Programme Managers’ Meeting on Elimination of Kala-azar in the South-East Asia Region

Faridabad, Haryana, India, 17-19 February 2009
Programme Managers’ Meeting on Elimination of Kala-azar in the South-East Asia Region

Faridabad, Haryana, India, 17-19 February 2009
# Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Executive summary</td>
<td>v</td>
</tr>
<tr>
<td>1. Opening session</td>
<td>8</td>
</tr>
<tr>
<td>2. Objectives of the meeting</td>
<td>9</td>
</tr>
<tr>
<td>3. Global burden</td>
<td>10</td>
</tr>
<tr>
<td>4. Regional kala-azar situation, strategies and achievements</td>
<td>10</td>
</tr>
<tr>
<td>4.1 Bangladesh</td>
<td>11</td>
</tr>
<tr>
<td>4.2 India</td>
<td>12</td>
</tr>
<tr>
<td>4.3 Nepal</td>
<td>13</td>
</tr>
<tr>
<td>4.4 Bhutan</td>
<td>14</td>
</tr>
<tr>
<td>5. Review of progress on diagnosis, treatment, surveillance, integrated vector management, behavioural change communication, monitoring and evaluation</td>
<td>16</td>
</tr>
<tr>
<td>5. Technical update</td>
<td>17</td>
</tr>
<tr>
<td>5.1 Vector control</td>
<td>17</td>
</tr>
<tr>
<td>5.2 Diagnosis and treatment of kala-azar</td>
<td>18</td>
</tr>
<tr>
<td>5.3 Behavioural change communication</td>
<td>22</td>
</tr>
<tr>
<td>6. Key discussion points</td>
<td>24</td>
</tr>
<tr>
<td>7. Recommendations to accelerate the VL elimination programme</td>
<td>26</td>
</tr>
<tr>
<td>8. Conclusion</td>
<td>27</td>
</tr>
<tr>
<td>9. Recommendations</td>
<td>28</td>
</tr>
</tbody>
</table>
Recommendations for Member States......................................................... 28
Recommendation for non-Member States................................................... 29
Recommendations for WHO ..................................................................... 29

Annexes

1. Programme ............................................................................................. 30
2. List of participants .................................................................................. 33
Executive summary

The Second Programme Managers’ Meeting for the elimination of kala-azar in endemic countries of the WHO South-East Asia Region was held in Faridabad, Haryana, India, during 17–19 February 2009. The meeting took place four years after the signing of a Memorandum of Understanding (MoU) on 18 May 2005 in Geneva during the World Health Assembly to eliminate kala-azar from Bangladesh, India and Nepal by 2015. The goal of the initiatives being implemented is to improve the health status of vulnerable groups and populations at risk living in kala-azar endemic areas of Bangladesh, India and Nepal by eliminating the disease so that it is no longer a public health problem. The target is to reduce the annual incidence of kala-azar to less than one per 10,000 population at the district or sub-district level (upazila in Bangladesh, district in India and district in Nepal) by 2015.

The meeting was convened to: (i) review the situation of kala-azar in the South-East Asia Region; (ii) review the progress of the kala-azar elimination programme in Bangladesh, India and Nepal according to the MoU signed by these countries on 18 May 2005; (iii) identify the gaps and constraints in the programme; (iv) finalize the indicators to be used for monitoring and evaluation; (v) review existing and new evidence on treatment and vector control; and (vi) develop consensus on strategic interventions that these can be applied in the elimination of kala-azar in endemic countries of the Region.

The programme managers of Bangladesh, Bhutan, India and Nepal participated in the meeting. The World Health Organization (WHO) was represented by WHO representatives from Bangladesh and Nepal and staff from Tropical Disease Research/WHO, Geneva, and the Regional Office for South-East Asia. Representatives and experts from the World Bank also attended the meeting. The availability of effective elimination strategies, technologies and tools will facilitate implementation of the elimination efforts in the kala-azar affected countries of the SEA Region.

The participants appreciated the efforts made by these countries, WHO and the kala-azar elimination partners to contain the disease and reduce its burden. They reaffirmed their commitment to the declared goals
and objectives of the present regional kala-azar elimination strategies, and recognized the need to consolidate the results achieved and move forward to completely eliminate the disease from the region. The participants emphasized the need to ensure that the affected countries are fully supported in their endeavours to enhance the respective national elimination campaigns in order to have a greater impact on the regional situation.

The regional strategies, achievements and constraints were presented at the meeting. The national programme managers gave presentations on the situation of kala-azar in their respective countries. The progress on diagnosis, treatment, surveillance, integrated vector management, behavioural change communication, monitoring and evaluation were reviewed by the programme managers. Recent developments in technology for kala-azar elimination with respect to drugs, diagnostics, integrated vector management, communication of behavioural changes, and the progress made in the areas of clinical and operational research and their policy implementation were also presented in the meeting. Group discussions were held to review programme implementation and discuss strategies for improvement and expansion, performance indicators for monitoring and public-private partnership for expansion and acceleration of the kala-azar elimination programme.

Participants welcomed the regional initiatives to eliminate kala-azar from Bangladesh, India and Nepal and recommended acceleration of the elimination programme by all participating countries in order to make it operational and effective in the years to come. In order to achieve a greater impact on the regional elimination initiatives, the participants underlined the need to intensify partnership actions at the regional and country levels and urged the partners and donors to increase the level of financial assistance. Shortfalls in funding would limit the scope of regional kala-azar elimination programme activities.

**Recommendations for Member States:** (i) To intensify and scale up the elimination of kala-azar by ensuring availability of adequate human and financial resources, logistics and quality of services; (ii) to build capacity of human resources at different levels of programme implementation; (iii) to foster partnerships with non-government and private sector organizations under the leadership of the government; (iv) to establish cross-border collaboration for synchronizing implementation strategies; (v) to identify
research priorities and generate evidences for cost-effective and sustainable interventions in collaboration with research institutions; (vi) to monitor the progress in the implementation of national kala-azar elimination programmes, identify the gaps/constraints and improve/remove them in accordance with regional and national strategies; and (vii) to carry out independent evaluation according to the MoU.

