LEPROSY SITUATION IN THE EMR
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1. Introduction

Leprosy is a significant public health problem in the EMR, although the intensity of the disease in the Region as a whole is less than that in several other areas in Asia and Africa. The disease is of serious concern because, among cases discovered late and improperly treated, it results in permanent and progressive deformities in about a third of the patients, and it is these deformities that expose the patients to intense social stigma and rejection, which compounds the problem further. Over the years, leprosy has not received the attention it should have in the EMR, despite the occurrence of the disease in underserved rural and urban populations in many Member States. The last time the Eastern Mediterranean Regional Committee considered leprosy control in detail was in 1957, when it adopted a resolution (EM/RC7A/R.14) on the subject, drawing attention to the leprosy endemicity in the Region, and the much greater governmental and international commitment required to train and orient health personnel and the community, including health education and social service involvement.

During the last decade, important changes took place in the strategy and technology available for leprosy control, particularly in chemotherapy and the application of leprosy control as an integral component of primary health care.

It is therefore timely to review the present leprosy situation and development of control programmes in the EMR, and to pursue the reorientation of policies and strategies for leprosy control.

Based on this review, and the discussions that will take place, the Regional Committee may consider adopting a resolution to reflect the needs for strengthening national approaches and activities with WHO collaboration for detecting and controlling leprosy.

2. Background on Technical Policy

During the past 50 years leprosy control policy has passed through several phases related to the extent of knowledge pertaining to the epidemiology of the disease and progress in chemotherapy. Prior to the mid-1940s, when therapeutic agents were virtually unknown, preventive measures were carried out by isolating patients in sanatoria, often for life, and preventing the disease in child contacts by placing them in preventoria. The introduction of sulphones in the therapy of leprosy in the early 1950s heralded a new era in the control of the disease.

Since the 1950s, control of leprosy has been based on the strategy of effective treatment of patients combined with early case detection. Until the early 1980s, the drug used for treating leprosy was dapsone, an effective, but slow-acting drug. Over a period of time dapsone treatment failed to produce the desired control of leprosy, largely because of the emergence of drug resistance, and the need to treat patients for prolonged periods with the consequent problems of noncompliance to treatment.

The introduction of multidrug therapy (MDT), based on the recommendations made by a WHO Study Group on Chemotherapy of Leprosy for
Control Programmes in 1981, has changed the situation dramatically. MDT is not only capable of preventing and curing drug resistance, but is also able to reduce the period of treatment drastically.

The new approach to leprosy control has resulted in some changes in terminology in the classification of patients as having multibacillary (MB) or paucibacillary (PB) leprosy. This is essentially an operational categorization for purposes of multidrug therapy. Paucibacillary leprosy includes only smear-negative indeterminate, polar tuberculoid and borderline tuberculoid cases in the Ridley-Jopling classification, or indeterminate and tuberculoid cases in the Madrid classification. Multibacillary leprosy includes all mid-borderline, borderline lepromatous and polar lepromatous cases in the Ridley-Jopling classification, or borderline and lepromatous in the Madrid classification, as well as any other smear-positive types.

A large number of PB patients with single lesions heal spontaneously. Nevertheless, all PB patients should be treated because of the possibility of developing nerve lesions or even progressing to MB forms of the disease. With MDT, paucibacillary forms of leprosy are treated with a combination of two drugs (rifampicin and dapsone) for six months only, and multibacillary forms with a combination of three drugs (rifampicin, clofazamine and dapsone) for a minimum of two years, with an average of three to four years. Thus, MDT has enabled leprosy patients to be cured in a reasonable period and to be released thereafter from treatment.

The cost of MDT drugs themselves are not too high. MDT drugs for paucibacillary patients cost about $2.00 per patient for the full course of treatment and for multibacillary patients about $20 per patient per year or about $70 for an average full course of treatment. Thus, it is clear that the opportunities available now for achieving drastic reductions in leprosy in the foreseeable future are extremely bright.

