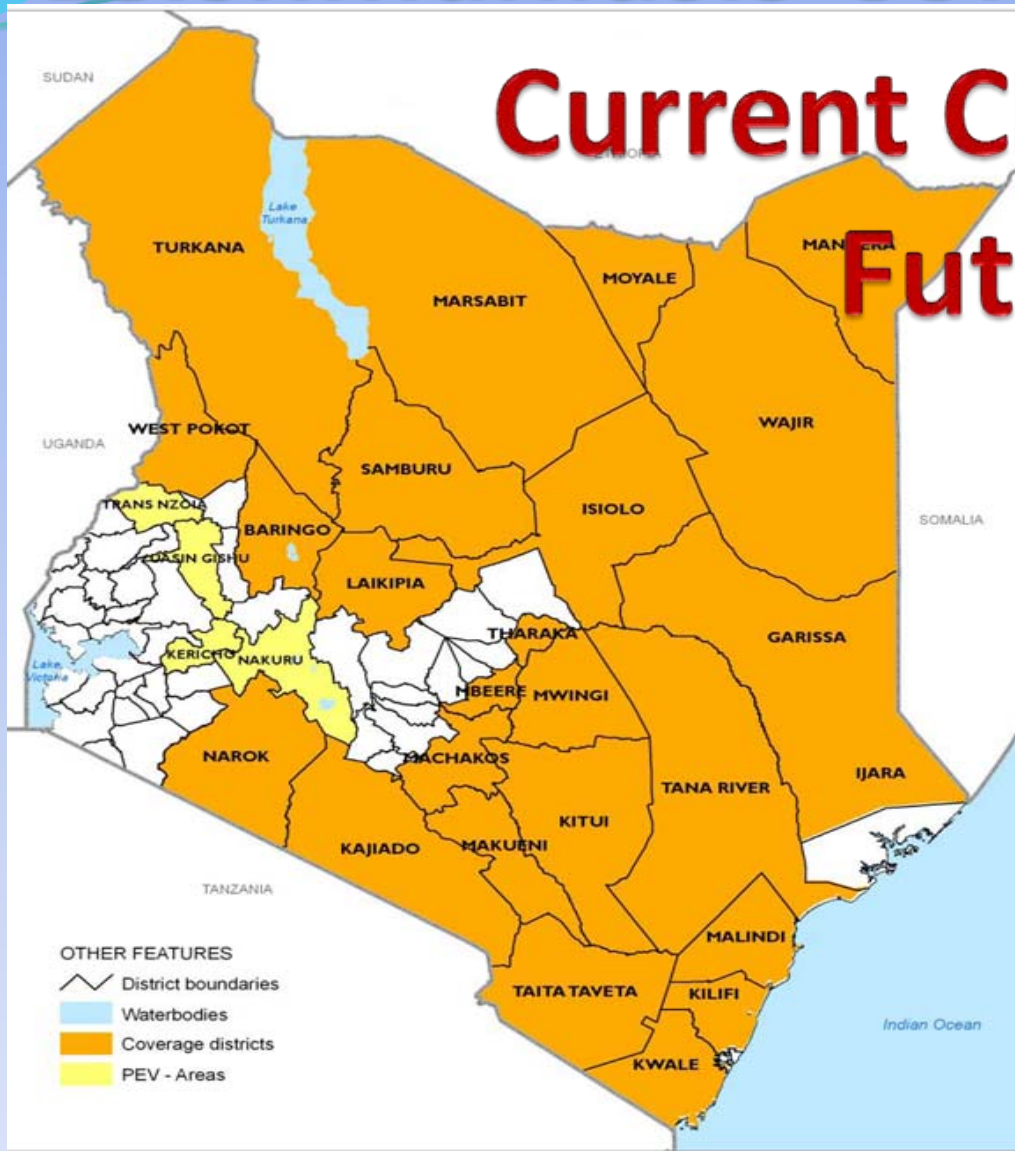


Leishmaniasis Control in Kenya: Current Challenges and Future Strategies



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Outline of Presentation

- Part I Introduction
- Part II History of Leishmaniasis in Kenya
- Part III **Leishmaniasis Management & Control: Current Framework**
- Part IV **Future Strategies**

