs, with new cases being identified by the groups. The groups

**Table 1.** Major Leprosy indicators since 2008

Mozambique	2008	2009	2010	2011	2012	2013
Population	20,852,855	21,317,078	21,602,955	22,065,008	23,486,414	24,366,112
Cases in Treatment at year end	1,138	1,774	1,132	1,059	984	1118
New cases diagnosed	1,311	1,182	1,207	1,182	1073	1161
% children among new cases	5.2%	4.4%	3.6%	4.1%	4%	5.6%
% of Grade 2 disability at diagnosis	10.8%	14.1%	12.7%	12.5%	14.5%	15%
Rate of Grade 2 disabilities per 100'000 of population	0.68	0.783	0.712	0.67	0.66	0.71

have also started to play a more inclusive role as some people with non-leprosy disabilities are also joining the groups.

The treatment of leprosy reactions is less positive, unfortunately. Since 2009 the country has been depending on the regular Prednisolone tablets in health care pharmacies distributed through the normal medicine distribution channels. All too often however the supply has not been stable or only the 5 mg tablets were available, blocking access to reaction treatment for people affected by leprosy. For example a single case of leprosy reaction could require all the 5 mg tablets in a district hospital pharmacy. The Mozambique health department is looking for ways to make Prednispac available once more. Apart from the availability of treatment, the diagnosis of leprosy reactions remains a point of concern, especially in the light of dwindling leprosy knowledge and the inaccessibility of that knowledge in peripheral areas.

### III PROGRAMME SUPPORT SERVICES AND PARTNERS

The impact of local Leprosy patient associations remains localised in certain provinces. The biggest association (ALEMO) is found in Cabo Delgado with around 70 groups and 1000 members. Activities include self-care, agricultural projects and helping members get identity documents. Although no official study has been done, the perception is that the level of stigma in the community is decreasing, at least in the areas where self-care groups and DPOs are active.

In certain provinces there is a closer partnership with the ophthalmology services provided by the health ministry. People with leprosy-related eye complications are having greater access to these services, but the need here is still greatly underestimated and eye care services have a very low coverage in general.

Some work was done in the last 4 years to equip provincial teams, especially in Nampula, to do re-constructive and other rehabilitative surgery for those with leprosy. Referral services for leprosy are, however, still very sporadic, mainly due to the lack of knowledge on all levels and logistical obstacles. Related to this is the great void in leprosy research in the country. A few low key operational research proposals are being funded in relation to self-care groups, but in general there is a lack of focus and it is not driven by need.

### IV LEPROSY KNOWLEDGE AND SKILLS

As mentioned above, the key person in the leprosy control programme is still the district supervisor. The program is successful in so far as he/she is well trained and able to support or implement leprosy service delivery at community or health post level. A lot of investment has gone into training nurses at the peripheral health post level to correctly diagnose and treat leprosy. Nurses are often not given the authority to diagnose leprosy on their own, due to the dominance of the district supervisor. As a result the knowledge at health-post level is quickly lost, either through lack of practice or frequent personnel changes at this level. When district supervisors still had the means and transport to get to the field on a regular basis, this was still viable. In few provinces however is this still the case. Mozambique still has a team of very experienced district supervisors that have been in the programme for many years, but their number is fast reducing and their attention is increasingly diverted by other health priorities.

## V THE NEGLECTED TROPICAL DISEASES (NTD) CONTEXT

The leprosy control programme has been placed among other Neglected Tropical Diseases (NTDs), as of 2012. The most problematic other NTDs of note include schistosomiasis, elephantiasis (lymphatic filariasis), trachoma, river blindness (onchocerciasis) and intestinal parasites.

Schistosomiasis, especially, has a very high prevalence with an average national infection rate of 43%.<sup>4</sup> There are various international NGOs already in the country to support the NTD program.

The National NTD strategy in Mozambique is still new and evolving and contains the following main elements:

- Mass drug administration (MDA) campaigns (e.g. for schistosomiasis and lymphatic filariasis).
- Health-care worker training and disease management (e.g. leprosy and trachoma).
- Vector Control.
- Community involvement in early diagnosis and Community-based rehabilitation.
- Operational research and sentinel posts. (For longer term disease tracking, mapping etc.)

