

Status of kala-azar in Bangladesh, Bhutan, India and Nepal: A regional review update

Introduction

Kala-azar is one of the most neglected tropical diseases affecting the poorest populations in the three endemic countries of this region, Bangladesh, India and Nepal. Approximately 200 million people in 109 districts of these countries are “at risk”. Bangladesh, India and Nepal have committed themselves to collaborate in efforts to eliminate kala-azar from the South-East Asia Region by 2015. In May 2005, the three countries signed a Memorandum of Understanding (MoU) in Geneva during the World Health Assembly, committing themselves to mutual cooperation towards elimination of kala-azar from the respective countries. A Regional Strategic Plan has been prepared and endorsed by the WHO-SEARO Regional Technical Advisory Group (RTAG) and partners supporting elimination of kala-azar.

Bangladesh

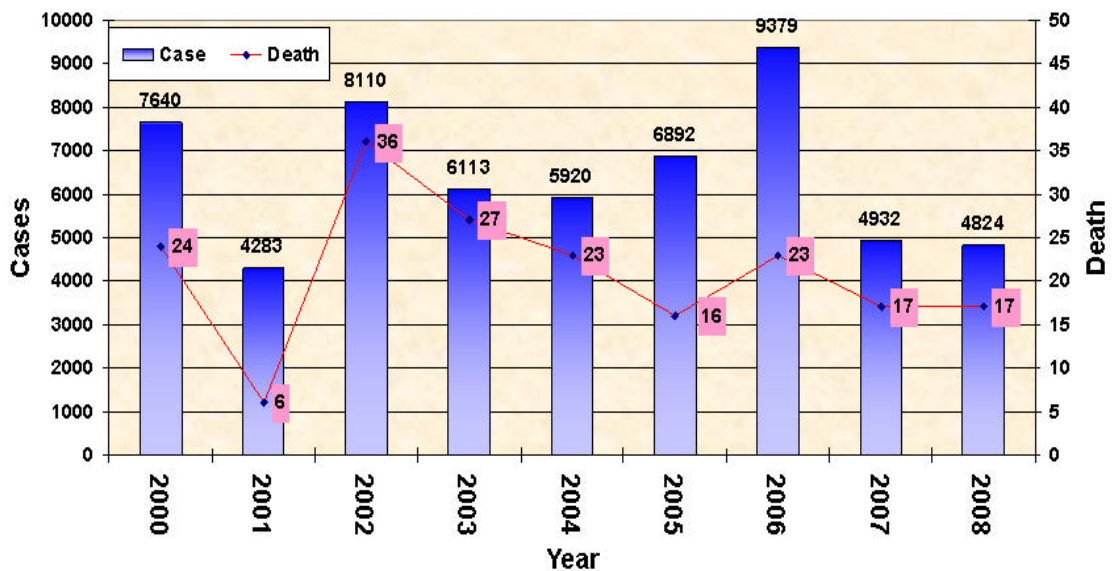
Kala-azar is a re-emerging disease and a public health problem in Bangladesh. Kala-azar almost disappeared during the ‘Malaria Eradication Programme (1961-1970)’. At present Kala-azar cases are reported from 139 upazilas in 45 districts of Bangladesh. Poorest of the poor people are suffering from the 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 8 upazila reported Kala-azar, which has increased to 139 upazila in 45 districts by 2008. Cumulative 58,093 cases and 189 deaths were reported since 2000-2008. In 2008, 4824 cases and 17 deaths were reported. More than half of total cases (54%) are from Mymensingh district. Another three districts Pabna, Tangail and Jamalpur will add 25% cases.

