Report on the

Programme managers’ review meeting on cutaneous leishmaniasis control in the Eastern Mediterranean Region

Marrakech, Morocco
18–21 September 2010
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1. INTRODUCTION

A programme managers’ review meeting on cutaneous leishmaniasis control in the Eastern Mediterranean Region was organized by the World Health Organization (WHO) Regional Office for the Eastern Mediterranean (EMRO) in Marrakech, Morocco, from 18 to 21 September 2010. The objectives of the meeting were to review the progress of national leishmaniasis control programmes in 2010 and discuss plans of action for 2011.

Dr Jaouad Mahjour, Director of the Division of Communicable Diseases Control, WHO EMRO, delivered the opening remarks of Dr Hussein A. Gezairy, WHO Regional Director for the Eastern Mediterranean. In his message Dr Gezairy noted that the convening of the meeting came at an appropriate moment, close to the WHO launch of the first neglected tropical diseases report in October 2010, and that this presented a unique opportunity for advocacy about leishmaniasis including the success of public–private partnership. The control of cutaneous leishmaniasis was closely linked to the MDGs and could contribute to achievement of the MDGs since it was a disease of poverty, which disproportionately affected women and children, causing disfigurement and entailing stigma. Several countries were still facing increasing numbers of anthroponotic cutaneous leishmaniasis, with the disease spreading into areas usually thought to be only endemic for the zoonotic form. He asked participants to think about the need to explore and discuss why the classical methods of control and prevention were not yielding the expected results, and what innovative strategies could be put in place. A regional strategic approach was needed that reflected and respected national priorities, while building on national capacities, and promoting country ownership. He concluded by saying that WHO would renew its commitment to support the development of national plans in close coordination with countries, which should have full national ownership when establishing one plan, one monitoring and evaluation system and one reporting mechanism.

Dr Abderrahmane Laamrani El Idrissi (Morocco) was elected as Chairperson and Dr Jose Antonio Ruiz Postigo (WHO/EMRO) and Ms Elena Vuolo (WHO Afghanistan) were elected as rapporteurs. The programme and list of participants are included as Annexes 1 and 2, respectively. Annex 3 contains the plan of action for the regional leishmaniasis programme for 2011.

2. TECHNICAL PRESENTATIONS

2.1 WHO Leishmaniasis Global Control Programme

Dr Jorge Alvar, Medical Officer, WHO/HQ

The current burden of cutaneous leishmaniasis is mainly distributed between the Maghreb and Middle East regions, where WHO is supporting capacity building and harmonization of the surveillance system. In the Americas, recent efforts are targeting capacity-building needs and prompt case management for both visceral and cutaneous leishmaniasis. South Asia remains the region with the highest burden (67%) of leishmaniasis (both visceral and cutaneous) worldwide. It is followed by the Horn of Africa, where WHO has increased the programme coverage and strengthened the response to the recently increased number of outbreaks, associated with the widespread famine episodes in East Africa.
The main results of the programme registered in 2010 were shared with participants. First, 93 updated country profiles are now available showing the burden of the disease by type of leishmaniasis, epidemiological trends and disease control mechanisms, with data covering more than five years. Second, a meeting was held in Geneva on 22–26 March 2010 for the WHO Expert Committee on the Control of Leishmaniasis and the final report will be submitted to the WHO Executive Board for final approval in October 2010. The document is planned to be released by December 2010 and it is expected to fill the knowledge and information gaps of the last two decades.

The following main recommendations from the Expert Committee were shared with the Marrakech meeting participants:

- based on World Health Assembly resolution WHA60.13 (2007) on control of leishmaniasis, WHO is taking the technical lead and supporting countries to strengthen control programmes and improve the living conditions of people living with leishmaniasis;
- notification should be made mandatory as only 53 countries currently report leishmaniasis through their national surveillance systems;
- knowledge on the parasitology for both treatment and control measures implementation needs to be strengthened;
- alignment with the integrated vector management guidelines should be sought and promoted;
- capacity and expertise need building;
- access to treatment should be improved;
- innovative research, particularly on rapid diagnostic tools and alternative treatments, should be promoted;
- countries should adopt innovative policies about the use of new schemes of combined treatment;
- new medicines should be evaluated at the regional level since ecology and transmission vary among and within regions.

This presentation was followed by a discussion session with participants and three main points were addressed. First, for operational research, countries should establish national task forces to ensure research protocols are followed and avoid on-the-spot unregulated research projects. Second, it was clarified that the leishmaniasis expert panel is a pool of experts that are functional to the Expert Committee in that this pool can be differently deployed based on the ‘ad hoc’ technical support requirements. Third, on the role of the WHO collaborating centres in support of operational and research needs, WHO collaborating centres should be appointed to respond to the real needs of countries and technical partners; and WHO should renew relationships with the centres based on performance and the results achieved.

2.2 Current situation of leishmaniasis in the Eastern Mediterranean Region

Dr Jose A. Ruiz Postigo, Medical Officer, Tropical Diseases and Zoonoses, WHO/EMRO

According to the data sent by different countries to the Regional Office, a total of 78,283 new cases of anthropoontic cutaneous leishmaniasis (ACL) and 17,357 new cases of zoonotic cutaneous leishmaniasis (ZCL) were reported in 2009 in the Eastern Mediterranean Region. It is important to
highlight that some countries reported the total number of CL rather than a breakdown between ACL and ZCL, thus affecting the accuracy of the data.

As for the 2010 results, the Regional Office provided various types of technical assistance to different countries detailed as follows:

- undertook ad hoc missions for situational analysis (Saudi Arabia); developed national guidelines and a national strategic plan (Afghanistan);
- supported capacity building (regional course on epidemiology of leishmaniasis Epi-Leish1 in collaboration with the Pasteur Institute in Tunis);
- developed and launched the Leishmaniasis Mediterranean and Middle East Network (LemmNET) website;
- conducted regional situation analysis and literature reviews for country profiles;
- started the process of establishing a regional expert committee in alignment with Health Assembly resolution WHA60.13 (2007);
- prepared the draft of the Regional Strategic Plan (2010–2015) for final submission to the regional expert committee;
- made available the EMRO website for leishmaniasis data compiled at the regional level through the elaboration of maps, charts and tables.

The detected challenges directly related to the described results include:

- the limited participation among countries to the LemmNET, and few respondents among regional and international experts were part of the regional roster;
- delayed release of a webpage on the Control of Tropical Diseases and Zoonoses unit activities supported by the Regional Office due to the ongoing review and change of the EMRO website;
- hurdles related to the online flow system for collaborating centres designation and renewal, which is ultimately delaying the designation process for a new collaborating centre in Aleppo (Syrian Arab Jamahiriya).

The main points were addressed during the discussion session following the presentation. First, the accuracy and availability of country data on both ACL and ZCL was addressed and it was agreed that there is an information gap between national control programmes and researchers, since country-based studies collect and produce data that are not always reported at the national level. Second, the need to consolidate and finalize the regional strategic plan and guidelines which partners agreed to develop and implement as action points at previous regional review meetings was recognized. Third, it was decided that the geographic information systems (GIS) data at regional level, should be linked up with the WHO leishmaniasis e-compendium, a geo-referenced bibliographical tool compiling peer-reviewed literature on leishmaniasis epidemiology, country by country.

2.3 Leishmaniasis activities of NAMRU-3 in the Region

Mr Jeffrey T. Villinski, Head of Molecular Biology Section, NAMRU-3
The Naval Medical Research Unit no. 3 (NAMRU-3) is a multi-agency group owned and operated by the U.S. Navy with the goal of implementing and executing the United States’ global health strategy through national and international partnerships. Two main objectives inspire NAMRU-3’s work: 1) to establish force health protection measures including infectious diseases research and public health surveillance; and 2) to promote health security cooperation and stability operations through public health assistance, outbreak response and capacity building. Funding for research is based on a competitive application process for grants support where allocation and distribution has to be further coordinated with the country-based partners. Grants usually come from different sources, both national (NIH, USAID) and international, including the WHO. Training and capacity building address four main areas: the viral and zoonotic disease research programme (VBRP); clinical trials and military studies; the international emerging infections programme of the Centers for Disease Control and Prevention (CDC); and the vector biology research programme.