Recommendations for WHO: (i) To convene a high-level meeting of the four endemic countries at least once every two years to review the progress of kala-azar elimination and recommend the way forward; (ii) to constitute a task force to work out indicators and appropriate information technology for the elimination programme; (iii) to constitute an expert group for reviewing evidence regarding the effectiveness of long-lasting insecticidal nets (LLINs)/insecticide treated nets (ITNs) for the elimination programme; and (iv) to provide a forum for sharing experience and facilitate cross-border collaboration.

It was also recommended for the WHO: (i) Need for review and extension of the MoU with Bangladesh, India and Nepal for kala-azar elimination which ends in 2010; and (ii) collaboration with partners like the World Bank to explore the possibility of creating common drug facilities for the region for ensuring drug security for Rapid Diagnostic Kits (RDKs) and drugs on the lines of General Drug Formula (GDF) as in tuberculosis.
1. Opening session

Dr Jai P. Narain, Director, Department of Communicable Diseases, WHO Regional Office for South-East Asia, welcomed the participants on behalf of the WHO Regional Director for South-East Asia Region, Dr Samlee Plianbanchang.

In his address, the Regional Director stated that “the situation of kala-azar in the Region is confined to four countries only, namely Bangladesh, India, Nepal and of late Bhutan, and covers a population-at-risk of approximately 200 million in 109 districts. It has been estimated that approximately 45,000 cases of kala-azar are reported from these Member States annually. The disease occurs among the poorest of the poor and marginalized population”.

Following the signing of the MoU between Bangladesh, India and Nepal during the World Health Assembly in May 2005, WHO—together with these Member States and partners—developed a Regional Strategic Plan which envisaged elimination of kala-azar in these three countries by the year 2015.

Implementation of the elimination strategy has made good progress in many aspects; for example, it has been noted that with the support of the World Bank, India has made considerable progress in Bihar and other states towards acceleration of elimination activities. Bangladesh has also received support from the World Bank for implementation of kala-azar elimination activities. However, much more work needs to be done to mobilize funds for Nepal for supporting similar activities in the country.

Mention was made of the Second Meeting of the Regional Technical Advisory Group (RTAG) on Kala-azar Elimination held in Kathmandu, Nepal, in 2006 that recommended, among others, that WHO should develop evidence-based guidelines and standards for training in kala-azar elimination and that Member States should adopt these guidelines and organize necessary training courses for capacity building. Based on this recommendation, the Regional Office brought out a publication on guidelines for kala-azar elimination which was used by India in an international training course in Patna, Bihar, in 2007. The three Member
States also organized national-level training programmes in their respective countries.

Mention was also made of the high-level meeting organized in Dhaka, Bangladesh, in August 2006 during the Fifty-ninth session of the Regional Committee of the WHO Regional Office where the health minister of Bangladesh and high-level officials from Bhutan, India and Nepal and the partners participated. The meeting acknowledged the progress made toward eliminating kala-azar in these countries. It was recommended that the progress of the programme should be reviewed every year. As a sequel to this recommendation, a back-to-back meeting of high-level officials of the ministries of health of Bangladesh, India and Nepal on the elimination of kala-azar would follow this meeting in the WHO Regional Office in New Delhi on 20 February 2009. This high-level meeting will review the progress made and discuss strategies on acceleration of the elimination programme in the years to come.

Dr G.N.V. Ramanna of the World Bank informed that partnerships at all levels were important and the need to build public-private partnership for implementation of preventive strategies (indoor residual spray (IRS), LLINs), quality of test kits and pharmaceuticals and pharmacovigilence was emphasized. He mentioned that operational aspects of the programme, its management and monitoring of its performance were critical and should be incorporated in the operational plans. It was also important to package the kala-azar programme in the same manner as the TB DOTS programme.

2. Objectives of the meeting

The objectives of the meeting were:

(1) To review the situation of kala-azar in the South-East Asia Region, the progress made and identify the gaps and constraints in its elimination;

(2) to finalize the indicators to be used for monitoring and evaluation;

(3) to review existing and new evidence on treatment and vector control; and
(4) to develop consensus on strategic interventions that can be applied in the elimination of kala-azar in the endemic countries of the Region.

Dr G.P.S. Dhillon, Director, National Vector Borne Diseases Control Programme, India, was nominated chairman of the meeting with Dr Balaram Mishra of Nepal as co-chair and Dr Karma Lhazeen, Chief Programme Officer, Vector Borne Disease Control Programme, Bhutan, as rapporteur.

3. Global burden

Kala-azar is endemic in 88 countries in five continents – Africa, Asia, Europe, North America and South America – putting at risk 350 million people. The incidence is 0.5 million and prevalence is 2.5 million.

4. Regional kala-azar situation, strategies and achievements

Dr Anand B. Joshi, TIP-VBC/SEA Regional Office, presented the Region’s kala-azar situation, elimination strategies and achievements made during the period. Kala-azar is one of the most neglected tropical diseases affecting the poorest populations in the three endemic countries, Bangladesh, India and Nepal. Approximately 200 million people in 109 districts of these countries are “at risk”. These countries have committed themselves to collaborate in their efforts to eliminate kala-azar from the Region by 2015. On 18 May 2005, the three countries signed an MoU in Geneva during the World Health Assembly, committing themselves to mutual cooperation towards eliminating kala-azar from the respective countries. A Regional Strategic Plan has been prepared and endorsed by the SEA Regional Office Regional Technical Advisory Group (RTAG) and partners supporting the elimination of the disease.

Dr Joshi summarized the favourable factors and challenges in the elimination of kala-azar, and described the goal and strategy as well as the components of the strategy. The implementation of the five strategic pillars for the elimination was also deliberated in detail. All three countries have already completed the preparatory phase and are now in the attack phase.
4.1 Bangladesh

Kala-azar is a re-emerging disease and a public health problem in Bangladesh. It had almost disappeared during the Malaria Eradication Programme (1961–1970). At present, kala-azar cases are reported from 139 upazilas in 45 districts of Bangladesh. The poorest of the poor people suffer from this disease. On an average, 10,000 cases are detected and treated annually. Present disease surveillance is weak and the estimated prevalence is 45,000 cases. In 1981, only eight upazilas reported the disease, which has increased to 139 upazilas in 45 districts by 2008. A total of 58,093 cases and 189 deaths were reported in 2000–2008. In 2008, 4824 cases and 17 deaths were reported. More than half the cases (54%) are from Mymensingh district. The three districts of Pabna, Tangail and Jamalpur reported another 25% cases.