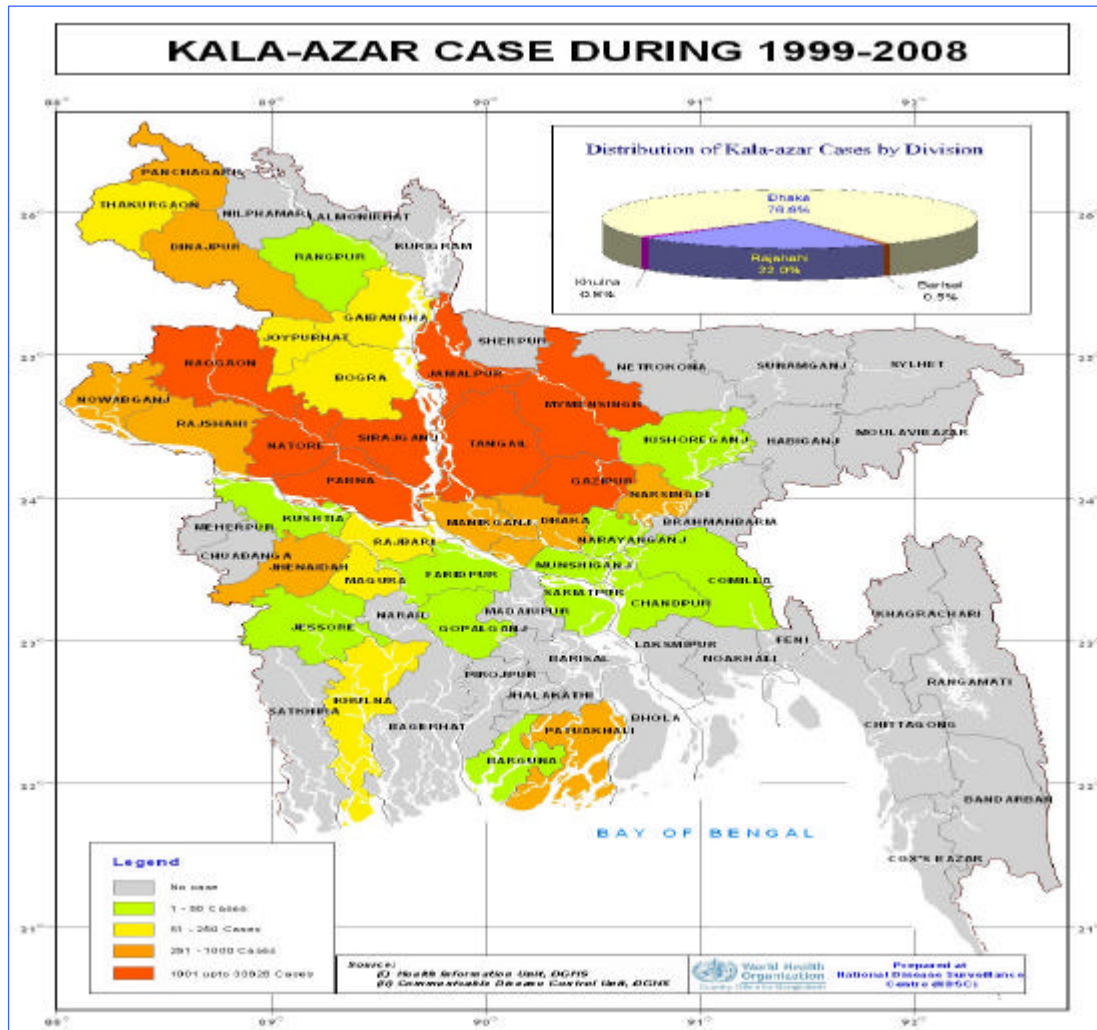
Status of kala elimination

After signing of MOU in 2005, National Steering Committee headed by the Honorable Minister of Health and Family Planning has been formed and a Technical Working Group was formed to support implementation and guiding for strategies and policies. Strategic Plan has been developed/updated and pilot district 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 of health workers (doctors,

medical technologists, sprayers and field workers). National Guidelines and Training Module for Kala-azar Elimination Programme in Bangladesh, for insecticide spraying, for medical technologists on diagnostics procedures has been developed. SOP for spraying techniques and methods (including safety measures) developed. A booklet in 'Bangla' for health workers have been developed. Patient register, treatment card, laboratory register, laboratory advice form, patient referral form and IEC material were developed and have been distributed to the endemic districts/upazilas.