Over the last several years, experience in many countries has shown that leprosy control activities can successfully be integrated into general health services. Full implementation of a national leprosy control programme implies a commitment by the government concerned to give leprosy control its deserved importance in the national health plan and to ensure availability of necessary budgetary allocations. Nongovernmental support from national and international nongovernmental organizations (NGOs) in implementing leprosy control activities has shown that it can be an important resource.

3. Situation Analysis of Leprosy in the Region

Epidemiological data available from endemic countries of the Region are very limited and based essentially on self-reported cases. The number of registered cases in the Region has varied over the years, with a steady increase from 63 236 cases in 1976 to 74 892 cases in 1985. The total number of registered cases in EM! Member States reached over 100 000 in 1988 (Annex I).

However, due to the weakness of national recording and reporting systems, the information obtained is far from being complete or reliable. In most countries, the number of new cases detected and registered for treatment in recent years has remained at approximately the same level. However, information from country programmes on the type of leprosy, whether
multibacillary or paucibacillary, and whether the patients have active or inactive disease, are often incomplete.

The available data usually consists of the number of clinical cases referred to government hospitals or specialized clinics and leprosaria. Active search for and screening of cases are conducted on a limited scale. The estimated number of leprosy cases, based on results of active surveys, is much higher than the official reported figures and is frequently quoted as 250,000 to 300,000 for the Region.

Apart from the generally weak system of disease surveillance, specific operational constraints that contribute to the unclear epidemiological situation of leprosy in the Region are the following:

- Since the disease prevails in underserved rural and congested urban areas, where health and social services are generally inadequate, a large number of cases remain undetected, the proportion of which is undetermined;

- In many leprosy endemic areas, the level of disease awareness, and the training and motivation of primary health workers to look out for the disease in its early stages, are generally poor, resulting in a low rate of case detection and underestimation of the problem; and

- The widespread and high level of social stigma associated with leprosy and the resulting prejudices in the community at large, mitigates heavily against self-reporting, sometimes leading to concealment of the disease by the patients and their families, and deliberate non-recognition of the existence of the leprosy problem at many levels.

According to available information, countries such as Bahrain, Jordan, Kuwait, Saudi Arabia, the Syrian Arab Republic, Tunisia and the United Arab Emirates, have a very limited problem regarding leprosy, while in Egypt, the Islamic Republic of Iran, the Libyan Arab Jamahiriya, Morocco, Oman, Pakistan, Somalia and Sudan, it is possible to pin point areas of high endemicity in some parts of their territories where the problem is of significant public health importance.

This focal distribution is of epidemiological relevance to the adaptation of the strategy of leprosy control to accommodate for geographic variations in prevalence, so that resources, including those devoted to training, are optimally utilized.

Information on leprosy disability situation in EMR Member States is rather limited and often the data are not comparable. A simple classification and grading of deformities involving hands, feet and eyes was developed by WHO, but not fully implemented in the Region. However, it is estimated that between 20% to 30% of leprosy patients in the Region are suffering from physical disabilities and psychosocial handicaps, and are in need of some type of rehabilitation and continuing medical care.
4. **Leprosy Control Activities in the BMR**

All Member States of the Region have endorsed, as a formal policy, the integration of leprosy control into their basic health infrastructures. However, the scope of integration is still limited by the level of development of basic health services and availability of trained manpower and referral facilities.

The organization of effective leprosy control programmes in most countries of the Region is handicapped by several constraints, including:

- Weak governmental commitment to leprosy control, compounded by the high social stigma to leprosy in the community, even among health care workers;

- Inadequate appreciation of the strong potential of MDT to reduce prevalence and, in the long term, incidence of leprosy. This is compounded further by poor motivation and inadequate knowledge of public health aspects of MDT, with consequent weak planning, implementation and managerial capabilities in this regard as reflected in all levels of service delivery; and

- Inadequate laboratory facilities for diagnosis and, in some areas, poor logistic support for drug supplies.

#### 4.1. Case detection and diagnostic laboratory services

The definition of a "leprosy case" is based essentially on the appearance of specific clinical signs of leprosy, with or without bacteriological confirmation of the diagnosis. The Sixth WHO Expert Committee on Leprosy (1987) recommended that this definition be adopted by all countries and that the prevalence rates be based on registered cases as per the above definition.