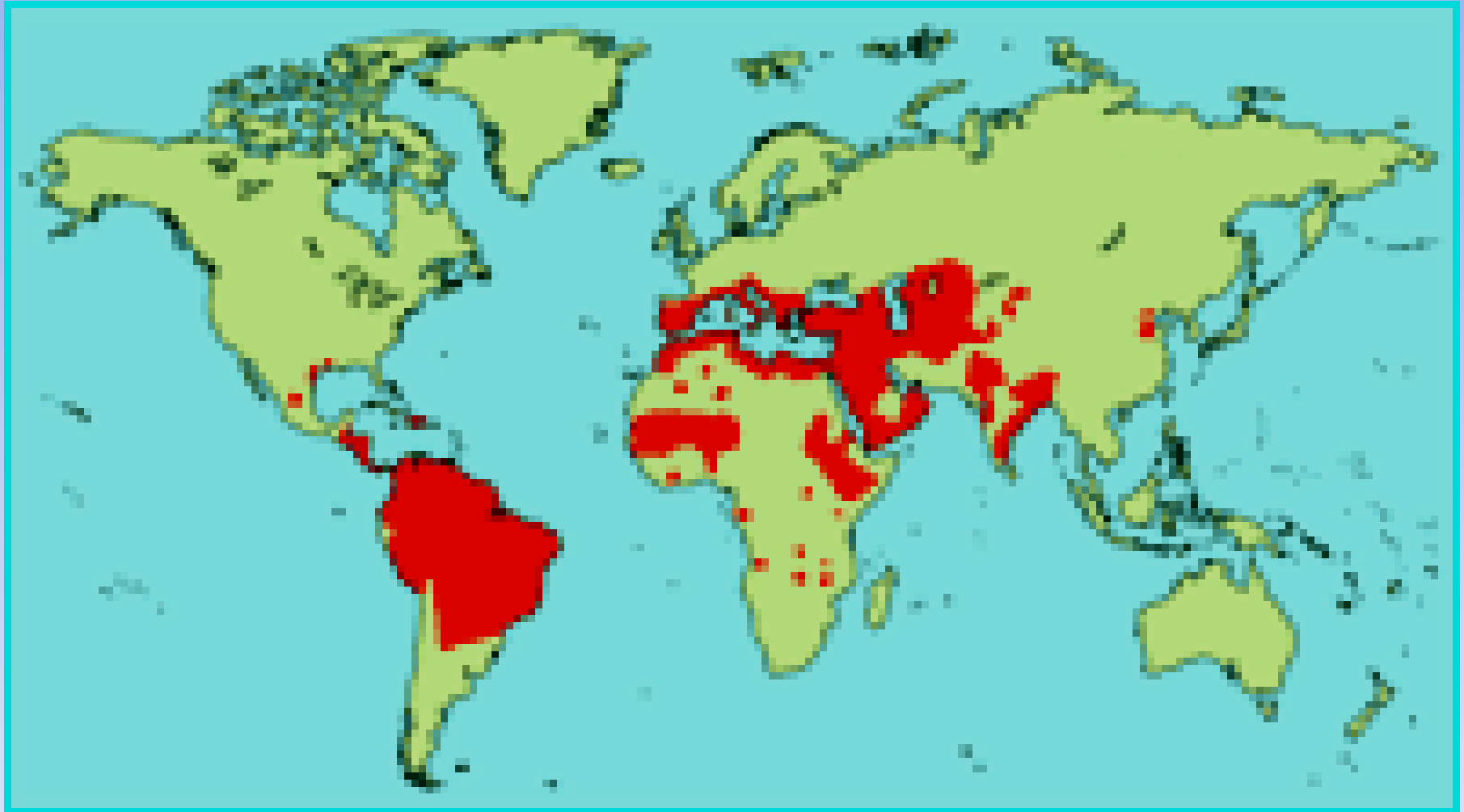
Introduction

- Leishmaniasis is world-wide chronic vector borne diseases caused by intracellular protozoa parasites of the Genus *Leishmania*.
- The disease was first detected in Kenya in 1935 in the Northern frontier districts of Mandera and Wajir.
- Later in 1940 the disease was detected among soldiers in a battalion manning the northern border during the Second World War.