### Discussion

From the above we can conclude that leprosy control still has an important role to play in Mozambique, especially in the higher endemic districts and the Zambezia province where the situation is dubious. The programme is currently in flux due to the new NTD integration, diminishing support from ILEP partners and role uncertainty of stakeholders on many levels.

Self-care groups and the network of community volunteers can be considered good strong points and keys to future strategies. Creative solutions need to be found for some important weak points, including diminishing leprosy skills and knowledge, especially as regards reaction management and rehabilitation.

In addressing these challenges the following suggestions can be made:

## INTEGRATION WITH NTDS

It is vitally important that the leprosy stakeholders make a positive contribution to the forming of the NTD strategy at this stage and so ensure that leprosy stays relevant to the powers that be. The strong points of the leprosy control programme are particularly relevant to the NTD efforts as it supports the areas where the NTD programme is the weakest, for instance, having a presence on the ground in the community. Self-care groups could play a role in integrating people with non-leprosy disabilities and the Volunteer network could also be useful to identify and map NTDs at community level or to create awareness.

The leprosy programme should also endeavor to link to areas where the NTD programme is strong, for instance in mass drug administration (MDA) campaigns. For example, could we find a practical way to do focused health education on leprosy for people waiting in the queue during an MDA campaign? Leprosy should advocate for its role alongside other NTDs, but we need to be creative and innovative. NTDs could also benefit from the leprosy experience in using mobile technology to communicate and coordinate.

## STRENGTHEN LEPROSY CONTROL SERVICES

In the light of the difficulties mentioned above, it is important that the leprosy programme rethink its implementation strategy. How will we find new cases in our current scenario? Who will make the diagnosis? Where will it be done? What can we realistically expect from district supervisors? It may be necessary to have a different approach in lower endemic districts as opposed to high endemic districts. The roles of district supervisors need to be clearly defined and supported. Specific issues to consider are the role of peripheral clinic nurses, training strategies and logistical support.

As the skills and knowledge in leprosy continue to wane, it becomes less likely that peripheral nurses at health posts will correctly diagnose and treat leprosy. Instead a local referral point should be created either at district or provincial level, depending on the size of the problem. A high degree of awareness still needs to be maintained, but especially among community partners like self-care groups and volunteers. Communication channels should also be clear and visible for informing the referral point as to new suspected cases or leprosy needs.

It is clear that community participation is still playing and will increasingly play a crucial role in all of the leprosy services, and that this vital partnership needs better management and support. This group is increasingly connected by mobile phones and this could be better exploited to coordinate activities, identify reactions, make referrals, get feedback or just maintain good relations. Use of the SMS case notification system should be encouraged.

## LEPROSY KNOWLEDGE AND SKILLS

After having revised the Leprosy Control implementation strategy and defining well the roles of each person involved in Leprosy service delivery we can better define the training needs and strategy. The program should see that it does not lose the current high concentration of leprosy skills and knowledge at district and provincial level but rather involve these supervisors in growing the capacity of others.

Classroom based training is not very cost effective if participants are chosen who will not use the skills and who are not followed up afterwards. If taken seriously, a well-structured in-service training system can be very useful and adaptable to different endemic contexts.

Training, whether classroom or in-service, should make better use of the increasing ability and interest of the target group to use and propagate various media forms like video clips and DVDs. Many of the mobile phones carried every day by district supervisors have the ability to play a video clip. These tools could support other forms of training and stimulate self-learning.

## PREVENTION OF DISABILITIES AND REHABILITATION

A well-functioning, community owned and sustained self-care group is an entity that leaves us as health care professionals in humble awe. There is no wonder formula to make this happen but we should strive to fortify and expand this phenomenon. Self-care groups, leprosy associations and individual patients should be the starting point of prevention and rehabilitation. Without their cooperation, any investment here will be of limited effect. The leprosy programme should strive to build the capacity of people affected by leprosy in identifying complications and taking appropriate action, whether that be self-care or

being referred to a hospital for surgery. The program should also establish communication channels and appropriate social links and infrastructure to hear and react to the specific needs expressed by the affected community. For prevention, referral and rehabilitation to work, we need to think bottom up, not top down.

## **References**

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