NAMRU-3 partners with countries of the Region in the following areas: a) capacity building at the field and laboratory level for the identification, surveillance, processing of specimens and biology/ecology of arthropod vectors (Afghanistan, Egypt, Iraq have received this support so far); 2) VBRP–regional research partnerships in collaboration with Ain Shams University, Cairo Egypt; 3) VBRP research project conducted in Afghanistan and Libyan Arab Jamahiriya to characterize Leishmania parasites, hosts/reservoirs and vectors respectively.

In Afghanistan, in coordination with the national malaria and leishmaniasis control programme, more than 7000 sand flies were collected in the period from September 2007 to August 2008: 29 species belonging to two genera (14 species belonging to genus *Phlebotomus* and 15 species belonging to genus *Sergentomyia*). *Ph. sergenti* resulted to be the dominant species.

In Egypt, NAMRU-3 isolated the first *L. tropica* from human cases of CL in a northern Sinai area bordering Palestine; rodent monitoring (*Gerbillus pyramidum floweri*) indicated the identified reservoirs were infected with *L. tropica*. The Sinai peninsula is CL endemic and the etiologic agent is *L. major*. Nevertheless, the 2006–2007 research provided evidence that cases with *L. tropica* were autochthonous. This project was conducted in collaboration with Ain Shams University and provided evidence about emerging cross-border new trends for vector transmission and ecology, which should be taken into account for future public health planning.

Following the presentation, participants discussed some of the main points:

- NAMRU-3 is a WHO Collaborating Center and tri-lateral agreements exist among NAMRU-3, WHO and specific countries to strengthen operational research, surveillance and control of communicable diseases (Libyan Arab Jamahiriya, Morocco). Such collaboration presents an opportunity for further enlargement of this kind of agreement, with the ultimate goal of extending the collaborations for leishmaniasis.
- Diversification of sources of funding is a key enabling factor that has ensured the sustainability of multiple operational research projects as well as a composite portfolio of research projects.
2.4 Collaboration activities at WHO CC Pasteur Institute, Tunis

Dr Afif Ben-Salah, WHO Temporary Adviser, MD Professor, Institut Pasteur de Tunis

As a WHO CC, the Pasteur Institute-Tunis partnered with the WHO to establish the first regional course on the epidemiology of leishmaniasis (Epi-Leish1, May–June 2010, Pasteur Institute Tunis). National programme managers and data managers from CL endemic countries participated in this training, the main objectives of which were to: a) describe the surveillance systems in countries by identifying operational commonalities, strengths and weaknesses among countries; b) reach a consensus on objectives of a harmonized surveillance system for CL; c) define a common minimum set of indicators to be produced by every country; d) produce and apply a standardized data collection form to produce the same indicators; e) build capacity about the use of the EpiInfo™ to compute and validate data; and f) recognize the importance of the spatial component in surveillance and start using EpiMap™ software.

The minimum set of agreed indicators among participants included incidence (by age and area of origin) and performance of case management, calculated as the interval between the onset of disease (as reported by the patient) and the start of case management.

At end of this course participants provided their own feedback and recommendations, considering the course content and their specific country-based CL control programmes. It was suggested to provide the national control programmes with standardized guidelines for case management of cutaneous leishmaniasis so as to have common tools and clear case definitions. It was also suggested to strengthen EMRO support to countries where national CL programmes do not exist, such as Yemen and Pakistan.

The second part of the presentation illustrated the ongoing clinical research. The trial to produce paromomycin ointment (third generation topical formulation) as an alternative treatment for CL started in 2002 and is now at stage 3 (once daily dosing with wound dressing). The future research will deal with the development of the Tropical Medicine Research Center (TMRC) initiative, funded by the United States National Institutes of Health and National Institute of Allergy and Infectious Diseases. The TMRC will develop a research project, the objectives of which will be to identify and describe the natural history of L. major infection, and analyse the role of factors specific to the host immune response or the parasite in determining the clinical expression of the disease.

Following the presentation, participants discussed the main points. First, regarding the Epi-Leish1 course, follow-up to the course and interaction with the WHO CC was given by Saudi Arabia and Yemen to fill information gaps for both country programme managers. Second, it was clarified that WHO no longer recommends and uses Healthmapper since this application is unstable, thus it advises the use of EpiMap™. Third, the clinical trial for the ointment development is currently underway at the WHO CC and should take into account the results coming from the Old World Cutaneous Leishmaniasis Cochrane Review, which highlighted poorly designed clinical trials and limited evidence regarding the efficacy of alternative topical treatment.
2.5 Introduction for operational research needs and strategy in the Region

*Dr Riadh Ben-Ismail, Regional Adviser, Tropical Diseases and Zoonoses, WHO/EMRO*

In order to define the operational research needs for CL, it is important to first take into account some preliminary factors: a) the multiple partners and stakeholders involved in the prevention and control activities of CL (academia, implementing partners, policy decision-makers), which reflects the complexity of defining and sharing research objectives among different actors; b) research areas not only embrace control, but also the development of new rapid diagnostic and treatment tools; and c) lessons learnt from past country experiences should be considered when defining the main operational research areas, such as the success and/or drawbacks of indoor residual spraying (IRS).

As regards ZCL the priority is to elucidate the factors that enable the prediction of outbreaks. This involves thorough ecological research on the surveillance system, where increases in the population of rodents and climate and environmental changes are linked to the emergence or re-emergence of the disease.

The increasing number of ACL foci in our region in recent years needs to be tackled urgently. The key goal is to shorten the time elapsed between the appearance of the lesions and the moment the case is managed. Current strategies focus on health facility-based strategies and vector control (e.g. IRS) but to date this has not yielded positive results in terms of disease control. Taking into consideration successful experiences from other control programmes (e.g. Guinea-worm) it is suggested that operational research be conducted as part of a community-based strategy involving covering the lesions as soon as they appear so as to prevent the sand flies access to the parasites and therefore prevent their transmission.

For both ZCL and ACL it is very important that modern GIS tools are used in the operational research studies.

Following this presentation, participants addressed the main points in a discussion. First, from a public health point of view, solutions should be provided not only in terms of response, but also prevention. Based on this, the use of IRS should be re-assessed and not completely ruled out, considering the single specific context and prevention needs. Second, effective communication with decision makers is essential in seeking support for research and in order to translate research findings into a plan of action.
2.6 Demonstration of sustainable and effective alternatives to DDT in CL vector control in Morocco

Dr Btissam Ameur, Head of Vector Control Department, Ministry of Health

The main objective of this research project is to demonstrate the feasibility and effectiveness of alternative vector control methods as part of the integrated vector management (IVM) approach to reduce transmission of vector borne disease. Two specific objectives guide the research: 1) to compare the ACL incidence and sandfly density in areas using IRS combined with environmental management, in areas where standard environmental management only is applied; and 2) to compare the ACL incidence and sandfly density in areas where insecticide treated nets/long lasting impregnated nets (ITNs/LLINs) are used combined with environmental management, in areas where standard environmental management only is applied. IRS is applied in both households and breeding sites. The study covers 45 localities, distributed among eight provinces, and including a population of more than 27 000 at risk. Entomological surveillance has been conducted among all 45 localities. A research protocol is in place and the three different IVM interventions have covered the localities sample. The project is expected to provide evidence to strengthen and improve IVM planning.