Progress made in implementation

After signing the MoU in 2005, a National Steering Committee headed by the Honourable Minister of Health and Family Planning has been formed and a Technical Working Group formed to support implementation and provide guidance on strategies and policies. A Strategic Plan has been developed/updated and pilot district-level Operational Plans have been developed. Treatment with miltefosine was launched on 9 May 2008. Major progress has been made in capacity building at all levels for different categories of health workers (doctors, medical technologists, sprayers and field workers). National guidelines and a training module for the kala-azar elimination programme in Bangladesh have been developed for insecticide spraying and for medical technologists on diagnostic procedures. Standard operating procedures (SOPs) for spraying techniques and methods (including safety measures) have also been developed. A booklet (in Bangla language) for health workers has been developed. Patient registers, treatment cards, laboratory registers, laboratory advice forms, patient referral forms and information and education communication (IEC) material have been developed and distributed in the endemic districts/upazilas.

Challenges

The constraints that hamper programme implementation include delay in procurement of drugs, diagnostics, insecticides and spraying machines.
Miltefos, the locally procured miltefosine drug was found to be ineffective. Treatment with Sodium Antimony Gluconate (SAG) injection continues due to the non-availability of miltefosine and hence the phasing out of SAG is delayed. IRS has not been started yet due to the lack of insecticides. Post Kala-azar Dermal Leishmaniasis (PKDL) cases also pose a challenge to the elimination programme.

4.2 India

India has 52 kala-azar-endemic districts in the four states of Bihar (31 districts with 62.3 million population at risk), Uttar Pradesh (11 districts with 50.0 million population at risk), West Bengal (6 districts with 11.0 million population at risk) and Jharkhand (4 districts with 6.7 million population at risk). Every year, Bihar alone contributes 70–80% of the cases. In 1992, the highest number of cases was reported (77,170), after which the incidence has declined gradually. However, from 2003 to 2007, there has been a steady increase in the number of cases reported annually. The possible reasons for increase in the number of kala-azar cases are the availability of diagnosis and drugs at the peripheral level, introduction of several incentives like free diet and loss of wages, and shifting of a large number of patients from the private to the public sector following introduction of the oral drug miltefosine and intensive Case Search programmes. Besides these, other factors like complexity of disease transmission and human factors like poverty, illiteracy and housing patterns have contributed to the increase in transmission. In 2008, 31,716 cases and 141 deaths were reported; however there is now a downward trend. In the border areas, 40% and 20% cases detected are from Nepal and Bangladesh, respectively. Other constraints faced by the elimination programme are: (i) its positioning in the health system; (ii) implementation and standardization of treatment guidelines; (iii) natural calamities like regular floods in many kala-azar-endemic districts; (iv) PKDL cases and their treatment; (v) emerging foci of drug resistance; (vi) inadequate information on vector bionomics and asymptomatic carriers; and (vii) procurement difficulties.

Progress made in implementation

The progress made in the implementation of the elimination programme includes: (i) integration with the National Rural Health Mission (NRHM);
(ii) involvement of ASHA; (iii) introduction of the new diagnostic tool (rK39) and oral drug (miltefosine) on a pilot basis; (iv) village-wise GIS mapping for focused intervention; (v) incentives to patients for loss of wages @ Rs. 50 per day during the period of treatment; (vi) free dietary support to patients and one attendant and incentive to kala-azar activists/health workers @ Rs. 100 for referring a suspected case and ensuring completion of treatment; (vii) construction of pucca houses for the Mushar community in nine kala-azar-endemic districts on the initiative of the Ministry of Health, Government of India, in collaboration with the Ministry of Rural Development, Government of India; (viii) arrangement of separate patient boxes; (ix) line-listing of kala-azar cases and patient coding scheme; (x) vector control through IRS; and (xi) development of behavioural change communication (BCC) strategy plans. Human resource development at various levels of health facilities and district action plans are the other initiatives that have been taken.

**Challenges**

Challenges to the implementation of the elimination programme are: (i) active case detection; (ii) strengthening of passive surveillance; (iii) standard treatment protocol compliance and follow-up through treatment cards; (iv) effective DDT spraying under close supervision; (v) an effective IEC campaign to make the programme broad-based and initiate community empowerment and mobilization; (vi) efficient manpower development through training; (vii) networking with other health-care service providers in the public-private sector; (viii) linkages with other programmes for case search and IEC; (ix) efficient discharge of roles and responsibilities at different levels of programme delivery; (x) efficient and optimal resource utilization; and (xi) formation of State Steering Committees for inter-sectoral convergence.

**4.3 Nepal**

There are two regions comprising 12 hyper-endemic districts [six each in the Eastern Development Region (EDR) and Central Development Region (CDR)] with a population of approximately 7.5–8 million at risk. On an average, 1500–2000 cases and 10–30 deaths are reported each year. A few PKDL cases have also been identified. The most affected age group is 15 years and above, and males are predominantly affected. Cases are reported
mainly from the low socioeconomic stratum of the community. Incidence of the disease has decreased in areas where IRS has been conducted (revealing no insecticide resistance).

Reducing kala-azar morbidity and the risk of transmission among the vulnerable, poor and unreached populations is the focus of the intervention initiative. The Government of Nepal is committed to eliminating kala-azar at the district level by 2015. Public-private partnership is the key to the success of intervention, considering the country’s situation.

**Progress made in implementation**

Diagnostic facilities (rK39) have been made available at all health facilities in the endemic districts and miltefosine was piloted in one district and then extended to five more districts. These facilities will be extended to all the endemic districts by the end of 2009. Travelling costs of up to Rs 1000 is being provided to patients on completion of the treatment. This will help improve health-seeking behaviour and ensure completion of the treatment. Nutritional support to kala-azar cases under treatment and the possibility of integration of newer, shorter course drugs into the programme through public-private partnership are being explored. Behavioural change communication strategies are also being developed and implemented.