Yearly Kala-azar Cases and Deaths (2000-2008)





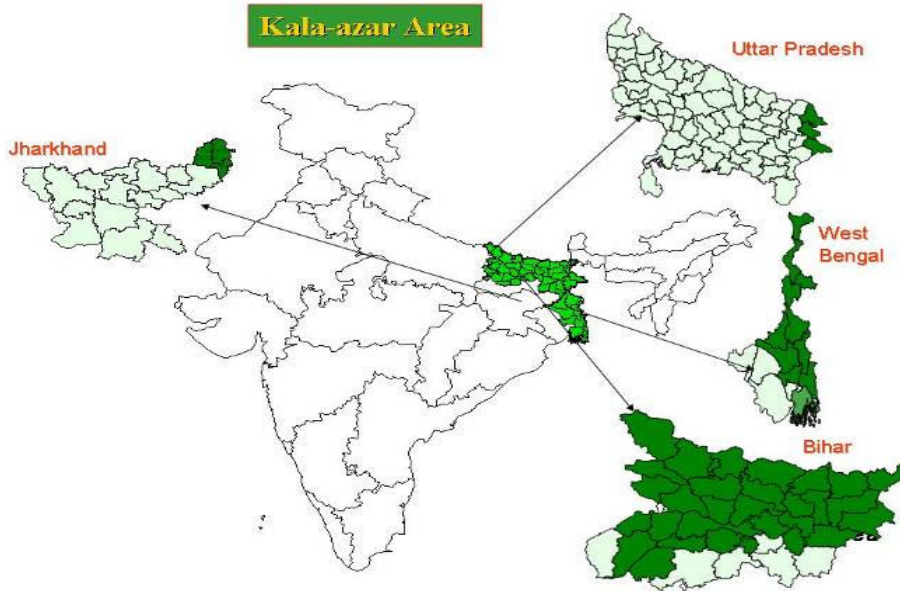
Constraints that hampered programme implementation consisted of delay in procurement of drugs, diagnostics and insecticide and spray machines. “Miltefos” the locally procured miltefosine were found to be in-effective. Treatment is continued with Inj. SAG due to lack of Miltefosine and phase-out of SAG delayed. IRS could not be started yet due to lack of insecticide. PKDL cases also pose challenge to the elimination programme.

India

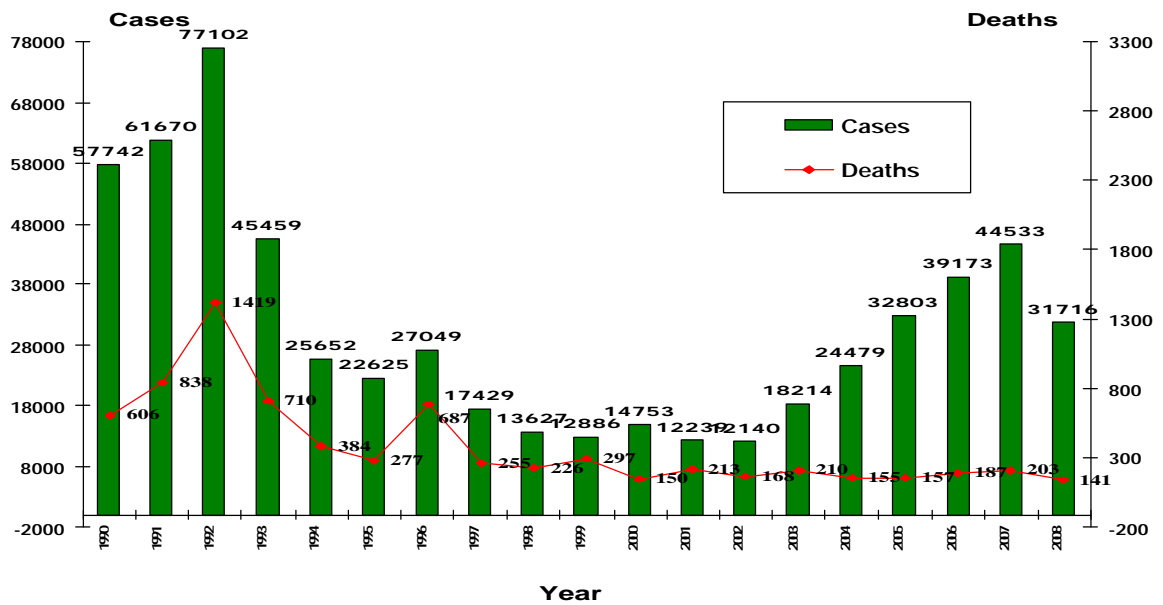
India has 52 kala-azar endemic districts in four states of Bihar (31 districts with 62.3 million population), Uttar Pradesh (11 districts with 50.0 million population), West Bengal (6 districts with 11.0 million population), and Jharkhand (4 districts with 6.7 million population). Each year Bihar alone contributes 70-80 % of the kala-azar cases. In 1992