During the discussion session the main points were shared by participants. First, information on the \textit{Ph. sergenti} density should be closely monitored to detect possible increases across time and not only at the initial stage of the research project. Second, as for the decline of cases throughout the project, the research should also monitor the level of susceptibility of the study population, divided into cohort groups. The ultimate goal would be to monitor the increase/decrease of the number of bites among the selected population. Intra-dermal testing before the transmission season and follow up of cohort groups would be an option to measure the trends of detected cases. Third, cofounders should also be taken into account, such as the degree of representativeness of the baseline and the importance of exposure. These factors should ultimately inform the design and analysis stage.

3. COUNTRY PRESENTATIONS

3.1 Afghanistan

Dr Mohammad Sami Nahzat, National Malaria and Leishmaniasis Control Programme Manager, Ministry of Public Health

Afghanistan ranks highest among the countries of the Region with regard to the incidence of CL. Incidence trends from 2007 to 2009 indicate that Kabul continues to be the province with the highest incidence, increasing from 8000 new cases in 2007 to more than 17 000 in 2009. Overall, the annual reported incidence at the country level stands at more than 45 000 cases. However, between 2007 and 2008 a decrease in the programme coverage was registered thus affecting the reporting capacity and the data availability, as is particularly evident in certain provinces, such as in Herat, where reported figures went from 8000 new detected cases in 2007 to approximately 1700 in 2009. Currently, 14 out of 34 provinces are not reporting, mainly due to the fact that the incidence of cutaneous leishmaniasis is reported through a parallel system run by the national malaria and leishmaniasis control programme (NMLCP), but cutaneous leishmaniasis is not present in the national health management information system and; progressive reduction of reporting by NMLCP
distributed in the country and particularly in Kabul province. Some provinces, such as Kandhar and Farah, call for intensified control and surveillance efforts due to the detected increase of cases with neighbouring countries. Cutaneous leishmaniasis has now been included in the recently approved new version of the Basic Package of Health Services (BPHS) and therefore, treatment should be made available among comprehensive health centres and district hospitals. However, anti-leishmaniasis medicines are not included in the essential medicine list, due to the high costs associated with this treatment. This means that BPHS implementers can only provide leishmaniasis treatment when WHO provides the medicines to NMLCP. The sustainable implementation of treatment services could be sought through programme integration with malaria, in particular by utilizing the network of BPHS implementers who are already providing malaria control and treatment services.

Afghanistan reported on the lessons learnt and actions taken in follow-up to the Epi-Leish course between June and September 2010. They reported the following: a) the national programme has been revised and has produced enhanced reporting forms to incorporate the Epi-Leish recommendations; b) the use of the new forms will be piloted in Kabul and Mazar-e-Sherif until March 2011 for further review and scale up; c) the new reporting forms include information on treatment outcomes for the quality analysis of service provision, along with monitoring and evaluation needs; d) in coordination with WHO, the programme is currently developing a national database using Microsoft Access, since this application better meets the database users’ needs with regards to data sorting and database stability.

In 2010 a national strategic plan has been developed by the NMLCP with the support of WHO and now needs to be further reviewed and approved at the Ministry of Health level. With the technical support of the Regional Office, national clinical guidelines have been produced for further release and implementation in 2011. Also, programme coverage has been re-activated among vulnerable population groups living in the Kabul informal settlements.

The main challenges faced by the programme in 2010 include: limited integration within the national health system, particularly with the health information system and the disease early warning system, along with constrained resources to activate the programme coverage among BPHS implementers and; the lack of visibility of leishmaniasis on the national health policy agenda of decision-makers and donors.

In 2011 the plan is to: implement the national strategic plan among target provinces; coordinate with WHO and BPHS implementers to move towards further integration with health information system, which is currently under review for integration of new core indicators; advocate with decision makers and enhance visibility of the programme on the national health agenda; and increase the programme coverage based on the BPHS platform.

WHO support is sought with regards to the following main needs: support of the national initiatives for resource mobilization; to ensure annual provision of required anti-leishmania medicines; and to provide guidance for capacity building by exploring different options, such as intercountry collaborations.
Following the presentation, participants discussed the main points. First, the opportunity of using the network of schools participating to the deworming programme for enhanced case detection through active surveillance was discussed. Second, the presence of non-standard quality anti-leishmania medicines in the national market was addressed as this may pose a threat to patients in terms of safety and quality of treatment outcome. It was agreed that the national programme should work closely with the department of essential medicines to enhance quality control measures, including information sharing and alerting neighbouring countries where those medicines are manufactured.

3.2 Egypt

Dr Osman Abdel Rehim Mohamed, Director of Tropical Diseases, Ministry of Health

Cutaneous leishmaniasis is endemic in the Sinai and other governorates including Sharkia, Menofia, Suez, Ismailia and Port Said. ZCL is the most common form, whose common reservoirs are the *Rattus norvigicus* and the *Rattus rattus*. Visceral leishmaniasis is mainly registered in the northern part of the country.

From 2005 to 2009 there has been a decline in the number of newly CL detected cases, from 229 to 174. This is mainly due to the decline of surveillance and reporting, along with reduced awareness among communities at risk. The disease burden is underestimated and real figures are expected to be 4–5 times higher than what is currently reported.

Pentostam® continues to be the main treatment provided, free of charge. Cases are treated via intra-lesion once a week in three courses of six injections each and with one month interval in between courses, for a maximum of three courses (18 injections). Given the different distribution and epidemiology of cutaneous leishmaniasis in the country, healthcare workers provide the treatment when performing clinical diagnosis in the North Sinai governorate. In other governorates treatment provision takes place at the general governorate hospital level. Other types of treatments such as cryotherapy had limited application and were further abandoned.

The objectives of the national control programme are two-fold: i) to stop transmission in active foci and to prevent its geographical spread. Both active and passive surveillance systems are in place, using different reporting sites according to the level of endemicity and to the availability of health facilities in each governorate. Both health facilities and general hospitals are core centres for passive surveillance and primary schools and ad hoc mobile units are deployed for active surveillance. Vector and reservoir control activities are in place in cooperation with the department of vector control at the Ministry of Health and pyrethroid insecticides spraying is carried out.

The main strengths of the national programme include: a) expanded case detection and management mainly through a strong primary healthcare level; b) strengthened integration between vector and disease control; c) long term partnerships and coordination between the Ministry of Health and research partners (Entomology Research Institute, Dokki and the Entomology Research Centre, Ain Shams University and NAMRU-3), which has contributed to filling the information and knowledge gaps with regards to vector ecology and transmission; and d) sustained availability of
treatment, which has ensured continuity to the case detection, and the management of reported cases.

Nevertheless, the national programme faces problems of a low level of public awareness and political support; limited funding; no collaboration with nongovernmental organizations that have strong implementation capacity, which is particularly important when conducting active surveillance activities; and low skilled staff.

Following the presentation, the main points were discussed by participants. First, the distribution of VL (L. donovani) and the fact that it is limited to very few cases, historically detected in the desert area close to Alexandria was discussed. The last reported case dates back to 2005 and refers to child under five years old. Second, that surveys have been conducted in the past, particularly in the Sinai governorate, and results can be shared upon request.

3.3 Islamic Republic of Iran

Dr Mohammed Reza Shirzadi, Director of Zoonosis Control programmes, Ministry of Health and Medical Education

The Islamic Republic of Iran is an endemic country for cutaneous leishmaniasis with a registered incidence rate of 33.4% in 2009. Particularly important is the analysis of the epidemiological trends of ACL cases in Bam and Mashad, which represent two opposite trends. In Bam, after the 2004 earthquake there was an increase in the number of cases, which reduced starting from 2007, upon the introduction of a new strategy approach based on strengthening case detection and the reporting system. In Mashad, epidemiological trends feature continuous oscillations. Cases have steadily declined from 12 000 in 2001 to approximately 2000 in 2006. However, more than 4600 cases have been recorded in 2009, thus indicating an almost two-fold increase.

Glucantime® remains the most commonly used treatment protocol, for both intra-lesion and systemic treatment, followed by cryotherapy only and Glucantime® combined with cryotherapy.