Leishmaniasis Types in Kenya

- Two forms of Leishmaniasis are seen in Kenya;
 1. visceral leishmaniasis or kala-azar which affects the reticuloendothelial system, caused by *Leishmania donovani*
 2. cutaneous leishmaniasis which in Kenya, is caused by three distinct species: *Leishmania tropica*, *L. aethiopica* and *L. major*.

Global Distribution of VL



Magnitude of Leishmaniasis in Kenya

- Expected annual cases in Kenya average 600 annually . Case fatality rate of up to 7% is seen in outbreak situation.
- Cases rise to over 1,000 in an epidemic year.
- Experience has shown early response during an epidemic with comprehensive care including nutrition prevents deaths.
- Higher deaths are being observed in HIV-VL co-infections.

Distribution of Leishmaniasis in Kenya

- Both visceral and cutaneous forms of Leishmaniasis are common in Kenya.
- VL cases are seen in:
 - Rift Valley districts of Baringo and Turkana that neighbours South Sudan.
 - Pokot districts that neighbour Nakapiriprit district in North Eastern Uganda.
 - North Eastern districts of Isiolo, Wajir and Mandera. The latter two neighbour with both Somalia and Ethiopia.
- Previously the disease was seen in Central Eastern and Kerio Valley districts and Kajiado area and there is need to establish if any further transmission still occurs.

Distribution of Leishmaniasis in Kenya

- Cutaneous leishmaniasis is endemic in the Central Rift Valley districts of Naivasha and Laikipia.
- There is need to conduct active search for:
 - Cases of VL or CL in Suguta Marmar valley in Samburu districts.
 - Re-emergence of cases in Central Eastern, Kerio Valley and Kajiado districts that used to report cases in the past.

Distribution of Leishmaniasis in Kenya

- The exact status of the Leishmaniasis endemicity in many places e.g. North Eastern, Coast Provinces and other parts of the country is not well understood.
- Main challenges include:
 - Low knowledge on the diseases among health workers
 - Lack of diagnostic facilities
 - Previous teaching that only splenic aspirate can be used to diagnose the disease has been a significant impediment
 - The need to avail the urine antigen based diagnostic test and test of cure is urgent.

Characteristics of VL Endemic Areas in Kenya

- Leishmaniasis in Kenya is endemic in arid and semi-arid regions.
- These areas are low lying at altitude below 800 metres above sea level.
- These areas are classified as Agro-Ecological Zones 5 and 6 (Arid and very arid).
- Annual precipitation averages 250 – 300 mm of rainfall.
- The inhabitants practise nomadic pastoralism.

Characteristics of VL Endemic Areas in Kenya

- The area is characterised by:
 - Dry savannah, Acacia thorn bushes and Balanites trees.
 - There are Ant and Termite hills in Wajir and Mandera districts
 - Crevices on the ground develop in the Uaso Nyiro river basin during dry periods.
 - Rocky cliff are common along the escarpment in Gilgil and Suguta Marmar areas in Samburu district.

