

# Epidemiological shifting of visceral leishmaniasis in Nepal: an emerging challenges for elimination

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## 1. INTRODUCTION

### Background Introduction

- The first cases of Visceral leishmaniasis was reported in 1980s and endemic in 12 districts in the lowland districts (figure 1)
- Visceral leishmaniasis is considered as a public health problem in Nepal; targeted for elimination by 2026
- Country has made significant progress towards the elimination of VL over the past decade
- Since 2000, VL cases have been reported in increasing numbers from the hilly regions and geographical expansion of cases have been observed in areas previously considered non-endemic districts; an emerging threat to ongoing elimination initiatives (figure 2)
- Isolated cases reported in non-endemic districts are generally considered as “imported”, and not the result of and/or a potential risk for local transmission.

### Period:

- 2013-2022

## 2. METHODOLOGY

- National VL epidemiological surveillance data of the Ministry of Health & Population, Government of Nepal was reviewed for the period 2013-2022.
- VL cases reported were plotted and districts were categorized as endemic, endemic doubtful and non-endemic for VL based on the epidemiological and entomological investigation and National guideline for VL elimination program (2019) in Nepal.
- Map plotted using qGIS software (version 3.1)

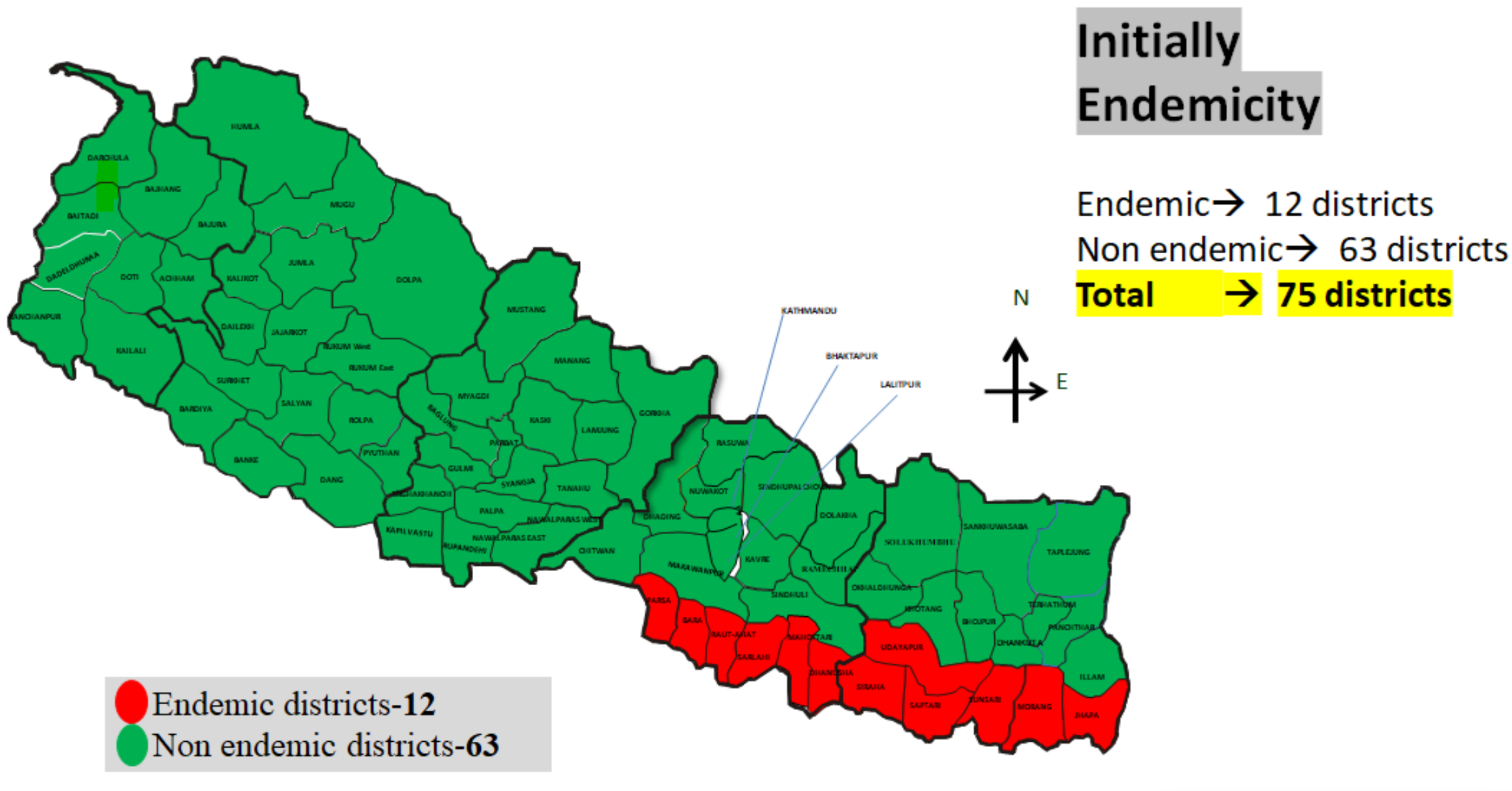


Figure1: Distribution of Kala-azar cases in initial phase



Figure2: Distribution of Kala-azar cases in 2022, Nepal

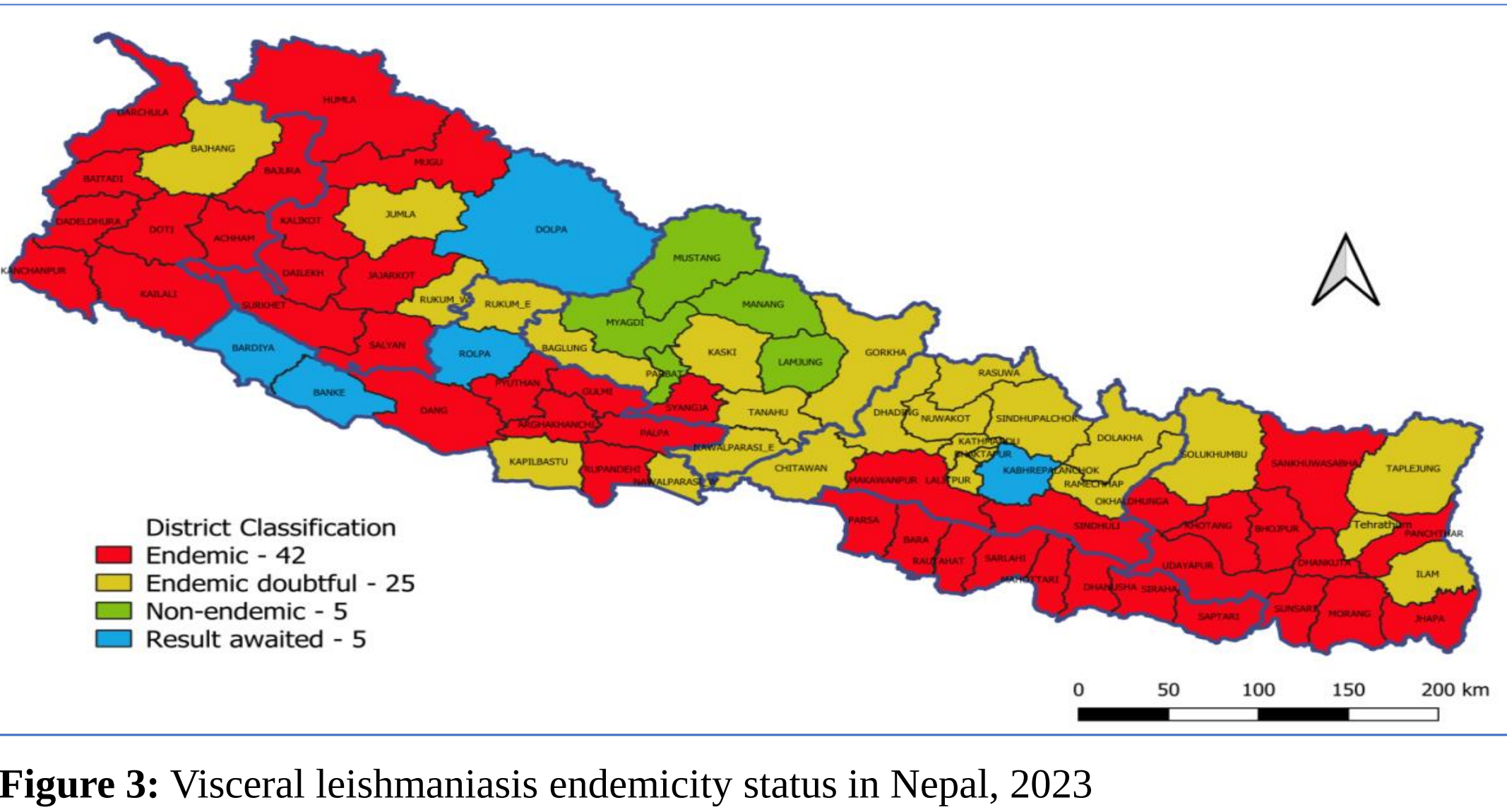


Figure 3: Visceral leishmaniasis endemicity status in Nepal, 2023

The surveillance data of the past ten years showed 45.1% (1169/2592) VL cases were reported from the areas/districts which are currently considered as endemic doubtful districts and it is on increasing trend.