A national strategic plan (2010–2015) has been developed and comprises some core interventions, such as: the establishment of a network of laboratories of reference at the district, provincial and national levels in order to improve and strengthen the access and use of diagnostics services; interventions to stop the transmission cycle among ACL foci through IRS and the distribution of insecticide-treated bednets; reinforcing reservoir control of rodents and stray dogs for ZCL; and enhancing and expanding health education activities among at-risk populations living in the most endemic districts with the ultimate goal of enhancing access to early diagnosis and treatment.

Regarding the actions taken as a result of the Epi-Leish1 course, the national programme released a revised reporting form for distribution expected to be ready for use between 2010 and 2011. In relation to this, comments as to the feasibility of achieving a standardized regional reporting system were shared with participants. It was noted that the registration forms need to be supported by case definitions and should have information on treatment outcomes and type of applied treatment protocol. As well, regional harmonization and standardization of the reporting
system should not overlook the specific operational needs of the leishmaniasis control programme at each country level.

Following the country presentation, the main points informed the discussion among participants. First, shared concern was expressed about the high number of relapse cases detected in Bam, which can be explained as an effect of poor compliance to treatment among patients, along with inadequate administration of treatment and case management. Second, Mashad has no mobile units and is approximately 5 million in population, making it a larger urban area compared to Bam (3 million). Given the specific epidemiological features of ACL in Mashad, the use of mobile units for enhanced active surveillance might be as a feasible option, as previously applied in the enhanced control efforts in Bam. Third, regarding the treatment protocols, although Glucantime® is the first-line medicine, the common use of cryotherapy particularly among the private sector and at the hospital level must be acknowledged. The use of this treatment is also expected to be expanded in districts traditionally using Glucantime®. Thermotherapy has not been explored as an alternative option given its side effects (painful to the patients and produced scars upon thermotherapy application).

3.4 Iraq

Dr Somaia Badri Hassan Al-Tawijri, Director of Zoonotic Disease, Ministry of Health, Iraq

Cutaneous leishmaniasis is endemic in the central (Ishal-Al-din, Baghdad, Kharik) and the south-eastern (Missan, Bashrah) governorates of the country. Trends in 2000 to 2009 show an increase in the reporting, (2000 new and old cases reported in 2009), which can be explained by the progressive re-establishment of the national surveillance system, and increased coverage of health education activities among at risk populations. Cases are found in both rural and urban areas and gender is not associated with transmission risk.

As a result of the Epi-Leish1 course, reporting forms were released and distributed, taking into account the main needs of standardization and harmonization for the regional reporting system. Further support is called for in the following operational areas to build up national expertise and capacity with regards to entomology, parasitology and laboratory diagnosis, and to promote operational research on vector ecology and transmission. The 2011 plan of action sets early detection and prompt treatment as key components, followed by the routine vector control activities (spraying and fogging) and stray dog elimination, in coordination with the Ministry of Agriculture.

Following the presentation, a few questions were addressed regarding the current epidemiological situation of visceral leishmaniasis, which is also present in the country, with some 1500 cases reported to the WHO. Participants acknowledged that there could be different risk factors associated with the high number of VL cases, including displacement and migration of populations, malnutrition and disruption of the health system. Children are the main risk group. From a clinical perspective in the past the national programme has been detecting asymptomatic VL cases and patients with intra-dermal reaction.
3.5 Libyan Arab Jamahiriya

Dr Badereddin Annajar, Manager of the NCP for Leishmaniasis, National Centre for Disease Control

Zoonotic cutaneous leishmaniasis (L. major) and visceral leishmaniasis (L. infantum) are endemic in the northwest and northeast regions respectively. Leishmaniasis notification is included in the responsibilities of the National Surveillance and Investigation Department (SID), which belongs to the National Centre for Communicable Disease Control. The national surveillance system in the Libyan Arab Jamahiriya is organized on three main levels: central, municipalities and peripheral levels, based on 36 surveillance areas. Along with the national centre for disease control, the leishmaniasis national control programme (NLCP) has a parallel data system.

Based on SID data, CL prevalence in 2009 (ZCL and ACL cases) is estimated at 1000 cases. However, comparison of the data collected by NLCP for the same time period indicates a higher figure (approximately 1500). This highlights information gaps, lack of coordination between the two surveillance systems and limited reporting capacity at the SID level. Accordingly, NLCP is currently coordinating with the national surveillance system to move towards the complete integration of leishmaniasis reporting in the national system, taking into account the Epi-Leish1 outcomes. In this process, the newly revised reporting forms will be distributed starting from the surveillance areas located in the most endemic zones of the country.

In order to better guide the decision making process of prevention and control activities, it is important to determine the type of Leishmania species and strains circulating in the country. Therefore, the following areas of research call for further planning and action: control methods for the major reservoir host of ZCL Psammomys species; ecology and distribution of vectors and reservoirs of L. killick; and species complex of Psammomys.

Following the country presentation, participants remarked that the NLCP has proved to have a stronger reporting capacity compared to the SID system, as confirmed by the shared data. This highlights some success factors behind the development of NLCP and its sustained operational capacity, such as political commitment, including publicly allocated resources and inter-sector coordination.

3.6 Morocco

Dr Abderrahmane Laamrani El Idrissi, Head of Parasitic Diseases Department, Ministry of Health

In Morocco there are three main types of leishmaniasis, differently distributed throughout the country. These are anthroponotic cutaneous leishmaniasis, zoonotic cutaneous leishmaniasis and VL. Anthroponotic cutaneous leishmaniasis is due to Leishmania tropica and transmitted by Ph. sergenti. It is endemic in the Atlantic side of the Atlas Mountains. The infection is hypo-endemic in rural areas with epidemics also registered in urban and peri-urban zones. Zoonotic cutaneous leishmaniasis is caused by Leishmania major. Meriones shawi is the reservoir host and the vector is Ph. papatasi. This type of leishmaniasis is mainly distributed in the South and South-East of Atlas
Mountains; the infection is endemo-epidemic. VL is transmitted by *Ph. perniciosus* and *ariasi*; dogs are the reservoir host and it occurs in the mountains region, on the Mediterranean coast.

Since the national programme was established in 1997, the incidence rate showed oscillating trends with peaks followed by a decline in cases. While the yearly incidence of ACL remains overall stable and lower than 2000 cases, the number of new ZCL cases increased up to 4000 patients in 2009.

The national strategic plan is based on four main components: 1) case detection and early treatment; 2) vector and reservoir host control; 3) health education among schools and at risk communities; and 4) strong inter-sector collaboration with Ministries of Agriculture and the Interior as the main partner for the development and implementation of vector and rodent control activities. Health education and awareness raising initiatives are conducted in collaboration with the Ministry of Education and national nongovernmental organizations. Strategic planning and funding support come from the national central management structure. This has ensured a continued and sustained response to the needs of implementation and scaling up of the control and prevention activities, such as universal access and treatment free of charge. Since 1995, the different forms of leishmaniasis are compulsorily notifiable diseases. Control activities are decentralized at the provincial level and integrated in the primary healthcare system.

In 2010 three main core interventions took place: 1) a study to demonstrate the effectiveness of IRS and ITN in leishmaniasis control was conducted. The study comprises 45 localities affected by ACL and approximately 27 000 people at risk of infection; 2) in July 2010 a national committee for leishmaniasis control was established in order to further strengthen the inter-sector collaboration; and 3) a two-year response plan for 2010–2012 was launched and implemented. The main goals are to enhance and consolidate the progress achieved so far by the national programme and to reduce the incidence of cutaneous leishmaniasis by 50% by the end of 2012.