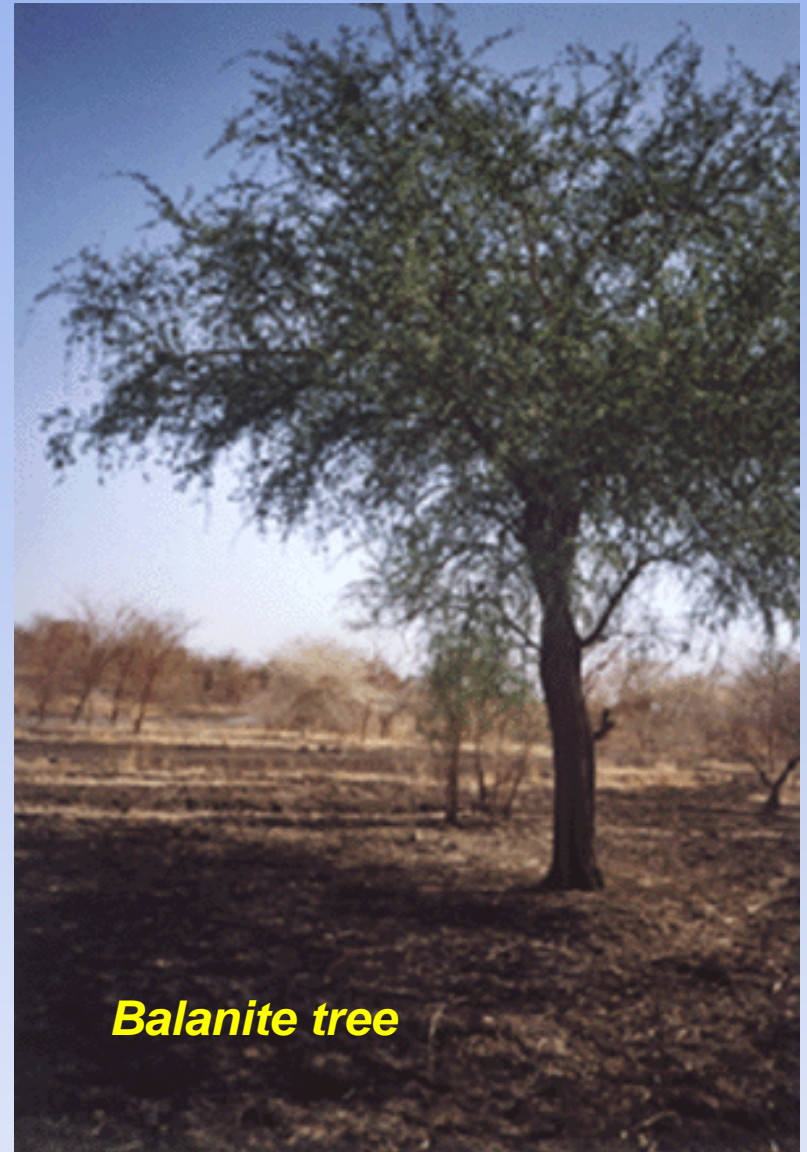
Areas with Leishmaniasis in Kenya



Dry Accacia trees



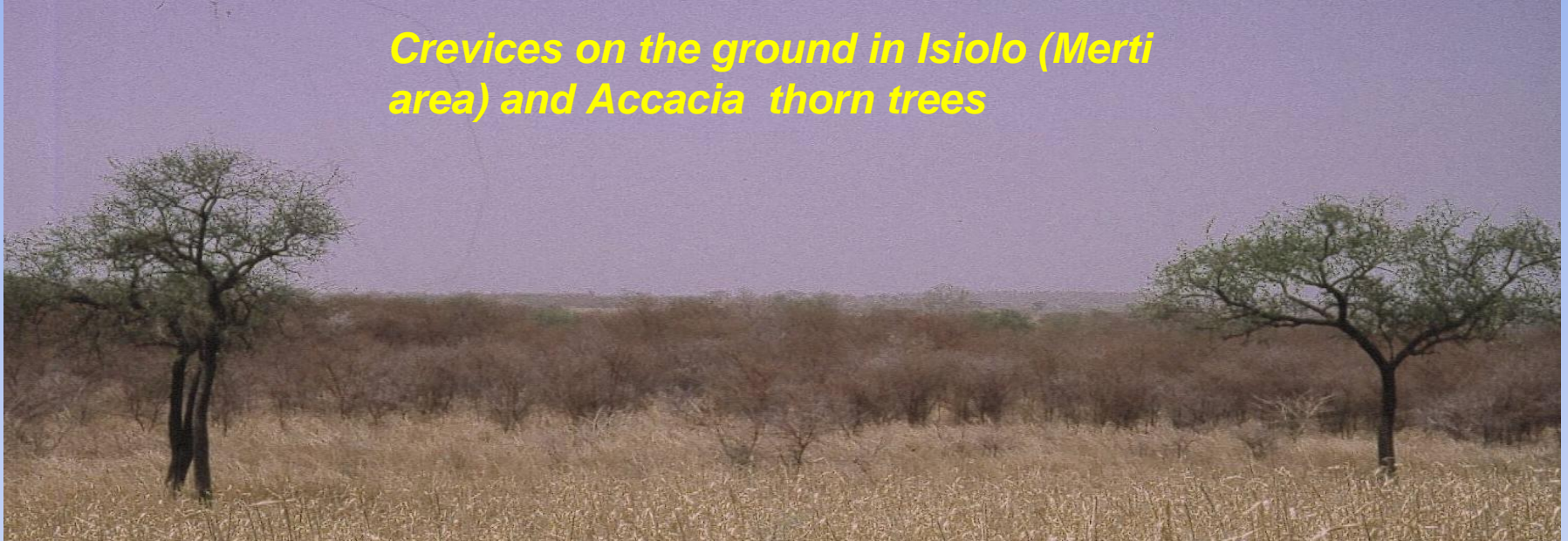
Leafy Accacia trees



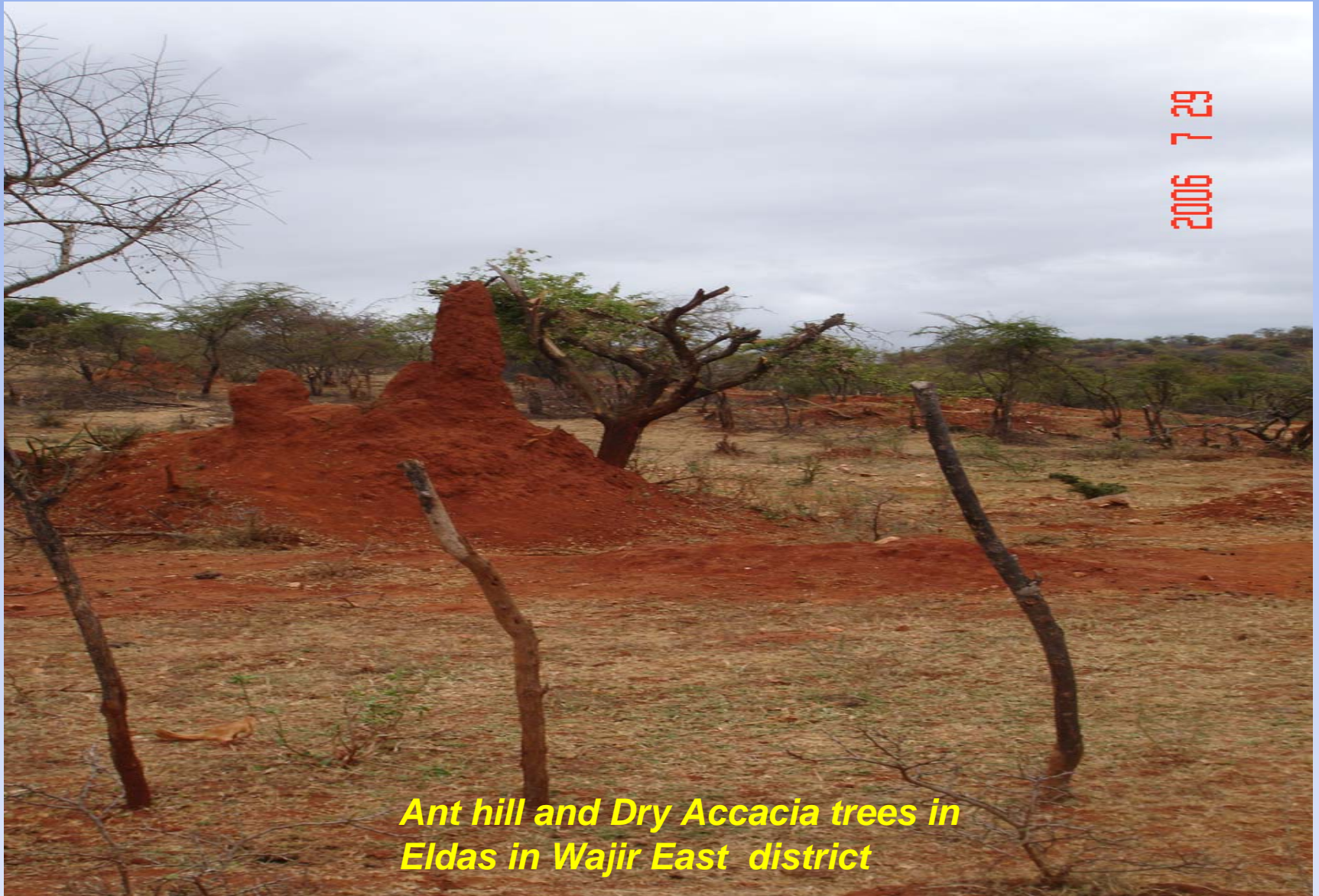
Balanite tree

Areas with Leishmaniasis in Kenya

Crevices on the ground in Isiolo (Merti area) and Accacia thorn trees



Areas with Leishmaniasis in Kenya



Ant hill and Dry Accacia trees in Eldas in Wajir East district

2006 7 29

Past VL Epidemics in Kenya

Year	Place Affected	Description of Outbreak
1935	Wajir and Mandera	Reported cases by (Ashford and Bettini, 1987)
1940	Turkana	Second World War, outbreak in battalion of servicemen (Anderson 1943, Cole et al., 1942; Cole 1944)
1952 - 53	Kitui	Affected General Population (Fendall, 1952)
1961	Tharaka	500 - 2,000 cases
1978 - 79	Machakos	>2,000 cases
1980 - 81	Kitui	General Population affected

Kenya

Year	Place Affected	Description of Outbreak
2000 May -Feb 2001	Wajir, Mandera and Dadaab	349 cases treated (M. V. L. Marlet, MSF-H, 2003). Mainly children affected
Sep 2006-April 2007	Wajir, Isiolo	40-60 cases reported in Wajir Hosp (Mainly children affected)
April - July 2008	Wajir, Isiolo	92 cases 7 deaths, CFR: 7.6% (Mainly children)
April 2009	Gilgil	CL Outbreak affecting over 50 cases
2010	Isiolo	Mainly children affected

N.B. The outbreak in Isiolo stopped after rains were received in the area.

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Part III Leishmaniasis Management & Control: Current Framework