the highest numbers of cases were reported (77170) after which the case has declined gradually. However, from 2003 to 2007 there has been a steady increase in the annual number of reported cases. The possible reasons for increase in kala-azar cases are due to availability of diagnosis and drugs at the peripheral level, introduction of several incentives like free diet and loss of wages, shift of large number of patients from private sector to public sector after introduction of oral drug (miltefosine) and intensive case search programmes. Besides these other factors like complexity of the disease transmission and human factors like poverty, illiteracy and housing pattern also kept contributing to the increase in transmission. In 2008, 31716 cases and 141 deaths were reported which is now showing a down ward trend. At the borders 40% and 20% of the cases detected are from Nepal and Bangladesh respectively. Other constraints are the positioning in health system; implementation and standardization of treatment guidelines, natural calamities like regular floods in many kala-azar endemic districts, PKDL cases and its treatment, emerging foci of drug resistance, inadequate information on vector bionomics and asymptomatic carriers and procurement difficulties.

Kala-azar endemic district, India



Kala-azar trend in India (1990-2008)



Progress made in implementation

Integration with NRHM, involvement of ASHA, introduction of new tools rK39 and oral drug (miltefosine) on pilot basis, village wise GIS Mapping for focused intervention, incentives to patient for loss of wages @Rs. 50/- per day during the period of treatment, free diet support to patient and one attendant and incentive to kala-azar activist/health worker @ Rs. 100/- for referring a suspected case and ensuring complete treatment. Construction of pucca houses for Mushar community in nine kala-azar endemic districts on the initiative of Ministry of Health, Government of India in collaboration with Ministry of Rural Development, Government of India, arrangement of Separate Patient Boxes, line listing of cases, patient Coding Scheme. Guidelines on the use of diagnostic tool rK39, use of oral drug-Miltefosine, the diagnosis and treatment of kala-azar, vector control through IRS, patient coding scheme for line listing of kala-azar cases. Behavioural Change Communication (BCC) strategic plan have been developed. Human resource development at various levels of health facility and district action plans are the initiatives have been taken.

Challenges to the implementation of the elimination programme are active case detection, strengthening passive surveillance, standard treatment protocol compliance and follow-up through treatment card, effective DDT spray under close supervision, effective IEC campaign to make programme broad based and initiate community empowerment and mobilization, efficient manpower development through trainings, networking with other health care service providers in public-private sector, linkages with other programmes for case search and Information Education and Communication (IEC), efficient discharge of roles and responsibilities at different levels of programme delivery, efficient and optimal resource utilization, formation of State Steering Committees for inter-sectoral convergence.