**Challenges**

The disease is under-reported. Prolonged treatment may reduce drug compliance and it is difficult to monitor completion of treatment. Micro environment change requires a sector-wide approach which is beyond the capacity of the health system alone. Drug resistance and HIV-kala-azar co-infection are emerging problems that would require attention and close monitoring.

**4.4 Bhutan**

Kala-azar is an emerging and new disease for Bhutan. Between 1999 and 2007, 12 patients have been treated for kala-azar. Although all the cases did not prove to be Visceral Leishmaniasis or PKDL by demonstration of parasite, clinical presentation, positivity of Aldehyde test and rK39 test, in
certain cases the response to treatment strongly suggests that VL and PKDL, though not very common, have been prevalent in Bhutan since 1999. The patients are scattered in the six districts of Mongar, Tashigang, Tashiyangtse and Lhuntse in the eastern part of the country and in Thimphu and Wangdi districts in the west. About 2,51,149 people (37% of the country’s population) live in these six districts.

**Progress made in implementation**

A team of health professionals (clinicians, pathologists and entomologists) will support kala-azar programme and advise, assist and guide the programme in policy development and planning for kala azar elimination, and has been trained in Nepal in November 2008. Sand flies have been collected and identified. A sensitization workshop for health workers has also been conducted.

**Future Plans**

Plans for 2009–2010 include: (i) study of the disease burden through a retrospective hospital data review; (ii) active case finding in the areas around the affected community; and (iii) vector surveillance in March-May 2009. The other initiatives planned for are: (i) inclusion of kala-azar drugs in the Essential Drug List (EDL), procurement of first-line drugs (miltefosine) and rk39 kits for diagnosis and distribution to health centres—initially in the affected districts; (ii) development of a kala-azar control/elimination strategy; (iii) strengthening the capacity of peripheral health centres and providing guidelines and SOPs for providing diagnosis and appropriate treatment of kala-azar; and (iv) development of IRS and surveillance and reporting and a BCC strategy to raise awareness among the affected communities.
5. **Review of progress on diagnosis, treatment, surveillance, integrated vector management, behavioural change communication, monitoring and evaluation**

The status of the kala-azar elimination programme was presented by programme managers from Bangladesh, India and Nepal. The review showed that the disease is now being reported in 45 districts in Bangladesh, 52 in India and 12 in Nepal. The total number of districts reporting kala-azar now stands at 109. The population at risk is approximately 200 million.

There is a high level of political commitment following the signing of the MoU by the health ministers of these three countries in 2005. These countries have developed national strategic and operational plans, and polices are in place that clearly articulate elimination as the goal. Funds have been mobilized by the national governments and their partners in the programme (World Bank support to India and Nepal). Bangladesh has no fund constraints.

The programmes now use the diagnostic test rk39, which is available for use in all three countries. Miltefosine is now accepted and used as the first-line drug for the treatment of kala-azar. However, numerous problems related to its procurement and supply hamper programme implementation in some countries. Guidelines have been developed for the use of rk39 and miltefosine, IRS and reporting and surveillance plans have been developed to implement SOPs in these countries as also for conducting inter-country training for trainers and further trainings at the district and local levels for different categories of health workers, sprayers and supervisors.

Reporting of kala-azar cases is mainly passive although India organizes a kala-azar fortnight every year. Passive surveillance reports are derived from information provided by government health facilities. Reporting and feedback systems are also weak. Vector surveillance is non-existent in the three countries and needs to be strengthened to make vector control more meaningful. There are inadequacies in reporting since only government agencies report the disease for the programme. The number of cases reported is decreasing and this is probably a reflection of some improvement in the drugs and diagnostic services provided by governments. There is still a
large gap between reported cases and estimated cases. The situation with respect to PKDL is not clear and there are difficulties in recognizing cases of PKDL.

Among the various vector control measures, India uses DDT; in Nepal, IRS is done with pyrethroids; in Bangladesh no IRS was done till 2009 due to numerous problems related to its procurement and supply. The constraints in implementation include weak supervision, the quality of insecticides, human behaviour and cultural practices like mud plastering, that are a setback to the elimination efforts in these countries.

So far as behavioural change communication for kala-azar is concerned, these countries feel it is important; however it is more talked about than implemented at the field level. More needs to be done in this area. At present, the strategy used has not been found effective enough to impact behaviour.

5. Technical update

5.1 Vector control

The strategic approach recommended is integrated vector management (IVM) and kala-azar elimination should be considered an integral part of the national vector control strategy. This is necessary since effective vector control requires a sound infrastructure and capacity of implementation. The strategy should effectively leverage the resources for a sustainable programme. A case has to be made of the fact that effective implementation of IVM is useful for the control of all vector-borne diseases and not the elimination of kala-azar alone. The strategy should also promote a right mix of interventions, i.e. IRS, ITNs and environmental manipulation and management. Among these interventions, IRS continues to be effective for the elimination of kala-azar. The tools, norms and standards for effective IRS are available.

Indoor residual spraying is an important intervention for the elimination of kala-azar, but it requires rigorous implementation in order to be effective. For this, planning for IRS should be district-based in order to estimate the national requirement. This includes planning spraying
operations with a clear identification of the coverage to be achieved, timely procurement and distribution of insecticides, efforts to get maximum community participation, effective supervision and monitoring of IRS operations and a sustained effort. An assessment of the quality of spraying should be an integral part of IRS operations. Evidence of the important role of IRS in vector control is strong and therefore it should be continued as a major component of the prevention strategy. There is strong historical evidence that supports the role of IRS in kala-azar elimination. The other intervention, i.e. ITNs, is not yet evidence based. In the absence of better alternatives, it is prudent to strengthen IRS and obtain maximum advantage. Both IRS and ITN are macro-level interventions. In contrast, environmental manipulation and management should be considered as micro-level strategies for the elimination of kala-azar. For this to succeed, housing conditions should be improved. The focus should be on dwellings where the poorest of the poor live.

The effectiveness and feasibility of environmental control should be evidence based before justifying any major national investments. These measures require community participation to be effective in utilizing a long-term sand fly control strategy through good sanitation of households and surrounding areas. The programme should take advantage of development and support from other sectors for uplifting the poor.