- Policy Guidelines
- Supplies
- Staff dedicated to Leishmaniasis work
- Surveillance Systems
 - Epidemiological
 - Entomological
 - Geographical Mapping
 - Research
 - Supervision and Monitoring
 - Funding

Current Framework Leishmaniasis Control

- **Policy Guidelines**

- Kenya has a guideline for management and control of Kala-Azar that was prepared in 2001.
- This guideline has been revised but the new guideline has not been printed and disseminated to health workers. Lack of resources has delayed this process.

- **Supplies**

- Currently the country has only one product registered for treatment of Kala-Azar i.e. Sodium stibogluconate (branded Pentostam and SSG from Albert Davis India).
- This drug is not yet on the essential drugs list and as such it is not routinely procured. It is procured on a special order.
- Most times partners have to come in to help when children go without treatment.

Current Framework Leishmaniasis Control

- Kenya has a strong health work force at all levels. However continuing capacity development on Kala-Azar is required.
- The Entomology unit has scientist and technologists and require strengthening with field and laboratory equipment and operational facilitation.
- There is no established entomological surveillance annual programme.

Current Framework Leishmaniasis Control

• Epidemiological Surveillance Systems

- Currently only districts with confirmed outbreaks report to the Disease Outbreak Management Unit in the Ministry headquarters.
- Routine data on VL or CL cases seen is not reported.
- This poses a challenge to the planning process for Leishmaniasis Control.
- There is an opportunity because Kenya has become successful in implementation of the Integrated Diseases Surveillance where over 85% of the districts report weekly on priority diseases.
- Leishmaniasis control can easily ride on this success for epidemiological surveillance.

Current Framework Leishmaniasis Control

- **Geographical Mapping**

- So far the country is not quite sure of all districts with Leishmaniasis transmission and the level of disease endemicity.
- Mapping of areas affected Leishmaniasis has not been updated.
- There is need to strengthen epidemiological surveillance and case search in all suspected areas in a process that would culminate in an updated map of Leishmaniasis affected areas.

Current Framework Leishmaniasis Control

- Supervision and Monitoring
 - Leishmaniasis control has not been well structured and supervision is weak.
 - With weak epidemiological data, monitoring of Leishmaniasis control is not done.
- Research
 - There are a lot of research questions on Leishmaniasis ranging from vector identification, breeding assessment to epidemiological assessment of risk factors for infection.
 - Drug assessments and diagnostic tests validation are all required .
 - Kenya requires all these resaerch outcomes to better inform Leishmaniasis control.