There are clinical and operational reasons for including all smear positive cases in the multibacillary group. For this reason, the need for greatly improved quality for skin smears is stressed. Although, in some circumstances, it may be necessary to start MDT based on clinical judgement alone, efforts must be made to carry out bacteriological examination as soon as possible. In MB cases, smears should be taken at least once at the start of MDT and again on completion of treatment.

In the Region, bacteriological examination of skin smears from suspected leprosy patients is far from satisfactory. The staff of peripheral laboratories are often not well trained in bacteriological examination of leprosy, and may not be regularly provided with stains and supplies. As a result, a great proportion of patients are diagnosed on a clinical basis only, and hence, the great majority of smear positive cases are not diagnosed as such.

#### 4.2. Treatment

As far as treatment of leprosy is concerned, most Member States are fully aware of the importance of providing adequate chemotherapy to every diagnosed patient. MDT has been widely accepted both by patients and by leprosy control personnel. The three components—rifampicin, dapsone and
clofazimine—have been extremely well tolerated. Primary resistance to rifampicin has not yet been recognized, and relapses following the use of multidrug regimens have so far been extremely infrequent.

Implementation of MDT has expanded, and by the end of 1988 more than 25% of registered cases were on the MDT regimen, and more than 14,000 patients had completed treatment (53.1% of all MDT cases). The comparatively moderate total rate of MDT coverage is due to the low rate of MDT implementation in Sudan, where most of the leprosy cases are registered. Five countries out of 14 with a prevalence rate of 0.1 or more per 1000 population, reached more than 50% coverage with MDT. The others are with lower MDT coverage rates, or lack reliable information. This is mostly due to the inadequate supply of MDT drugs.

MDT has proved to be operationally feasible where the infrastructure is adequate and the main difficulties have been in the efficient delivery of the drugs to the patients by the leprosy control infrastructure.

Ambulatory treatment is the most common way of drug delivery, but its organization in many countries needs improvement, especially as regards supervision. As a rule, a patient should be assigned to the general health service clinic located in the area of the patient's residence, or even a private practitioner for the sake of anonymity, confidentiality, or for any other reason, but proper supervision, as well as proper reporting, should be followed carefully.

Putting drugs into monthly calendar packs, despite the added cost, has a number of important advantages, including assurance of safe delivery to the patient, less time consumed in handling drugs by busy multipurpose health workers in the field, and easy monitoring of daily dosage intake by the patient. However, this form of delivery needs further evaluation, particularly from the point of view of the cost involved. Meanwhile, where resources permit, the use of calendar packs should be encouraged.

The effectiveness of MDT suggests that no deviation from the present recommended PB and MB regimens are needed. On the other hand, non-judicious use of MDT, without proper supervision, or not in the correct combinations, must be avoided, because of the risk of drug resistance. This is being emphasized, particularly as some countries in the Region have been modifying WHO or other regimens for treatment of leprosy cases, without any scientific reason behind this modification.

4.3. Training

The shortage of trained manpower is a particularly acute problem in most countries of the Region. This is one of the major obstacles to ensuring total and intensive coverage of patients, including early case detection, treatment, past-treatment surveillance and prevention of disability.

National training activities for different categories of health care personnel have been intensified during the last several years, especially after the introduction of MDT into national control programmes. However, further efforts are needed to reach better coverage, with training of multipurpose health workers and community health volunteers who have the most close contact with the population, and to promote control activities at the
community and family level. Training should also include patient education, dispelling the social stigma of leprosy and follow-up methods of cases.

The Regional Office has translated into Arabic several technical publications on leprosy epidemiology, diagnosis and chemotherapy. However, there is still a very great demand for teaching and learning materials, particularly in national languages, for all categories of medical personnel involved in an integrated leprosy control programme.

5. Role of Voluntary Organizations in Leprosy Control in the Region

National and international voluntary organizations play a significant role in controlling leprosy in the Region. More than 15 voluntary organizations are actively supporting national control programmes with technical assistance, training and reorientation of health personnel, provision of teaching and learning materials, supply of drugs, logistic support, and social and physical rehabilitation of patients. In addition, a large number of national voluntary agencies are also involved in one way or another in leprosy control operations.