5.2 Diagnosis and treatment of kala-azar

Dr Sujit Bhattacharya, Additional Director General, ICMR, Delhi, made a presentation on the development of drugs and diagnosis. He described the status of various diagnostic and treatment options, including combination therapies. However, there was further scope for the development of more accurate diagnostic tests and therapy options which were safer, more effective, inexpensive and requiring shorter duration of treatment.

He informed that based on evidence, rk39 has been recommended but quality assurance is important to ensure that its usefulness under field conditions is sustained. He cautioned that there are other conditions like in tuberculosis, leprosy, malaria and pregnancy when the test could give a false positive report. Interpretation of the test results should be based on both the epidemiological situation and the clinical presentation since the results of serology alone are not enough to diagnose kala-azar. Invasive tests like bone
marrow test and spleen puncture are confirmatory and should be used only for referred cases and treatment failures, and to serve as a gold standard as part of the quality assurance system.

The first-line oral drug, miltefosine, is now used in Bangladesh, India and Nepal. The drug has been found effective in more than 90% of the patients studied and the side effects are minimal and reversible. However, he informed that the drug should not be used on pregnant women and on women who are in the reproductive age group and are not using effective contraception. Paromomycin is an effective injectable drug which has completed Phase III trials with very good results. It has to be injected for 21 days and the toxicity is minimal (ototoxicity). Ambisome is an effective rescue drug. The efficacy of currently available drugs may not last long, especially if quality issues, completion of treatment and other precautions in their use are not addressed. Research is underway to assess combination drugs. If these are found effective, new windows for treatment will open up. For success in treatment, it is important to treat dehydration and anaemia before starting any specific treatment for kala-azar. This reduces the risk of complications. Pharmacovigilance needs to be an integral part of the elimination programme. The diagnosis and treatment of PKDL and the challenges posed by asymptomatic cases are important issues that need to be addressed. Ways have to be found to determine the factors that contribute to the pool of PKDL and assess the extent to which asymptomatic cases are responsible for continued transmission of the disease. The success of interventions on prevention, diagnosis and completion of treatment depends on community participation. This includes accessing diagnosis and treatment, completing the treatment and participation in IRS. In this context, strategic communication is important. Communication for behaviour impact should be considered as a strategy in the kala-azar elimination programme.

Discussion points

(a) Strategy development at the country level should be based on the evidence generated on vector dynamics, newer techniques and their acceptability at the country level, and should involve private sector as well as community participation. Good practices of other programmes like TB (private-public partnership) should also be used in kala-azar.
(b) Implementation has been initiated in all the countries; however, the attack phase for any programme should not be too prolonged as it loses its intensity. Therefore, activities should not be further delayed if the elimination target has to be achieved. Progress has been made in terms of diagnosis and management in most countries but IRS in all the countries has been limited due to too many challenges.

(c) Efforts towards the elimination of kala-azar provide an excellent entry point for strengthening health systems that are responsive to the needs of the poor. The logistics management and procurement systems in these countries can also be strengthened.

(d) The basic/core indicators for diagnosis, treatment and vector control need to be selected based on the needs of the country to facilitate monitoring and evaluation of the programme. These indicators should be used to assess the elimination status in future meetings.

(e) There was general consensus that the treatment of kala-azar should be standardized for all countries in order to accelerate the elimination process and that diversion from standard protocols would not be beneficial for the programme.

(f) The issue of the situation in the border areas needs to be tackled for the benefit of neighbouring countries. Control activities should be synchronized in the border areas.

(g) Partnership with private organizations that are interested to participate in any way in kala-azar elimination should be explored and facilitated.

(h) Some participants expressed doubts over the efficacy of rk39 since it also produced positive results in cases of malaria, pregnancy, leprosy, tuberculosis and other conditions. Dr Bhattacharya explained that Rapid Diagnostic (RD) kits have to be used in conjunction with clinico-epidemiological settings. Under these circumstances, it is sensitive and specific enough to be used without hesitation in the programme. It was also pointed out that rk39 was found positive in the urine and sputum of some patients. However, more research is required
before body fluids – other than blood – can be used for conducting this test.

**Action points**

(a) The use of rk39 for diagnosis of kala-azar needs to be encouraged in the elimination programme in all the countries.

(b) Miltofosine still continues to be the best option for first-line treatment of kala-azar patients in the programme setting. However, for those in whom it is contraindicated, an alternate drug should be clearly mentioned. The treatment guide should be standardized for the three countries.

(c) Scope for research to develop more effective diagnostic and treatment options exists.

Dr Anand B. Joshi made a presentation on the review of vector control and integrated vector management. He reviewed the strategies used for the control of disease vectors since the 1940s. He also discussed the various options currently available for vector control. IVM is a rational decision-making process for the optimal use of resources for vector control. Integrated vector control is one of the tools of IVM. Under the present circumstances, IVM seems to be the best option for efficient control of vectors in order to interrupt the transmission of kala-azar.

**Discussion point**

(a) Participants expressed that IVM is very broad-based and difficult to operationalize in a countrywide setting. There is need to strengthen the operational system to use it for disease control.

**Action point**

(a) IVM needs to continue as a major component of the strategy to eliminate kala-azar – though modified according to the needs of the local environment and within the WHO SEA Regional Office-defined framework.

Dr S.N. Sharma presented the kala-azar monitoring and evaluation (M&E) framework. He stated that input, process, output, outcome and
impact indicators were all important for monitoring the programme. He also
detailed the various levels/areas/indicators/frequencies of measurement and
the agency responsible for each indicator. He also explained the various
indicators for programme planning, surveillance, disease management,
vector control, training and IEC.

Discussion point

(a) The participants agreed that there was need for certain basic
indicators to assess the programme universally, which should
be few and easy to measure and express.

Action point

(a) A few core indicators need to be identified in order to monitor
the programme. These should be important core indicators
and be the same for every country.

5.3 Behavioural change communication

Dr Balaram Mishra made a presentation on BCC in kala-azar and an update
on its progress. He mentioned that a BCC strategy can facilitate better
impact. It was noted that a lot is talked about BCC though very little progress
has actually been made in this area. He reiterated the three basic elements
of advocacy, social mobilization and community participation, which form
the pillars of BCC. In the face of several challenges, the BCC strategy should
clearly address these problems in order to influence people to seek an
advocate for early diagnosis and completion of treatment, and to seek
coordination with other sectors such as agriculture and environment to
address issues related to IVM.