Following the presentation, participants discussed the main points. First, it was acknowledged that halving incidence by 2012 stands as a challenging goal, the achievement of which will require further acceleration of the implementation stages, by setting clearly defined deadlines and targets for the 2012 goal. Furthermore, this expected reduction should be planned by considering the seasonality of the epidemics and by taking into account the evidence and trends registered so far. Second, the contribution of the IRS and ITNs to reduce the incidence of cases is expected to be determined and assessed through the three-year comparative study. A first year evaluation will be conducted in 2010. Third, the national programme is currently assessing the number of foci. It is highlighted that ZCL foci did not change greatly in their number, whereas the number of ACL foci has been increasing to 10 foci. Both ACL and ZCL foci can be tracked for their distribution and associated number of cases.

### 3.7 Pakistan

*Dr Azam Jah Samdani, Prof. of Dermatology, Jinnah Postgraduate Medical Centre*

Cutaneous leishmaniasis was reported for the first time in 1960 in Pakistan, and found to be originally limited to the northern mountainous region. However, in the last decade a steady increase
has been registered particularly among certain provinces such as Sind, with more than 20,000 cases reported in the province. Since the data refer to single surveys and studies, the estimated number of infected cases ranges between 100,000 and 200,000. However, under-reporting misleads the real prevalence of the disease. The current status of the disease has not yet been assessed.

The main endemic areas of the country comprise the provinces of Baluchistan, Sind, Punjab and North West Frontier Province. *Ph. sergenti* is considered to be the most probable vector of infection. *Ph. papatasi* is found in Baluchistan, in the bordering area with Iran, thus being a potential transmission of infection, although no research has been conducted to confirm it. Several factors contribute to explain the increase in the ACL incidence including: large population movements from endemic to non-endemic areas, including Afghan refugees fleeing from endemic zones; environmental changes such as man-made interventions (construction of water dams); and changes in the ecology and distribution of vectors. In addition to these conditions, resource constraints in the public health system heavily affect the operational capacity of response in ensuring early diagnosis and prompt treatment. Antimonials are accessible through out-of-the-pocket expenditures and have limited availability in the local markets; and health facilities including hospitals at the secondary level have limited supplies for treatment of patients.

Leishmaniasis has a low priority on the policy-makers’ agenda. Although integrated with malaria control from a strategic point of view, control activities have resource constraints and operational integration with the malaria programme is not in place. Finally, there is a lack of coordination between the public health sector and academia, resulting in fragmentation regarding the true burden of the disease and the status of operational research. There is no national programme, only a few on-spot interventions for control of the disease, conducted mainly in the past.

The development of a national programme calls for developing and implementing the following technical tools: a national control plan; guidelines and/or protocols for treatment; standardized reporting forms; and a monitoring and evaluation system. The disease is not part of the national surveillance system, is beyond passive case detection and treatment and no control measures are in place. WHO support is needed for technical guidance (treatment, vector control, capacity building and surveillance). Advocacy and awareness-raising are needed to mobilize multi-partner collaborations.

### 3.8 Saudi Arabia

*Dr Suleiman Al Saghayer, Director of Leishmania and Filaria, Ministry of Health*

Cutaneous leishmaniasis is endemic mainly in the middle and eastern provinces in Saudi Arabia. ZCL is the most common type (*L. major, Ph. papatasi*), with a few cases of ACL (*L. tropica, Ph. sergenti*) found in the mountainous areas in the country. The rodent *Meriones libicus* is known to be the reservoir host of *L. major* parasite in the Riyadh region while the fat rat *Psymommous obesus* is known to be the reservoir host of CL in the eastern provinces.

Control activities started in early 1985 in Al Hasa in the eastern region and further expanded to cover all regions (20 regions), with the main focus on vector control, early diagnosis and prompt
treatment. Reservoirs control is limited and dependant on collaboration with municipalities and the Ministry of Agriculture in each region.

Trends from 1983 to 2009 highlight a steady decrease in the number of cases particularly during 2000–2007, thus moving from more than 18,000 cases in the early 80s to approximately 2500 in 2009. As per incidence trends by region in 2009, Al Qassim is the highest endemic region in terms of newly detected cases (654), followed by Almadinah (626) and Al Hassa (444). As for the nationality, 52% are found among immigrants living in the country. The prevalent age group comprises the adult male working population between 15–44 years. The seasonality of the disease is mainly associated with winter time, when the highest number of cases is registered. Of particular interest is the epidemiological situation in Al Qassim and Almadinah, which registered a three-fold increase of new cases in the first 2010 semester, as compared with the same period in 2009. This trend can be explained by a combination of different factors such as: an improved reference system; detected temperature changes between 2009 and 2010 with an increase in temperature; strengthened health education, which contributed to increased detection rates through passive surveillance and passive case detection; enhanced training particularly for new workers; and sustained availability of first line medicines for both national and international cases.

The national programme works according to a two-year plan of action for 2009–2011, which is based on four main stages: preparation, implementation, evaluation and maintenance. The main goal is to eliminate leishmaniasis from the country. Currently the plan is at its implementation stage, mainly focussed on continuous capacity building and enhanced reservoir control, which is monitored through selected indicators (reduced density of reservoir and number of detected main foci). As for 2011, the operational priority will be given to the high endemic areas, where training of health inspectors will take place as a core intervention to strengthen the health surveillance system. Further, it is planned to reinforce the role and participation of the community leaders in order to enhance community awareness and active surveillance activities.

Following the Saudi Arabia presentation, participants discussed the main points. First, although the passive case detection system is well established, there is still a high number of detected cases using traditional healing, which is a commonly found practice particularly in the south region. There are different explanations for this, including the reduced and different extents of access to health facilities among national and international cases affected by CL in Saudi Arabia; and health seeking behaviours among patients, such as those who underestimate the severity of the disease due to initial small lesions. Second, like many other countries, Saudi Arabia is using Pentostam® as a first-line medicine. However, as announced by the pharmaceutical company GlaxoSmithKline, Pentostam® production will be interrupted from March 2011. This is a critical factor to consider and countries mainly using Pentostam® should start planning the switch from Pentostam® to either Glucantime® or SSG as alternative antimonials for the first line. Third, as for alternative therapy protocols, cryotherapy is in use among dermatologists at the hospital level for local treatment. Regarding the application of paromomycine, no information is available about its application and the treatment outcomes. Overall, the national programme has included in its plans the development of a national protocol for the CL treatment, as previously done for other disease programmes, such as malaria and schistosomiasis control.
3.9 Syrian Arab Republic

Lama Jalouk, Director of Leishmaniasis Control Centre, Ministry of Health

Out of 46,398 CL cases registered in Syria in 2009, 43,505 cases were ACL while only 2,793 were ZCL. 60% of all cases registered in the country are in the Aleppo governorate. The Aleppo rural regions’ map shows the ACL cases per 10,000 in 2009, which ranges from four to 250. A comparison between CL cases registered in Aleppo and nationwide in the first quarter of the years 2009 and 2010 shows that there is a remarkable decrease in the CL registered cases this year.

There is a clear decrease in the number of chronic and recidivist CL cases registered from 2005 to 2009 compared with the acute ones. Different actions were undertaken during 2010 with decision and policy makers, along with implementing partners to closely monitor the registered trends in Aleppo. First, in July 2010, a meeting with the prime minister and all related ministers was conducted in Damascus to discuss the reasons of high CL incidence in 2009.

The Ministry of Health presentation focused on the problems faced the CL control programme. The meeting’s recommendations were to: establish a special directorate for leishmaniasis in Aleppo that would receive support directly from the Ministry of Health and whose main activity would be to control the disease in all Syrian governorates; establish two spraying rounds per year as a duty of the Local Administrative Ministry instead of that of the Ministry of Health but under the Ministry of Health supervision; and train the local personnel to use proper survey analysis and a database for producing maps using GIS, which is essential for the governorate IVM committee and decision makers. In this regard, four training courses will be held before the end of the year. These training courses will train and involve staff from the other leishmaniasis centres in Syrian governorates with the main goal of disseminating the leishmaniasis programme’s work in order to increase visibility and communication. Two workers will be trained from each leishmaniasis control centre.