Current Framework Leishmaniasis Control

- Funding
 - No specific budget line to support day-to-day Kala-Azar control work.
 - Leishmaniasis access resources through very unspecific items and most times remains neglected.
 - A Leishmaniasis stakeholders forums does not exist.
 - Close collaboration among some key players has been very helpful – these include: KEMRI, NGOs MSF/CH, Merlin, UNICEF and WHO.

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Part IV - Future Strategies

- Leishmaniasis Control
- Improve programme management
- Vector Control
- Strengthen Research

Justification for Leishmaniasis Control Programme in Kenya

- Low endemicity
 - VL is endemic with active transmission in only NE and NW regions as stated earlier. Albeit sporadic cases seen in Kitui area specifically Kyuso (Tseikuru)
 - CL is endemic in Central Rift region. Few Regions
- Transmission is believed to be mainly anthroponotic with humans being the only reservoir host.
- Vectors incriminated with Leishmaniasis transmission are only three or four:
 - *Phlebotomous martini* and *P. Orientalis* for Visceral leishmaniasis. New information suggest vectors of *Sergentomyia* genus could also be present.
 - *Phlebotomous duborsqu* is the vector for Cutaneous leishmaniasis in Kenya.

Justification for Leishmaniasis Control Programme in Kenya

- Observed success in Central Eastern region (Machakos, Makueni areas) through treatment. Kala-Azar cases rarely seen.
- Support from Min of Public Health & Sanitation with facilities that could be further developed in Div of Vector borne Diseases and dedicated staff.
- Technical Back-up Facilities in KEMRI and DNDi.
- WHO Resolution on Kala-Azar eradication
- Partners Support and Synergy from NGOs e.g. MSF/CH
- Challenges of Leishmaniasis in Kenya
 - Government Support

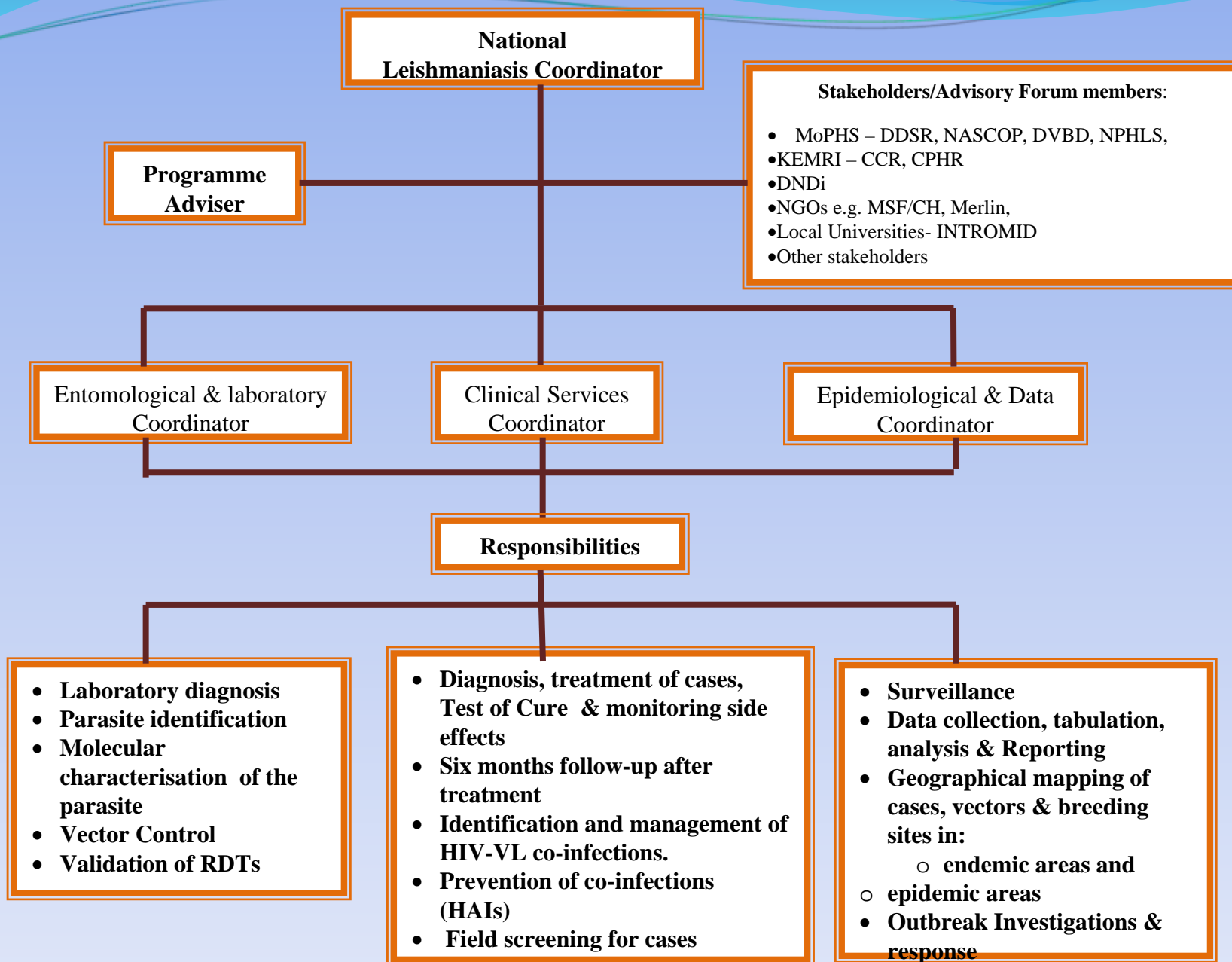
Challenges of Leishmaniasis Control in Kenya