Discussion point

(a) The BCC strategy should deliver messages in the local language
and be culturally acceptable. In order to be effective, BCC
activities need to be developed by professional sociologists and
communication experts after conducting a social market
research.
**Action point**

(a) Key messages for kala-azar and their mode of delivery should be in the areas of early diagnosis and complete treatment, IVM, personal protection and environmental management. In order to maintain credibility of the programme and BCC, it should be backed with adequate and appropriate services.

Dr Axel Kroeger made a presentation on the progress made in the areas of kala-azar clinical and operational research and their policy implications. He detailed the various studies undertaken by the Tropical Disease Research group of WHO in the three endemic countries on the efficacy of various vector control measures, treatment modalities and use of various software to map the disease situation and help in the decision-making process. He also presented the findings of a study to determine the most efficient method of case detection. Active case detection was found to be the most effective method. The actual incidence of cases was found to be more than twenty times the elimination target.

**Discussion point**

(a) The participants expressed their concern over the fact that in view of its toxicity and limitations in use, miltefosine was not the best treatment for the disease. Dr Kroeger explained that there was always scope for development of better medicines but that did not mean that the present ones could not be used. Some programme managers asked if WHO could make newer software like Decision Support System (DSS) available for the programme and Director, Communicable Diseases Department, Regional Office, agreed to look into the matter.

**Action points**

(a) More operational research in various aspects of the programme, including better case detection and treatment options, needed to be undertaken and the results incorporated in the programme strategies.

(b) Evidence from ongoing implementation research on cost effective case detection and case management in endemic
districts should be taken into consideration for programme and policy development.

(c) SEA Regional Office to collaborate with WHO/TDR for DSS and further development of surveillance strategies (active and passive case detection) according to risk stratification.

Dr Anand B. Joshi made a presentation on recent developments in technology for kala-azar elimination – research in Bangladesh, India and Nepal on kala-azhar vector control. This research was initiated in 2005 in a phased manner as a multi-centric study to evaluate the effectiveness of IRS, LLIN and EVM. It was found that in the research setting, IRS was more effective than the other two methods. The effectiveness of IRS with DDT in India and with pyrethroids in Nepal is yet limited in the national programmes. In Bangladesh, mass net treatment is highly acceptable, feasible and effective.

Discussion point

(a) The participants seemed to agree that efficacy would be as good in the field setting as in the research mode.

Action points

(a) IRS is the main intervention in kala-azar elimination initiatives. Systematic monitoring of quality control in vector management by means of IRS through an affordable and feasible method (monitoring tool kit) is definitely required for the elimination programme.

(b) LLIN should be the interim strategy for Bangladesh and Bhutan and eventually the complementary intervention method for Nepal and India.

6. Key discussion points

- Recognizing that achieving the elimination goal is not possible without full country-level ownership and commitment to the programme. The meeting reiterated the need for continued
advocacy with policymakers, planners of the Member States, partners and other stakeholders.

- The meeting stressed on improving programme management and scaling up elimination activities in the endemic districts. It also emphasized the importance of the quality of interventions.

- Human resource is the key to achieving the elimination goal. A concern was raised about inadequate human resources deployment for the programme and the need to train national, state, district and sub-district-level health personnel according to the needs of the elimination programme (case detection and management, vector control and BCC activities).

- It was felt that these countries need to take immediate steps to accelerate procurement of drugs, diagnostics, insecticides and spraying equipment and make these inputs available in the endemic districts.

- The meeting highlighted the need for strengthening health systems to ensure proper delivery of services and achieve the elimination goal within the stipulated time.

- Involvement of the community in the elimination programme was also discussed.

- Significant contribution has been made by NGOs, both national and international. It was necessary to make a list of the areas of collaboration with these NGOs.

- National VL alliance to be formed for the involvement of NGOs and private organizations. The involvement of NGOs would depend on their capabilities at the time of the need.

- The need for cross-border collaboration and exchange of information among the affected countries was emphasized.

- Member States felt it necessary to strengthen programme monitoring and evaluation, including annual review of progress in kala-azar elimination. Reporting would need to be done on a monthly basis from the sub-district to the district level, and on a quarterly basis from the district to the state level.
It is imperative to arrange for independent evaluation of programme implementation as per the MoU signed by the three countries. WHO may be requested to facilitate the evaluation process.

7. **Recommendations to accelerate the VL elimination programme**

**Programme**

- Strong recommendation to improve advocacy, particularly with the decision makers and programme managers, to implement the elimination programme
- Strengthening of programme management
- Logistics
- Capacity building for case detection, treatment and vector control at the district and sub-district levels
- Committed man power
- Strong recommendation to supply drugs, diagnostic kits and insecticides, as soon as possible, in all the affected districts

**Strategy**

- Based on the MoU signed by the three countries, they are requested to implement uniform strategies as agreed upon.

**Public-private partnership**

- Establishment of national alliances

**Monitoring and evaluation**

- It is recommended to establish a task force to develop the indicators and information technology for monitoring the progress of the programme.
Countries are requested to strengthen the existing monitoring and evaluation system.

Every country should organize an annual review of the progress of the programme and, according to the terms of the MoU, this should be reported to the higher level every two years.

8. Conclusion

The meeting took place four years after the signing of the Memorandum of Understanding in Geneva during the World Health Assembly in May 2005, committing themselves to mutual cooperation towards elimination of kala-azar from Bangladesh, India and Nepal.

The participants appreciated the efforts made by these countries, WHO and the partners to scale up kala-azar elimination activities related to treatment, diagnosis, vector control and operational research to contain the disease and reduce its burden. Implementation of the kala-azar elimination programme in all the participating countries is the most significant achievement of the regional kala-azar elimination strategies. The participants reaffirmed their commitment to the declared kala-azar elimination goals and regional kala-azar elimination strategies, and recognized the need to consolidate the results achieved and move further for the elimination of the disease from the region.