On the operational research side, there is an ongoing project to compare the effectiveness of the use of IRS and LLINs for the control of ACL, supported by a multi-agency grant (WHO/EMRO/UNEP/GEF). Two main specific objectives inform this operational research project: to reduce the leishmaniasis incidence in the demonstration sites to at least 50% after one year and 70% at the end of the intervention; and to determine the effectiveness of IRS and LLINs in reducing the incidence of CL and compare it.

Despite its results and performance, the programme faces major challenges related to the lack of manpower in the sector of vector control, particularly trained entomologists and pest control operators. This problem is exasperated due to the government policy of not appointing new staff. Furthermore, administrative procedures at the Ministry of Health, leishmaniasis control centres and other partners are lengthy, thus hampering the overall performance of control activities.

Regarding the plan of action for 2011, the programme aims at continuing the control activities, as previously done, with a focus on: a) active case detection through schools; b) passive case detection through primary health care centres that offer treatment free of charge; c) vector control through environmental sanitation and two insecticide spraying rounds, according to the number of cases in the previous year; d) health education; e) research and training; and f) cooperation and
coordination with other concerned ministries (environment, local governorates, agriculture, education and Army Medical Services). Further, as an outcome of the July 2010 meeting with all concerned government parties, a special directorate for controlling the leishmaniasis disease in Syrian Arab Republic is planned to be established in Aleppo. It will receive the direct support of the Ministry of Health and will be managed by the staff involved in the leishmaniasis programme. In 2011 the Aleppo Centre is also expected to start its activities as a WHO collaborating centre.

Following the presentation, participants discussed the Syrian case, remarking that the country programme stands as a good example of strong institutional support and availability of skilled and experienced field staff. Given the stage of development and progress achieved so far by the national programme, participants to the discussion acknowledged the importance of recognizing which interventions within the overall prevention and control activities should be prioritized as the most relevant and effective. Based on this, it was highlighted that the country interventions are progressively focusing on early and continued treatment, with the IRS having produced little results. During the discussion it was also pointed out that the control programme is concentrating its efforts on the follow up and monitoring of chronic cases since these are considered a reason for detected transmission. Lastly, the progress made by the reporting system in reducing the number of under-reported cases was highlighted. Based on a first survey conducted in the early 1990s, one out of four cases were registered, whereas in the last decade two out of three cases were reported in the national system.

3.10 Tunisia

*Dr Raouane Mohamed, Head of Department at that Primary Health Care, Ministry of Public Health*

ZCL is the main form of leishmaniasis occurring in Tunisia. ZCL is due to *L. major* and is concentrated in the central and south regions, with an annual incidence of more than 2000 cases. The control strategy includes: a) rodent control; b) early case detection and prompt treatment; c) health education; d) ecological surveillance to identify the reservoir population and vegetation, along with the high-risk areas; e) community mobilization; and f) regional committees to promote and establish intersectoral collaboration.

The discussion points following the presentation dealt with the experience of the rodent control approach developed by the national leishmaniasis programme in Tunisia. Participants addressed the Sidi Bou Zid case, where rodent control activities were successful in curbing the number of rodents at the most peripheral level. Nevertheless, after a first phase of enhanced response, control activities have been discontinuously carried out. The lessons learnt from Sidi Bou Zid highlight the need for strategic and intersectoral planning to address the sustainability needs of control operations. During the discussion, it was highlighted that rodent elimination in Tunisia has been done mainly through deep ploughing (*Psammomys*) and poisoning (*Meriones*). These techniques are not the only possible measures as shown by the experience of other countries such as Afghanistan, where temporary installations (military bases) have been protected with environmental sanitation inside and outside the camp area (removal of earth containing rodents, stone wall establishment) in combination with rodent-monitoring.
3.11 Yemen

Dr Ali Hamoud Al Mahaqiri, Manager Leishmaniasis Programme, Ministry of Public Health

Leishmaniasis is present in Yemen both as cutaneous (ACL, ZCL) and visceral. Available data illustrate that the distribution is mainly concentrated in certain provinces in coastal areas up to the interior mountains areas, including Taiz, Ibb, Hajjah, Dalea, Hodiedah, Raymah, Sana'a and Lahj provinces. The reported cases show oscillations with peaks followed by declining trends on a yearly basis between 2005 and 2009; in 2009, 1,900 new cases were reported.

As follow up to the Epi-Leish1 course standardized reporting has been adopted and tailored to the specific operational needs of the control and reporting activities conducted in Yemen. However, the country has no national programme and neither strategic (national plan) nor operational tools (treatment guidelines) are available. Furthermore, disease notification is not mandatory, no burden of the disease is mapped and determined, and no monitoring and evaluation system is in place.

WHO support is requested to guide the development and establishment of the national control programme, addressing the following core programme areas: definition of the ecology and transmission of vectors, reservoir hosts and the parasites; mechanisms for prevention and control; and case management provision on a sustained basis.

Following the presentation, participants confirmed the need to provide a focused response to the specific case of Yemen and it was agreed to coordinate a WHO country mission for further planning. The operational planning in 2011 should also be used as an additional platform for negotiation to support the implementation of the prevention and control programme.

4. GROUP WORK

4.1 Group work 1: Implementation of the regional leishmaniasis surveillance system

This group reviewed the current situation, challenges and way forward for the regional surveillance system and discussed the lessons learnt from the Epi-Leish1 course (June 2010) in order to define a set of next steps as a work-plan for 2010 (last quarter) and 2011.

Countries of the Region have applied the recommendations about the use of Epi-Info from the Epi-Leish1 course differently. While some programmes fully adopted Epi-Info, some national programmes decided not to use this programme due to the pre-existing and well established software in use. Other countries’ lack of a national programme (Pakistan, Yemen), resulted in a premature decision about the use of Epi-Info. Some other national programmes found Epi-Info unable to easily sort data.

As for the reporting form discussed and released during Epi-Leish1, some countries already have similar reporting forms with the minimum variables agreed in June 2010. Afghanistan has adopted and modified the basic reporting form.
The lessons learnt from the Epi-Leish1 course can be summarized as follows: 1) in developing a standardized surveillance system, the specific needs of countries need to be addressed since countries have different stages of development and progress in the implementation of monitoring tools and surveillance mechanisms for CL; 2) an assessment of the national surveillance systems is needed in order to check the operational and information gaps existing between the national health management information systems and the leishmaniasis reporting mechanism and to integrate the CL reporting with the national surveillance platforms; and 3) countries need one year to test and pilot the reporting forms and data base as formulated at the Epi-Leish1 course.

Based on the lessons learnt, three steps were suggested as a work plan: 1) WHO develop a checklist to assess the national surveillance systems (November–December 2010); 2) countries in coordination with WHO review and provide feedback on the detected gaps and needs of the national surveillance system (this would stand as a first baseline assessment, suggested for March–May 2011); 3) a second assessment of the surveillance systems would be done as a further follow up to collect evidence to guide re-planning at the country and regional level, if needed (September–November 2011).

The following points were tackled during the discussion held at the plenary session, following the presentation: a) there is a strategic and operational need to have a first preliminary review of the national surveillance system at the country level, along with the coordination/integration between the national health systems and the CL data collection; b) CL national reporting needs are to be integrated with the national health information systems in order to ensure the sustainability of the CL reporting and avoid drawbacks such as resource doubling, loss of information and collection of data not used for decision making and planning; c) the development of standardized reporting forms is a first effort, but this needs to be complemented by surveillance protocols considering the specific country’s situation. For instance, where countries have single CL endemic districts, establishing a national surveillance system for CL is not the most effective answer and ad hoc interventions can be set in place, including data collection and monitoring; d) reporting forms should also be harmonized and standardized in terms of case definitions to ensure common understanding among users so that WHO can compile data at the regional level; and e) the stage of each country and past experiences about CL surveillance have both to guide planning and actions.