Financial and technical assistance of international voluntary organizations to countries of the Region is widely appreciated. However, in some countries such as Somalia, Pakistan, Sudan and the Republic of Yemen national control programmes are substantially dependent on activities and contributions of voluntary organizations. The ministry of health often is not directly involved in planning and management of activities, or even in monitoring and evaluation of the situation. This adversely affects the promotion of national capabilities, particularly in management, training, manpower development and research, and results in almost depriving from any care leprosy cases among populations outside the areas of activities of the voluntary organizations. It is essential that governmental and NGOs supporting leprosy control should enter into formal agreement covering their respective inputs to the programme.

Good examples of such cooperation between governmental and NGOs can be seen in Egypt, the Islamic Republic of Iran and some other countries. National authorities in these countries have assumed their role as coordinators for leprosy control efforts. In Egypt, the Ministry of Health (MOH) has established a National Coordinating Committee under the chairmanship of the under-secretary of the MOH. It includes among its members all NGOs working in leprosy control, in addition to national and international organizations. This approach has ensured complimentarity of efforts and optimum utilization of resources.

6. WHO Regional Leprosy Programme

WHO/EMRO collaborates with all Member States where leprosy is a public health problem, both technically and financially through regular budget allocations and extrabudgetary funds. The recommendations on MDT and the adoption of a medium-term plan (MTP) for 1984-89 generated increased interest in leprosy control in the Region, as evidenced by increases in WHO regular funds at the country level (Table 1).
Table 1. Budgetary Allocations for the EMR Leprosy Control Programme, 1984-85 to 1990-91

<table>
<thead>
<tr>
<th>Budgetary resources</th>
<th>1984-85 (US$)</th>
<th>1986-87 (US$)</th>
<th>1988-89 (US$)</th>
<th>1990-91 (US$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regular budget</td>
<td>50 000</td>
<td>175 400</td>
<td>71 232</td>
<td>206 100</td>
</tr>
<tr>
<td>Other sources</td>
<td>353 600</td>
<td>391 800</td>
<td>280 902</td>
<td>136 780</td>
</tr>
<tr>
<td>Total</td>
<td>403 600</td>
<td>567 200</td>
<td>352 134</td>
<td>342 880</td>
</tr>
</tbody>
</table>

The Seventh General Programme of Work (1984-1989) had set some targets for leprosy control in the Region; the first was the adoption by all endemic countries of the MDT policy and strategy. This target was fulfilled.

The second target related to the development by leprosy endemic countries of national capabilities for planning, implementation and evaluation of leprosy control as part of PHC infrastructure. This target was partially fulfilled due to various serious constraints outlined earlier.

During 1984-89 WHO consultants were assigned to Democratic Yemen, Egypt, the Islamic Republic of Iran, Pakistan, Somalia, Sudan and Yemen. They assisted in setting national plans for the implementation of the MDT and in the actual implementation of some activities. These included: preparation and facilitation of training courses for leprosy control on MDT strategy; initiation of epidemiological surveys to assess the magnitude of the problem; and statistical analysis and interpretation of data obtained from sample surveys for epidemiological evaluation.

A WHO regional workshop on leprosy control was organized in December 1987. In this workshop, interested NGOs and eight countries with endemic leprosy participated. During the workshop a review was made of the leprosy situation in the eight countries after the introduction of MDT, and the situation with regard to the technical and managerial aspects of leprosy control through MDT was studied. The workshop ended with the formulation or reformulation of national plans of action for leprosy control programmes. In addition, follow-up visits by WHO short-term consultants were made to Egypt and Sudan, and national workshops were organized to finalize national leprosy control plans.

A regional seminar is planned for September 1990 to review the leprosy situation in the Region and assess the progress in technical and managerial aspects of leprosy control through MDT.

Eleven national training courses or workshops for medical officers and other health personnel were supported by WHO in four other countries. Overseas training was also provided for key personnel to support upgrading of technical skills.