- Leishmaniasis management and control has not been housed appropriately until the Division of Vector Borne and Neglected Tropical Diseases was created 2 years ago.
- VL issues were only handled by Disease Outbreak Management Unit (DOMU) currently within the Division of Disease Surveillance and response (DDSR).
- No specific budget line already allocated to deal with Leishmaniasis control.
- Kenya has not signed commitment for Leishmaniasis control.
- No donor support has yet been identified.
- Supplies of diagnostic kits and drugs are always a challenge.
- Government Support

Major strategies for Leishmaniasis Elimination

- Effective disease surveillance.
- Early diagnosis by dipstick and complete treatment.
- Effective vector control through Integrated Vector Management
- Social mobilization of the population at risk.
- Clinical and operational research to support the elimination programme.

Proposed Leishmaniasis Elimination Programme



Support Required

- Access to early diagnosis and treatment
 - Establish a special Treatment Centres for Leishmaniasis to cope with cases in the country as:
 - Wajir Kala-Azar Centre
 - Merti Kala-Azar Centre
 - Kacheliba Kala-Azar Centre
 - Turkana Kala-Azar Centre
 - Marigat Kala-Azar Centre
 - Gilgil Cutaneous Leishmaniasis Centre

Support Required

- Access to early diagnosis and treatment
 - Drugs: Kenya currently has only one drug registered for use SSG.
 - There is need to fast track registration of a second drug especially Miltefosine that is recommended for VL-HIV co-infection
 - There is need to also license Ambisome for its proven short course useful for persons that do not tolerate toxic antimonials usually given for a long time

Support Required

- Strengthening disease and vector surveillance
 - Prepare and print reporting tools
 - Integrate Leishmaniasis reporting in the Integrated Disease Surveillance & Response (IDSR) and modify IDSR data base to accommodate VL/CL cases
 - Or
 - Due few districts having Leishmaniasis, consider a vertical surveillance system
- Train health workers on the required system.

Support Required

- Integrated vector management
 - In-door residual spray,
 - Insecticide treated nets and
 - Environmental management.
- Social mobilization and networking
 - Effective Behaviour Change Communication (BCC)
 - Promoting early care seeking.
 - Participation of community and families in indoor residual spraying
 - Reducing human vector contact is necessary.

Support Required

- Programme Management and Supervision
 - To strengthen programme administrative structure with necessary office set up and supplies.
 - Support training of health workers in Leishmaniasis affected areas and support supervision.
 - Provision of monitoring tools for data collection.
 - Outbreak response



A child with
Kala-Azar in
Wajir District
Hospital.
She recovered
after
treatment

Thank you for Listening