4.2 Group work 2: Strengthening operational research on leishmaniasis in the Region

This group addressed the strategies, challenges and way forward for the operational research on leishmaniasis prevention and control in the Region. The group identified four focal areas calling for strengthened operational research: 1) case management; 2) disease prevention; 3) epidemiology; and 4) programme manager’s toolkit. As for case management, the group recognized the need to accelerate the validation of new therapies, as alternatives to the antimonials currently used as first line medicines (paromomycin ointment, thermotherapy, etc). Preliminary factors that should inform the operational research in this area would include: establishment of multi-centric trials, development of protocols to monitor and measure the quality of treatment-outcome research (increased number of defaulters), and identification of factors that predispose to severe disease.
In relation to disease prevention, three main knowledge gaps should be addressed: 1) a better understanding of scenarios for transmission of both ACL and ZCL (source of parasite infection, sand fly ecology and behaviour, roles and identities of reservoirs); 2) identifying cost-effective solutions to reduce exposure specifically for ACL (impregnated bandages, repellents); and 3) a socio-behavioural study to identify cultural determinants of health care use patterns.

Regarding the epidemiology of CL, research should support the definition of spatial dynamics of epidemics/outbreaks and provide information to build up early warning systems. Lastly, the programme manager’s toolkit should be based on a cost-effectiveness analysis of treatment and control measures in order to guide the planning and programming process. This would facilitate the process for a scale up and integration of the CL control activities within the national health system.

During the plenary session, participants addressed several main outcomes of the group work. Research projects can differently respond to the public health needs of prevention and control of cutaneous leishmaniasis. On one hand, research can require a long time period to produce results for further application (diagnostic tools development). On the other hand, research projects can also be conducted in the short term, producing evidence to address operational needs of control. It is essential to support countries to develop protocols for research. Both protocol development and research are encouraged particularly among countries highly affected by the burden of leishmaniasis. The planning and development of regional research projects first requires the identification of the partner institutions and potential funding sources within and outside the Region. From this point of view, it is important to build successful partnerships such as NAMRU-3. The Regional Office should work alongside countries for research planning with a multi-country approach. As a first step, the Regional Office should jointly identify with the regional countries the areas of research that should be developed and the availability of research institutions and partners for 2011.

5. DEVELOPMENT OF A PLAN OF ACTION FOR THE REGION IN 2011

This session had two main objectives: first, to decide on the 2011 activities at the country and regional level; and second, to discuss the way forward for the online network LemmNET.

Specificities by country and general activities for 2011 were discussed and agreed with participants. Annex 3 shows the detailed annual plan of action.

Regarding LemmNET, countries agreed that the content contribution to be submitted on a minimum six-month basis and with even more frequency when possible. The following main discussion points were shared among participants: a) LemmNET is an open web space and its users are not only experts in leishmaniasis, but also a general audience, therefore, its content ranges from technical documents to information for raising awareness; b) the web moderator is Dr Lama from the Aleppo Centre, as decided during the WHO annual review meeting of CL national programme managers in Aleppo, 2008; c) LemmNET is not a repository of documents but a web space for an online community discussion; d) maintenance of the website in terms of the update of content needs to be addressed to ensure that the site can be an effective tool of communication and knowledge
sharing; and e) other external web sources such as WHO/EMRO should have a link to LemmNET in order to increase its visibility.

6. CONCLUSIONS

The following main points were drawn at the conclusion of the three-day review meeting.

- Reduce the impact of disease as a regional goal. Curbing the incidence of CL in each country remains a priority. Enhanced intervention should concentrate on early detection and prompt treatment to decrease the number of severe cases and transmission.
- Have a strong national programme of leishmaniasis control. This can be achieved once each of the core programme components is well defined, national targets are set and country ownership and commitment are ensured. The control activities need to be fully integrated within the health system and service provision requires coordination and harmonization with the service delivery mechanisms in place in each country. Countries of the Region are at different stages of control activities implementation, therefore progress is not expected to be achieved equally.
- Set a strong surveillance system for CL as a country priority. This remains the key priority since timeliness and quality are critical to monitoring the progress achieved in terms of programme coverage and epidemiological trends to ultimately reduce the public health problem posed by CL.
- Build up capacity with WHO support and regional collaboration. Training activities conducted since the regional review meeting (Aleppo 2008) should be critically assessed to analyse the effectiveness and impact generated. Based on this, evidence should orient future planning decisions.
- Identify and promote new approaches with innovative research. Good quality research needs to count on a strong surveillance system in order to ensure valid data for monitoring and final assessment. Research protocol should be well designed: most of the available research on treatment and surveys on vectors/reservoirs have weak study design and justification. Poorly designed studies have no value either for academia or for public health decision makers. Evidence such as the Cochrane Review re-state the need to produce well designed clinical trials, which should be conducted, in particular, among the most affected CL countries.
- Establish and standardize quality assurance mechanisms. Quality assurance should be established particularly to monitor the case management, with the ultimate goal of ensuring quality service standards are in place during the treatment provision.

7. RECOMMENDATIONS

To the Ministry of Health

1. Comply with the operational plan for 2010–2011, which has been produced as an outcome of the review meeting.
2. Provide and update cutaneous leishmaniasis information and surveillance data to WHO on a semester basis, by using the indicators used by the national surveillance system. Countries are expected to send the 2010 annual report by end of January 2011.
3. Actively contribute with information to the Leishmaniasis Mediterranean and Middle East website (LemmNET) on a quarterly basis starting from October 2010.
4. Organize intercountry collaboration for capacity building, experience exchange and knowledge sharing.
5. Develop and share with WHO detailed plans of action for activities to be carried out for 2011. These plans should be shared with WHO by end of November 2010.
6. In order to promote cutaneous leishmaniasis activities to be included in the operational plans by WHO and the Ministry of Health, prepare a 2-year plan of action (2012–2013) and share with WHO by June 2011, before the operational planning exercise takes place (expected July–September 2011).
7. Identify programme components for integration with the national health system, such as surveillance, drug supply management and quality control.
8. Promote cutaneous leishmaniasis on the agenda of decision-makers.

To the Regional Office

10. Finalize the set up of the regional strategic advisory group for cutaneous leishmaniasis.
12. Finalize the development and launch of the regional plan of action by March 2011.
13. Catalyse and guide the sub-regional, country-based projects for operational research based on the prioritized research areas.
14. Strengthen coordination between the national programmes and WHO country offices.
15. Continue to promote intercountry collaboration.
16. Guide the institutional and operational steps towards the development of cutaneous leishmaniasis national programmes in recognized countries with specific needs, namely Pakistan and Yemen.
17. Promote the integration of the cutaneous leishmaniasis programmes in the national health systems.
18. Support countries to put cutaneous leishmaniasis on the agenda of decision-makers.
Annex 1

PROGRAMME

18 September 2010
08:30–09:00  Registration
09:00–09:30  Opening session
  Opening remarks Dr J. Mahjour
  Objectives of the meeting
  Introduction of participants
  Election of Chairman and rapporteur
09:30–09:45  WHO global leishmaniasis control programme Dr J. Alvar
09:45–10:00  Current situation of cutaneous leishmaniasis in the Region Dr J. Postigo
10:15–10:30  Morocco
10:30–10:45  Tunisia
10:45–11:00  Libyan Arab Jamahiriya
11:00–11:15  Egypt
11:15–11:30  Saudi Arabia
11:30–11:45  Yemen
11:45–12:00  Palestine
12:00–12:15  Syrian Arab Republic
12:15–12:30  Iraq
14:00–14:15  Islamic Republic of Iran
14:15–14:30  Afghanistan
14:30–14:45  Pakistan
15:00–16:30  Discussions: wrap up of day 1