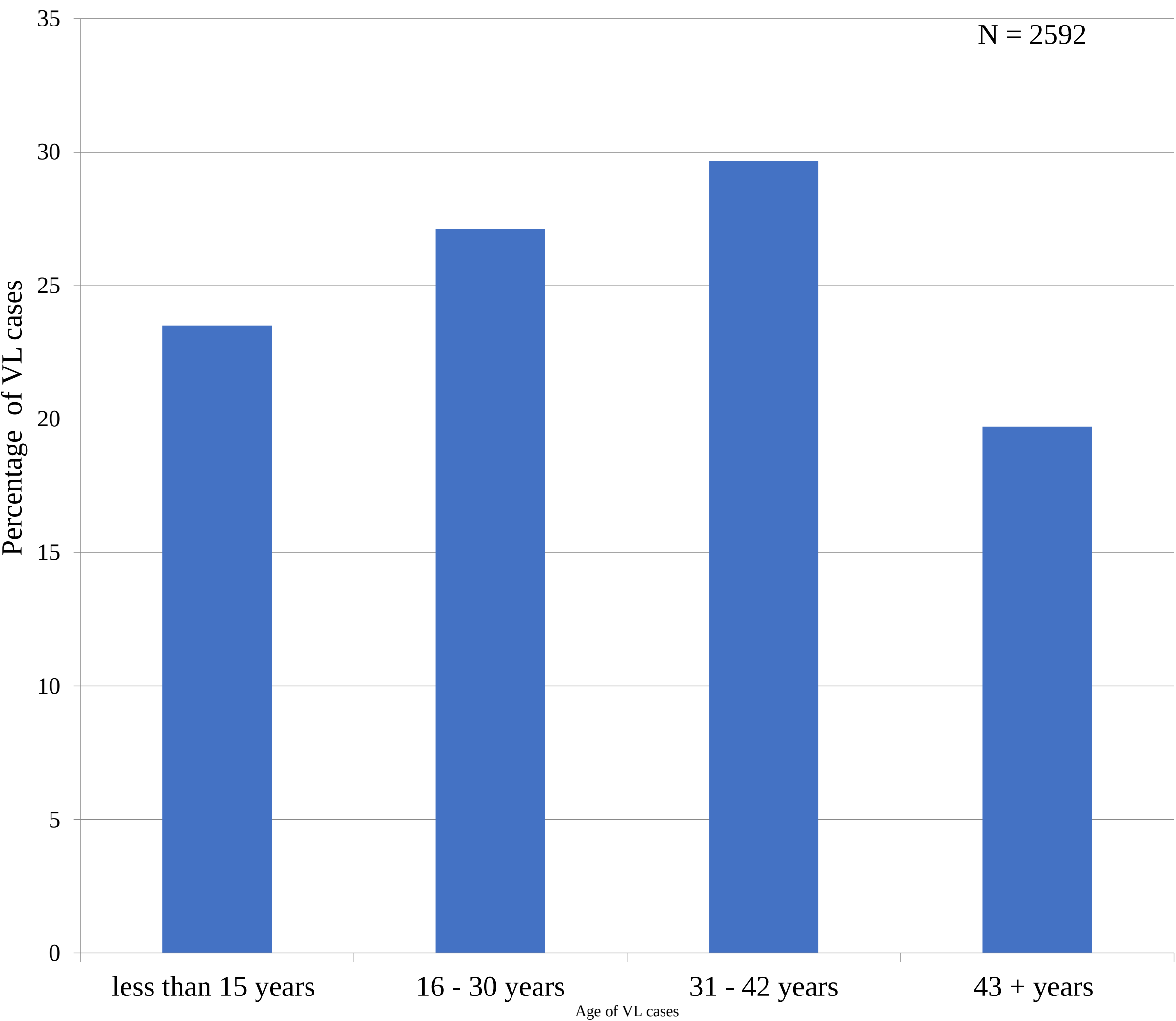


Figure 4: Age distribution of VL cases reported from 2013 – 2022, Nepal

Source: Epidemiological surveillance data, EDCC, DoHS, Teku, Government of Nepal

- A total of 2592 past VL cases; 1417 (54.7%) were male.
- Age at time of VL diagnosis ranged from 2 to 74 years, a median age of 25 years (Q1=14 years, Q3=42 years); mostly belongs to age more than 40 years of old.
- Of the 2592 ex-Kala-azar cases, 609 (23.5%) cases were from pediatric population aged  $\leq 15$  years.

## 3. RESULTS

- Initially 12 districts was endemic for VL but in 2022, 42 (out of 77) districts declared as endemic and 25 as endemic doubtful and 5 districts remain as non-endemic (fig-3) based on nationwide epidemiological and entomological investigation.
- Irrespective of the endemicity status, new kala-azar cases have been reported from 72 of 77 districts in the country.

## 4. CONCLUSION

- VL is on the verge of elimination as a public health problem in Nepal.
- Observed geographical shift of VL cases has been observed in new and endemic doubtful districts; a challenge to ongoing elimination initiative.
- The VL elimination initiative should consider extending its strong surveillance and control interventions in endemic and endemic doubtful districts in order to assure elimination,
- The risk map for VL endemicity should be redesigned for targeted control interventions