Nepal

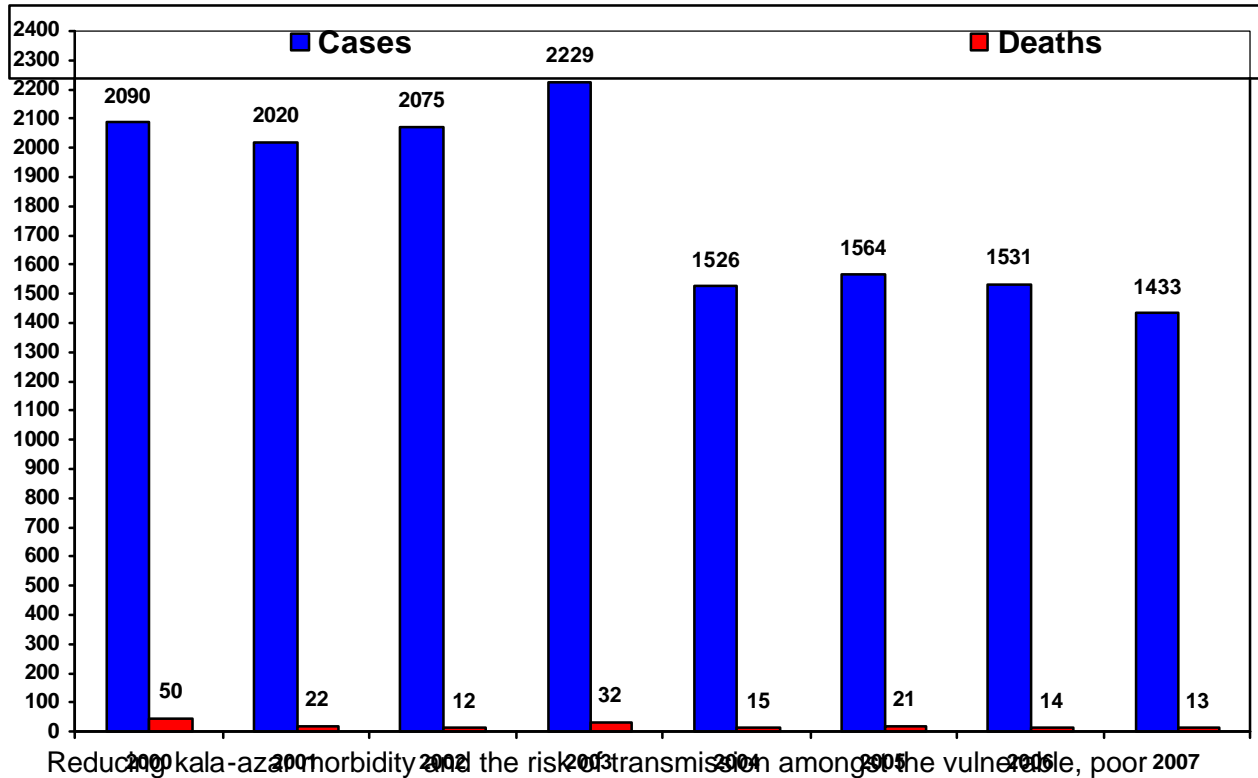
There are 12 hyper endemic districts, and 2 regions (6 in each Eastern Development Region (EDR), Central Development Region (CDR) with approximately 7.5-8 million populations at risk. Average number of 1500-2000 cases and 10-30 deaths are reported each year. There are few PKDL cases identified. The most affected age group is above 15 years and males predominantly affected. Cases are from low socioeconomic stratum

of the community. KA incidence has decreased in areas where Insecticide Residual Spray (IRS) has been conducted (No insecticide resistance).

Kala-azar Endemic Districts= Jhapa, Morang, Sunsari, Saptari, Siraha, Dhanusha, Mahottari, Udayapur Sarlahi, Rauthat, Bara, Parsa



Kala-azar status Nepal



Reducing kala-azar morbidity and the risk of transmission among the vulnerable, poor and un-reached populations is the focus of the intervention. Government of Nepal committed to eliminate Kala-azar at district level by 2015. Public Private Partnership is key to success of intervention considering country situation.

Diagnostic facilities (rK39) have been made available at all health facilities (HF) in endemic districts and Miltefosine was piloted in 1 district then expanded to 5 more districts and will be expanded to all endemic districts by the end of 2009. Travel cost amounting to Rs 1000 has been provided to all cases on completion of the treatment will improve health seeking and ensure treatment completion. Nutritional support to kala-azar cases under treatment and possibility of integration of newer shorter course drugs into the program through Public Private partnership is being explored. Behavioral Change Communication strategy has been developed and implemented.