19 September 2010
08:30–08:45  Leishmaniasis activities of NAMRU-3 in the Region Mr Jeffrey T. Villinski
08:45–09:00  Collaboration activities at Pasteur Institute of Tunis Prof. A. Ben-Salah
09:00–09:15  Introduction for operational research needs and strategy in Region Dr R. Ben-Ismail
09:15–13:00  Group work 1: Implementation of the regional leishmaniasis surveillance system: current situation, challenges and way forward
  Lessons learnt since EPI-LEISH 1 (June 2010)
09:15–13:00  Group work 2: Strengthening operational research on leishmaniasis in the Region: new strategies, challenges and way forward
14:30–16:00  Elaboration of plan of action for the regional leishmaniasis control programme in 2011: specificities by country and general activities
  Way forward for online networking (LEMMNET)
16:15–17:30  Discussions: wrap up of day 2

20 September 2010
09:00–12:00  Discussion of plan of action 2011 and implementation issues
12:00–13:00  Conclusions and recommendations
14:00–15:00  Closing remarks
Annex 2

LIST OF PARTICIPANTS

AFGHANISTAN
Dr Mohammad Sami Nahzat
National Malaria and Leishmaniasis
Control Programme Manager
Ministry of Public Health
Kabul

EGYPT
Dr Osman Abdel Rehim Mohamed
Director of Tropical Diseases
Ministry of Health
Egypt

ISLAMIC REPUBLIC OF IRAN
Dr Mohammad Reza Shirzadi
Director of Zoonosis Control Programmes
Ministry of Health and Medical Education
Teheran

IRAQ
Dr Sumayah Badri Hassan Al-Tawijri
Director of Zoonotic Disease
Ministry of Health-CDC
Baghdad

LIBYAN ARAB JAMAHIRIYA
Dr Badereddin Annajar
Manager of the NCP for Leishmaniasis
National Centre for Diseases Control (NCDC)
Tripoli

MOROCCO
Dr Abderrahmane Benhamoun
Chief of Communicable Diseases Division
Directorate of Epidemiology and Diseases Control
Ministry of Health
Rabat
Dr Abderrahmane Laamrani El Idrissi
Head of Parasitic Diseases Department
Directorate of Epidemiology and Diseases Control
Ministry of Health

Rabat
Dr Btissam Ameur
Head of Vector Control Department
Directorate of Epidemiology and Diseases Control
Ministry of Health

Rabat
Mr Nhami Haddou
Parasitic Diseases Department
Directorate of Epidemiology and Diseases Control
Ministry of Health

PAKISTAN
Dr Azam Jah Samdani
Prof. of Dermatology
Jinnah Post Graduate Medical Centre (JPMC)
Karachi

SAUDI ARABIA
Dr Suleiman Al Seghayer
Director of Leishmaniasis and Filaria
Ministry of Health, Preventive Medicine
Riyadh

SYRIAN ARAB REPUBLIC
Dr Lama Jalouk
Director of Leishmaniasis Control Center
Ministry of Health
Aleppo

TUNISIA
Dr Mohamed Raouane
Head of Department at the Primary Health Care
Ministry of Public Health
Tataouine

YEMEN
Dr Ali Hamoud Al Mahaqiri
Manager of Leishmaniasis Programme
Ministry of Public Health
Sana’a

OTHER ORGANIZATIONS

Sanofi Aventis
Dr Benedict John Blayney
Director, Neglected Tropical Disease Programmes
Access to Medicines Department
Paris
FRANCE

Naval Medical Research Unit No. 3
Mr Jeffrey T. Villinski
Head, Molecular Biology Section
NAMRU-3
Cairo
EGYPT

WHO SECRETARIAT
Dr Jaouad Mahjour, Director, Communicable Disease Control, WHO/EMRO
Dr Riadh Ben-Ismail, Regional Adviser, Tropical Disease and Zoonoses, WHO/EMRO
Dr Jose Antonio Ruiz Postigo, Medical Officer, Tropical Disease and Zoonoses, WHO/EMRO
Dr Jorge Pablo Alvar, Medical Officer, WHO/HQ
Dr Daniel Argaw Dagne, Scientist, WHO/HQ
Prof. Richard William Ashford, WHO Temporary Adviser, Consultant Biologist, Liverpool School of Tropical Medicine
Dr Afif Ben Salah, WHO Temporary Adviser, MD Professor, Institut Pasteur de Tunis
Dr Amer Omar Izzat Al Jawabreh, WHO Temporary Adviser, Leishmaniasis Research Unit
Dr Waqar Butt, Medical Officer, Malaria and Leishmaniasis Programme, WHO Afghanistan
Dr Quaid Saeed, National Professional Officer HIV and AIDS (Leishmaniasis focal point), WHO Pakistan
Ms Elena Vuolo, Technical Officer, Leishmaniasis Programme, WHO Afghanistan
Mr Ibrahim Ouakrim, ICT Technical Assistant, WHO Morocco
Mrs Jehane Khadr, Administrative Assistant, Division of Communicable Diseases, WHO/EMRO
Mrs Zhour Salhi, Secretary, WHO Morocco
## Annex 3

### PLAN OF ACTION FOR THE REGIONAL CUTANEOUS LEISHMANIASIS CONTROL PROGRAMME 2011

<table>
<thead>
<tr>
<th><strong>Regional workshops/meetings</strong></th>
<th><strong>Responsibility</strong></th>
<th><strong>Time-frame</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Technical consultation on operational research proposal development, Aleppo, Syrian Arab Republic</td>
<td>WHO</td>
<td>February 2011</td>
</tr>
<tr>
<td>Programme managers review meeting 2011, Sana’a, Yemen</td>
<td>WHO</td>
<td>September 2011</td>
</tr>
</tbody>
</table>

### Regional network

<table>
<thead>
<tr>
<th><strong>Activity</strong></th>
<th><strong>Responsibility</strong></th>
<th><strong>Time-frame</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>LEMMNET online updated</td>
<td>All</td>
<td>At least every 6 months</td>
</tr>
<tr>
<td>WHO EMRO CTD web site</td>
<td>WHO</td>
<td>By August 2011</td>
</tr>
</tbody>
</table>

### Regional strategy

<table>
<thead>
<tr>
<th><strong>Activity</strong></th>
<th><strong>Responsibility</strong></th>
<th><strong>Time-frame</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Elaborate checklist to review national surveillance systems in countries</td>
<td>WHO</td>
<td>November 2010</td>
</tr>
<tr>
<td>Checklist review of national surveillance systems sent to programme managers</td>
<td>MOH + WHO</td>
<td>December 2010</td>
</tr>
<tr>
<td>Elaborate technical guidelines for CL case management</td>
<td>WHO</td>
<td>By June 2011</td>
</tr>
<tr>
<td>Elaborate technical guidelines/CD ROM for disease, reservoir and vector surveillance</td>
<td>WHO</td>
<td>By August 2011</td>
</tr>
<tr>
<td>Letter to MoHs to know about their priorities on operational research (outcome of this meeting will be shared)</td>
<td>WHO</td>
<td>November 2010</td>
</tr>
<tr>
<td>Network on-the-job training and experience exchange: Morocco, Islamic Republic of Iran, Syrian Arab Republic, Saudi Arabia, Libyan Arab Jamahiriya and Tunisia, NAMRU-3</td>
<td>MoH/research institutions</td>
<td>Throughout the year 2011</td>
</tr>
</tbody>
</table>

### Countries

<table>
<thead>
<tr>
<th><strong>Activity</strong></th>
<th><strong>Responsibility</strong></th>
<th><strong>Time-frame</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Finalize CL guidelines Afghanistan</td>
<td>WHO</td>
<td>December 2010</td>
</tr>
<tr>
<td>Support establishment of national leishmaniasis programme in Yemen</td>
<td>MOH + WHO</td>
<td>November 2010</td>
</tr>
<tr>
<td>Support establishment of national leishmaniasis programme in Pakistan</td>
<td>MOH + WHO</td>
<td>February 2011</td>
</tr>
</tbody>
</table>