EMRO was active in supporting national authorities in some countries to strengthen their role as coordinators of various sources of external support from NGOs and international agencies to their national leprosy control programmes, to achieve optimum utilization of resources. Most of the financing of drugs came from external sources.
The targets set in the Eighth General Programme of Work for the medium-term programme (1991-95) reflect the challenges mentioned in the previous sections. These are: (i) all countries with endemic leprosy will have national plans for leprosy control implemented essentially through the PHC system; and (ii) at least 90% of multibacillary cases of leprosy will be under effective treatment.

In specific terms, MTP targets will have to be translated into activities in the areas of MDT implementation, case detection, training, disability prevention, health education and coordination. All of these warrant not only additional monetary resources, but also substantially increased political commitment by Member States.

7. Conclusions

Leprosy is still an important public health problem in some countries of the Region.

All endemic countries have national plans for control of leprosy based on the MDT strategy. However, progress in the implementation of these plans is often hampered by existing socioeconomic constraints. The main problems facing national leprosy control programmes are:

- Insufficient trained manpower;
- Social stigma attached to leprosy;
- Lack of laboratory facilities in endemic areas;
- Lack of supervision/support to peripheral health resources;
- Insufficient drug supplies to implement full-scale MDT;
- Insufficient primary health care infrastructure and logistic needs to ensure a wide coverage of the population, especially in remote areas, refugee camps and slum areas;
- Inadequate MDT coverage of registered cases;
- Inadequate efforts to prevent patient disabilities;
- Inefficiency of health education and community involvement in anti-leprosy activities; and
- Poor coordination of activities and input between governmental and nongovernmental organizations.

It is clear that with MDT, leprosy control is achievable in a reasonable period of time, provided the problems are identified and priorities are clearly laid down.

Unless the above deficiencies are corrected, it is difficult to see a major change in the future in relation to leprosy control. Future efforts therefore need to be directed at: (i) preparation of time-bound target-oriented plans of action for implementation of MDT; (ii) provision of drugs and other resources for implementing MDT; (iii) strengthening of national
capabilities for implementing MDT through training of personnel in technical and managerial areas; (iv) concerted and systematic efforts towards health education to break down social prejudices against leprosy and, thus, promote self-reporting for diagnosis and compliance with treatment; (v) incorporation of disability prevention activities within leprosy control, and rehabilitation of disabled patients within the community through such approaches as community-based rehabilitation.

In addition to the above, it will be necessary to strengthen coordination mechanisms among Member States, WHO, NGOs and other agencies so that resources available for leprosy control are substantially increased as well as optimally utilized.

Should the above be achieved, leprosy control, and even its elimination as a public health problem in the Region, is achievable. However, necessary political commitment and adequate resources are needed to bring about any major impact on this dreaded disease.
ANNEX I

Prevalence, Detection Rates and MDT Coverage in EMR Member States
(as of 31 December 1988)<sup>a</sup>