Challenges: The disease is under reported. Prolong treatment may reduce drug compliance and is difficult to monitor treatment completion. Micro environment change requires sector wide approach and is beyond the capacity of health system alone. Drug

resistance and HIV - kala azar co-infection are emerging problems that would require attention and monitoring closely.

Bhutan

Kala-azar is an emerging new disease for Bhutan. Since 1999 till 2007 a cumulative of 12 patients have been treated for kala-azar. Although all cases were not proved to be VL or PKDL by demonstration of parasite, the clinical presentation, positivity of Aldehyde test and rk39 test in some cases and response to treatment strongly suggests that kala-azar and post kala-azar dermal leishmaniasis (PKDL), though not very common, are prevalent in Bhutan since 1999. The patients are scattered in the 6 districts of Mongar, Tashigang, Tashiyangtse and Lhuntse in the Eastern part of the country and from Thimphu and Wangdi districts in the West. About 2,51,149 (37% of the country's population) live in these 6 districts.

A team of health professionals developed to support kala azar (Clinician, Pathologist, Entomologist) and advise, assist and guide the programme in policy development and planning for kala azar elimination has been trained in Nepal in November 2008. Sandflies have been collected and identified. A Sensitization workshop for health workers has been conducted.

Plans for 2009-2010 consists of studying the disease burden through retrospective hospital data review followed by an active case finding in the community around the cases and vector surveillance planned in March-May 2009. Inclusion of the kala-azar drugs in EDL and plan procurement of first line drugs (miltefosine) and procurement of rk39 kits for diagnosis and distribute to health centers in the affected districts initially. Develop a kala-azar control/elimination strategy and strengthen capacity of peripheral health centers to provide diagnosis and appropriate treatment for kala-azar. Guidelines and SOP for case diagnosis and treatment, IRS and surveillance and reporting will be developed. Behavioral Change Communication (BCC) strategy will be developed to raise awareness among affected communities.

Estimation of kala-azar in the region

Data on the burden of VL in Indian sub-continent are vital for elimination programme planners for estimating resource requirements and effective implementation and

monitoring of elimination programme. In Indian sub-continent about 200 million populations are at risk of VL. Nearly 25 000–40 000 cases and 200–300 deaths are reported every year, but these are grossly underestimates. Based on the recent multicentric studies identified VL burden 21 cases/10,000 among sampled population in Indian Sub-Continent (Bangladesh, India and Nepal), as estimation of 420 000 cases per 200 million risk population could be estimated. This clearly indicates that the disease is highly under-reported. This recently conducted VL multicentric study is well designed; therefore, the estimates are suggestive to be very approximate. Active case detection will therefore be the key element for detection of VL cases and rK39 strip test should be applied as diagnostic tool within the programme and the feasibility of miltefosine treatment at community level needs to be assessed. Member countries Bangladesh, India and Nepal are suggested to make an attempt to refine their estimates as much as possible when more surveillance and research data available.

Recent multi-centric research study on chemical and environmental vector control as a contribution of visceral leishmaniasis on the Indian sub-continent shows that the IRS is effective and lesser extent EVM as well as LLIN reduced significantly sandfly densities in study household. IRS was effective in Bangladesh, India and Nepal and mud plastering does not reduce the sandfly densities. The findings have been documented from different sources and demonstrate that some gaps and weakness in existing policies for introducing VL intervention.

Conclusion

The evidence-based policy should be designed that motivate to implement and the programmes will be cost effective. Elimination programme needs to be accelerated through developing need based policies and programme to include activities that involve effective case detection and diagnosis, better surveillance system, public awareness and implementing behavioural change communications activities and operational research. The cost and effectiveness of public information campaigns and various programmes should have been studied in a number of contexts in VL elimination. The five fillers of VL elimination strategies identified needs to be re-enforced to effective implementation. Dynamic models of epidemiology should have been integrated with economic policy models for VL elimination. Elimination of VL is not eradication, which implies that the incidence of disease should be maintained at acceptable minimum level. Maintaining

the acceptable level of incidence requires that resources be devoted to the programmes, and that the programmes should be cost effective.