The strategic guidance and technical assistance provided by WHO was acknowledged with satisfaction and participants emphasized the need to ensure that kala-azar affected countries are fully supported in their endeavours to carry the national elimination campaign forward. In this context, particular attention should be given where the risk of the disease spreading across the shared borders of Bangladesh, India and Nepal exists.

The regional kala-azar elimination movement (initiatives) has successfully mobilized the collective efforts of countries, international agencies, bilateral organizations and the private sector to create greater awareness of the problem and to increase the overall availability of resources for kala-azar in the Region. In order to have a greater impact on the regional kala-azar situation, the participants underlined the need to intensify partnership actions at the regional and country levels and urged the partners
and donors to increase the level of financial assistance. A shortfall in funding would limit the scope of regional kala-azar elimination programme activities.

Taking into account the progress made in the elimination programme in Bangladesh, India and Nepal, where elimination activities have been started and incidence of the disease has been brought down to some extent within the proposed timeline, the participants welcomed the regional initiative “to eliminate kala-azar from the region” and recommended implementation of regional strategies to make it operational and effective.

9. Recommendations

Recommendations for Member States

(1) To intensify and scale up the elimination of kala-azar by ensuring availability of adequate human and financial resources, logistics and quality of services;

(2) to build the capacity of human resources at different levels of programme implementation;

(3) to foster partnership with NGOs and the private sector under the leadership of the government;

(4) to establish cross-border collaboration for synchronizing implementation strategies;

(5) to identify research priorities and generate evidence for cost-effective and sustainable interventions in collaboration with research institutions;

(6) to monitor the progress in implementation of the national kala-azar elimination programme, identify the gaps/constraints and improve/remove them in accordance with the regional and national strategies; and

(7) to carry out independent evaluation according to the terms of the MoU.
Recommendation for non-Member States

To revisit the use of insecticides (DDT/SP) as a strategy based on its susceptibility.

Recommendations for WHO

(1) To convene a high-level meeting of the four endemic countries at least once every two years to review the progress of kala-azar elimination and recommend the way forward;

(2) to constitute a task force to work out the indicators and appropriate information technology for the elimination programme;

(3) to constitute an expert group for reviewing the evidence of effectiveness of LLINs/ITNs for the elimination programme; and

(4) to provide a forum for sharing country-level experience and facilitating cross-border collaboration.

(5) Need for review and extension of the MoU between Bangladesh, India and Nepal for kala-azar elimination whose life ends in 2010; and

(6) WHO, in collaboration with partners like the World Bank, can consider exploring the possibility of creating common drug facilities for the region for ensuring drug security for RDKs and drugs along the line of GDF as in the case of tuberculosis.
Annex 1

Programme

Day 1 (Tuesday, 17 February 2009)

0900–1000 hrs

Registration

**Session I:**
- Opening Ceremony
  Inaugural message of Dr Samlee Plianbangchang, Regional Director, WHO South-East Asia Region, to be read by Dr Jai P. Narain, Director, CDS, WHO-SEARO
- Remarks by World Bank
  Dr GNV Ramana
- Objectives of the Meeting and Introduction of participants
  Dr Chusak Prasittisuk, CDC, WHO-SEARO
- Nomination of Chairperson, Co-chairperson and Rapporteur
  Dr Jai P. Narain, Director, CDS, WHO-SEARO
- Administrative announcements
  Dr Anand B Joshi, TIP-VBC, WHO, SEARO

1030–1230 hrs

**Session II:**
Review of Global, Regional and Country situation of Kala azar

- Regional kala-azar strategies, achievement and constraints
  (15 Min), Dr Anand B Joshi, TIP-VBC, WHO-SEARO
- Situation of Kala azar in Bangladesh (30 Min)
  National Programme Manager
- Situation of Kala azar in India (30 Min)
  National Programme Manager
- Situation of Kala-azar in Nepal (30 Min)
  National Programme Manager

1400–1700 hrs

**Session II (Continued)**
Situation of Kala azar in Bhutan (15 Min)
Dr Karma Lhazeen, Programme Manager

**Session III: Review of Progress on Diagnosis, Treatment, Surveillance, Integrated Vector Management, Behaviour**
change, Monitoring and Evaluation
Presentation on progress by the countries

- Bangladesh
  Presentation (30 Min)
  Discussion (15 Min)
- India
  Presentation (30 Min)
  Discussion (15 Min)
- Nepal
  Presentation (30 Min)
  Discussion (15 Min)

Day 2 (Wednesday, 18 February 2009)

0830–1230 hrs  Session IV: Recent Development of Technology for kala-azar Elimination

- Review on development of drugs and diagnosis (30 Min)
  Dr Sujit Kumar Bhattacharya, Additional Director General, ICMR
- Review on vector control/IVM (30 Min)
  Dr Anand B Joshi
- Kala-azar Monitoring and Evaluation Guidelines – Key Indictors (30 Min)
  Dr SN Sharma, NVBDCP, India
- Behaviour change communication in Kala-azar and progress update (30 Min)
  Dr BalRam Mishra, Ministry of Health and Population, Nepal
- Progress made in the area of Kala-azar clinical and operational research and their policy implementation (30 Min)
  Dr Axel Kroeger, WHO-HQ

1400–1700 hrs  Session V: Group Work: Expansion and acceleration of Kala-azar elimination programme

Formation of two small Groups; Meeting of Groups to review in respective areas and draft recommendations and Action Points

- Review programme implementation as per the regional and national plan
- Discuss various strategies for improvement and expansion
- Performance Indicator for monitoring Kala-azar programme and impact
- Involvement of Non-Government Organization in KA
elimination and Public Private Partnerships

- Discuss targets and roadmap of each activity
- Develop recommendations to accelerate the Kala-azar elimination programme

Day 3 (Thursday, 19 February 2009)

0830 – 1230 hrs  Session VI: Group Work (Continued)
Meeting of the Groups to review and finalize recommendations and Action Points

  Session VII: Presentation of salient points of Group 1 and Group 2, followed by discussions

  Session VIII: Development of conclusion and recommendations by the drafting group