<table>
<thead>
<tr>
<th>Country</th>
<th>Population ('000)&lt;sup&gt;b&lt;/sup&gt;</th>
<th>Registered cases</th>
<th>Prevalence rate per 1000</th>
<th>New cases in 1988</th>
<th>Cases under MDT</th>
<th>MDT coverage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Afghanistan</td>
<td>15 090</td>
<td>1 596</td>
<td>0.11</td>
<td>20</td>
<td>234</td>
<td>17.74</td>
</tr>
<tr>
<td>Bahrain</td>
<td>413</td>
<td>38</td>
<td>0.08</td>
<td>0</td>
<td>--</td>
<td>0.00</td>
</tr>
<tr>
<td>Cyprus</td>
<td>684</td>
<td>102</td>
<td>0.15</td>
<td>0</td>
<td>--</td>
<td>0.00</td>
</tr>
<tr>
<td>Democratic Yemen</td>
<td>2 339</td>
<td>205</td>
<td>0.09</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Djibouti</td>
<td>383</td>
<td>70</td>
<td>0.18</td>
<td>--</td>
<td>48</td>
<td>68.57</td>
</tr>
<tr>
<td>Egypt</td>
<td>51 453</td>
<td>9 432</td>
<td>0.28</td>
<td>993</td>
<td>8 428</td>
<td>89.36</td>
</tr>
<tr>
<td>Iran, Islamic Republic of</td>
<td>53 126</td>
<td>13 568</td>
<td>0.20</td>
<td>187</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Iraq</td>
<td>17 656</td>
<td>500</td>
<td>0.03</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Jordan</td>
<td>2 896</td>
<td>20</td>
<td>0.01</td>
<td>0</td>
<td>3</td>
<td>15.00</td>
</tr>
<tr>
<td>Kuwait</td>
<td>1 938</td>
<td>0</td>
<td>0.00</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Lebanon</td>
<td>2 827</td>
<td>45</td>
<td>0.02</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Libyan Arab Jamahiriya</td>
<td>4 288</td>
<td>1 219</td>
<td>0.29</td>
<td>22</td>
<td>205</td>
<td>16.82</td>
</tr>
<tr>
<td>Morocco</td>
<td>23 226</td>
<td>3 463</td>
<td>0.14</td>
<td>189</td>
<td>533</td>
<td>15.80</td>
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<tr>
<td>Oman</td>
<td>1 377</td>
<td>614</td>
<td>0.40</td>
<td>33</td>
<td>54</td>
<td>8.79</td>
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<tr>
<td>Pakistan</td>
<td>114 939</td>
<td>16 226</td>
<td>0.14</td>
<td>2 154</td>
<td>3 463</td>
<td>21.34</td>
</tr>
<tr>
<td>Qatar</td>
<td>340</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
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<tr>
<td>Saudi Arabia</td>
<td>13 070</td>
<td>76</td>
<td>0.01</td>
<td>--</td>
<td>--</td>
<td>--</td>
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<tr>
<td>Somalia</td>
<td>7 106</td>
<td>746</td>
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<td>165</td>
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<td>Sudan</td>
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<td>2.17</td>
<td>1 980</td>
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<td>12.47</td>
</tr>
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<td>Syrian Arab Republic</td>
<td>11 638</td>
<td>226</td>
<td>0.02</td>
<td>16</td>
<td>141</td>
<td>62.39</td>
</tr>
<tr>
<td>Tunisia</td>
<td>7 809</td>
<td>145</td>
<td>0.02</td>
<td>30</td>
<td>145</td>
<td>100.00</td>
</tr>
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<td>United Arab Emirates</td>
<td>1 501</td>
<td>13</td>
<td>0.01</td>
<td>13</td>
<td>13</td>
<td>100.00</td>
</tr>
<tr>
<td>Yemen</td>
<td>9 911</td>
<td>2 373</td>
<td>0.31</td>
<td>145</td>
<td>2 373</td>
<td>100.00</td>
</tr>
<tr>
<td>Total</td>
<td>367 867</td>
<td>101 943</td>
<td>0.28</td>
<td>5 947</td>
<td>22 751</td>
<td>22.32</td>
</tr>
</tbody>
</table>

<sup>a</sup> Data from Leprosy Epidemiological Bulletin, no. 4, January 1990.
<sup>b</sup> Data from the World Health Statistics Annual 1988.

- Information is not available.
Thirty seventh session

Agenda item 10

Report on the Leprosy Situation in the
Eastern Mediterranean Region

Summary of Recommendations

It is recommended that Member States, particularly those where leprosy is a major problem,

1. Provide necessary support and commitment to leprosy control through the development or implementation of a national plan with emphasis on the implementation of multidrug therapy (MDT).

2. Strengthen their national capabilities for leprosy control through giving adequate priority to, and allocating resources for, leprosy control within the framework of general health services based on the PHC approach and support of specialized service within the integrated programmes.

3. Give priority to MDT in their national control programmes.

4. Encourage the provision of health education to patients, health personnel and the community with a view to removing the stigma traditionally associated with the disease and to institute adequate legal guarantees protecting the rights of cured leprosy patients as full members of society.

5. Strengthen training in leprosy control for medical and paramedical students as well as to general and specialized health service personnel to ensure early case-finding, accurate diagnosis and treatment of leprosy.

6. Secure effective coordination between the ministries of health, national and international non-governmental organizations and agencies through the organization of national coordinating committees.