1400 – 1600 hrs  Session IX: Conclusion and recommendations

  Presentation of recommendations by the rapporteur

  Session X: Closing

  Closing remarks
# Annex 6

## List of participants

### Bangladesh

<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
<th>Contact Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr Farida Begum Naher</td>
<td>Programme Manager - Kala-azar</td>
<td>Tel: 8112999, Mob: 01715041493, E-mail: <a href="mailto:drnaher@gmail.com">drnaher@gmail.com</a>, Fax: 9899085</td>
</tr>
<tr>
<td>Dr S.M. Shamsul Alam</td>
<td>Civil Surgeon</td>
<td>Tel: 65720, Mob: 01776679081, E-mail: <a href="mailto:cs.mgm@ttb.net.bd">cs.mgm@ttb.net.bd</a>, Fax: 091-61160</td>
</tr>
<tr>
<td>Dr F.H.M. Nurunnabi Chowdhury</td>
<td>Sr. Entomologist</td>
<td>Tel: 088029899081, Mob: 08801718734332, E-mail: <a href="mailto:nnc1965@yahoo.com">nnc1965@yahoo.com</a>, Fax: 088029899085</td>
</tr>
</tbody>
</table>

### Bhutan

<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
<th>Contact Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr Karma Lhazeen</td>
<td>Chief Programme Manager</td>
<td>Tel: + 00975-6-251133, Mob: + 00975-17779909, E-mail: <a href="mailto:khazeen@hotmail.com">khazeen@hotmail.com</a>, Fax: 00975-6-251173</td>
</tr>
<tr>
<td>Dr Sangay Tshering</td>
<td></td>
<td>Tel: + 00975252589, Mob: +97517650427, E-mail: <a href="mailto:sangay21t@yahoo.com">sangay21t@yahoo.com</a>, Fax: 009755252588</td>
</tr>
</tbody>
</table>

### India

<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
<th>Contact Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr G.P.S. Dhillon</td>
<td>Director</td>
<td>National Vector Borne Diseases Control Programme, Tel: + 011-23061033, Mob: + 9818104079, E-mail: <a href="mailto:drgpsdhillon@hotmail.com">drgpsdhillon@hotmail.com</a>, Fax: +23968329</td>
</tr>
<tr>
<td>Mr Arun Baroka</td>
<td>Director</td>
<td>Ministry of Health and Family Welfare, New Delhi, Tel: + 011-23061033, Mob: +9810985625, E-mail: <a href="mailto:arunbaroka@yahoo.co.in">arunbaroka@yahoo.co.in</a>, <a href="mailto:arunbarok@nic.in">arunbarok@nic.in</a></td>
</tr>
<tr>
<td>Dr S.N. Sharma</td>
<td>Joint Director</td>
<td>National Vector Borne Diseases Control Programme, 22 Sham Nath Marg, Delhi, Tel: +23967780, Mob: +9810538795, E-mail: <a href="mailto:drsnsharma@sify.com">drsnsharma@sify.com</a></td>
</tr>
<tr>
<td>Dr R.N. Pandey</td>
<td>State Programme Officer</td>
<td>Director of Health Services, NewSecratariat, Patna, Bihar, Tel: + 2353873, Mob: +9835012758, Fax: +2224608, E-mail: <a href="mailto:ravindranpandey36@gmail.com">ravindranpandey36@gmail.com</a></td>
</tr>
</tbody>
</table>
Programme Managers’ Meeting on Elimination of Kala-azar in the South-East Asia Region

Dr Sujit K. Bhattacharya
Addl. Director-General
Indian Council for Medical Research
Prov V. Ramalingaswamy Bhavan
Ansari Nagar
New Delhi

Dr Krishna Pandey
Assistant Director
Department of Clinical Medicine
Rajendra Memorial Research Institute of Medical Sciences
Agamkuan, Patna – 800007
Tel: +916122631565
Mob: +09431042119
Fax:+916122634379
E-mail: drkrishnapandey@yahoo.com

Nepal

Mr B.R. Shrestha
Epidemiology and Disease Control Division
Department of Health Services
Ministry of Health and Population
Nepal
Tel: +977-1-4255796
Mob: 97410-15551
E-mail: br_shsa@yahoo.com
Fax:4262268

Mr Shambhu Kafle
Sr. PHO
Vector Borne Disease Research and Training Center
Hetauda
Makawanpur, Nepal
Tel: 057-520572
Mob: 9845237843
E-mail: skafle007@yahoo.com
Fax: 057-521826

Dr Balaram Mishra
Janakpur Zonal Hospital
Consultant paediatrics
Nepal
Tel: 97741524255
Mob: 9771974403315
E-mail: balirammishra@yahoo.com
Fax: 97741524255/97741520586

World Bank

Dr G.N.V. Ramanna
Sr Public Health Specialist
World Bank
Tel: (Mob) 09999888707
Email: gramana@worldbank.com
Fax: 91 11 2461 9393

Mr Rajeev Ahuja
Health Finance Specialist
World Bank
Tel: (Mob) 9818472833
Email: rahuja@worldbank.org
Fax:911124619393

WHO Secretariat

WHO Representative’s Office, Bangladesh

Dr Duangvadee Sungkhobol
WHO Representative to Bangladesh
Email: sungkhobold@searo.who.int

Dr A. Mannan Bangali
NPO, VBD
WHO Representative Office, Bangladesh
Email: bangalim@searo.who.int

WHO Representative’s Office, India

Dr S.J. Habayeb
WHO Representative to India
Email: habayebs@searo.who.int

Dr Indranath Bannerjee
National Professional Officer (Leprosy)
E-mail: banerjeei@whoindia.org
banerjeei@searo.who.int
Phone (O) 91-11-42595600
Fax: 91-11-23382252
Mobile: 0-9810610792

WHO Representative’s Office, Nepal

Dr A.G. Andjaparidze
WHO Representative to Nepal
Tel: 9779851099067
Fax: 97715527756
Email: andjaparidgea@searo.who.int
A meeting of the Programme Managers of Bangladesh, India and Nepal on Elimination of Kala-azar in the South-East Asia Region was held in Faridabad, Haryana, India, 17-19 February 2009. The meeting was convened to discuss the kala-azar situation in South-East Asia Region, identify the gaps and constraints, finalize indicators to be used for monitoring and evaluation and review existing and new evidence on treatment and vector control. This document describes the detailed deliberation of the meeting.