

**CONTRIBUTION OF RESEARCH TO MITIGATE
THE IMPACT OF CLIMATE CHANGE:
CASE OF LEISHMANIASIS IN CHAD**

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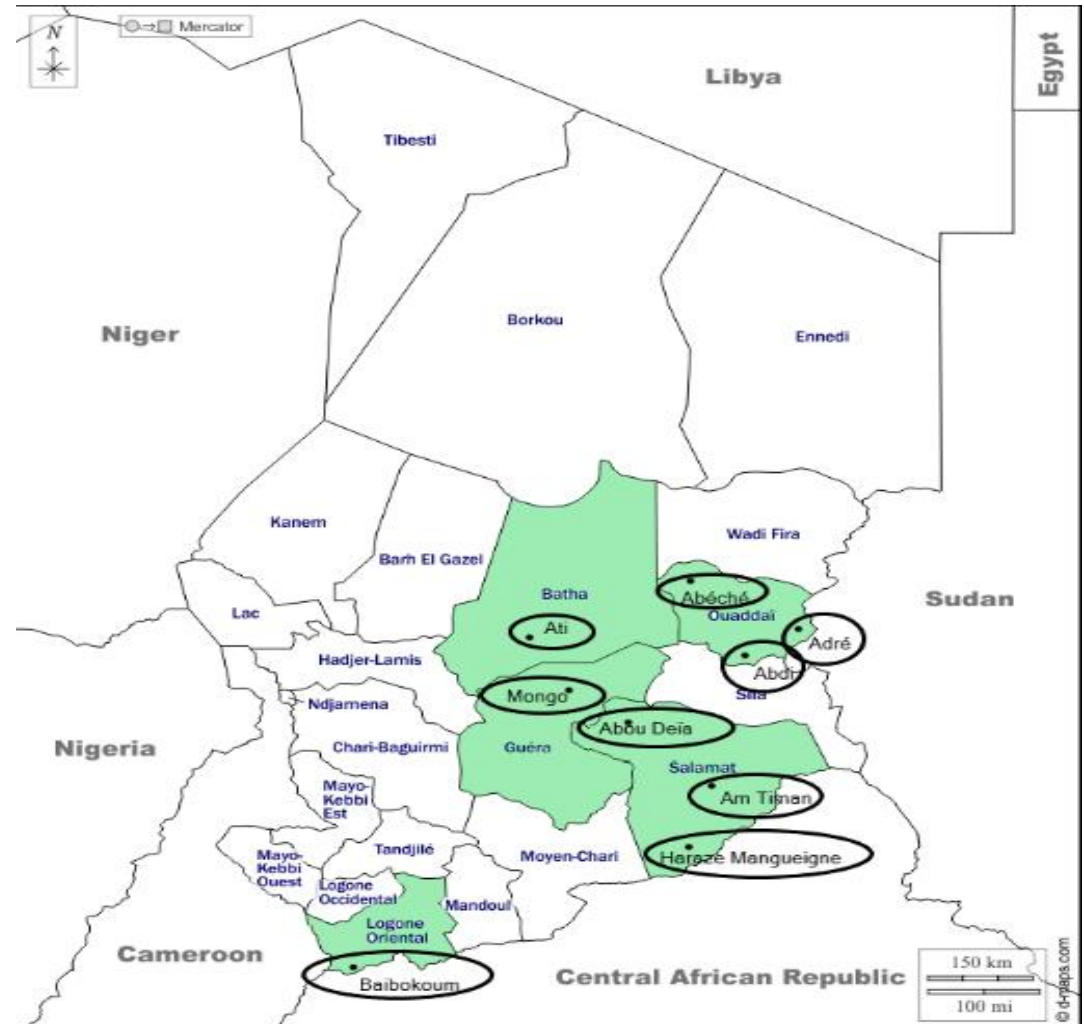
COUNTRY PRESENTATION

- Chad (situation)
- Growing urbanization.
- Population movements very important
- 90% arid and semi-arid country.
- Desertification phenomena known for a long time.
- Drastic changes in the environment due to the droughts of the 1970s and 1980s.



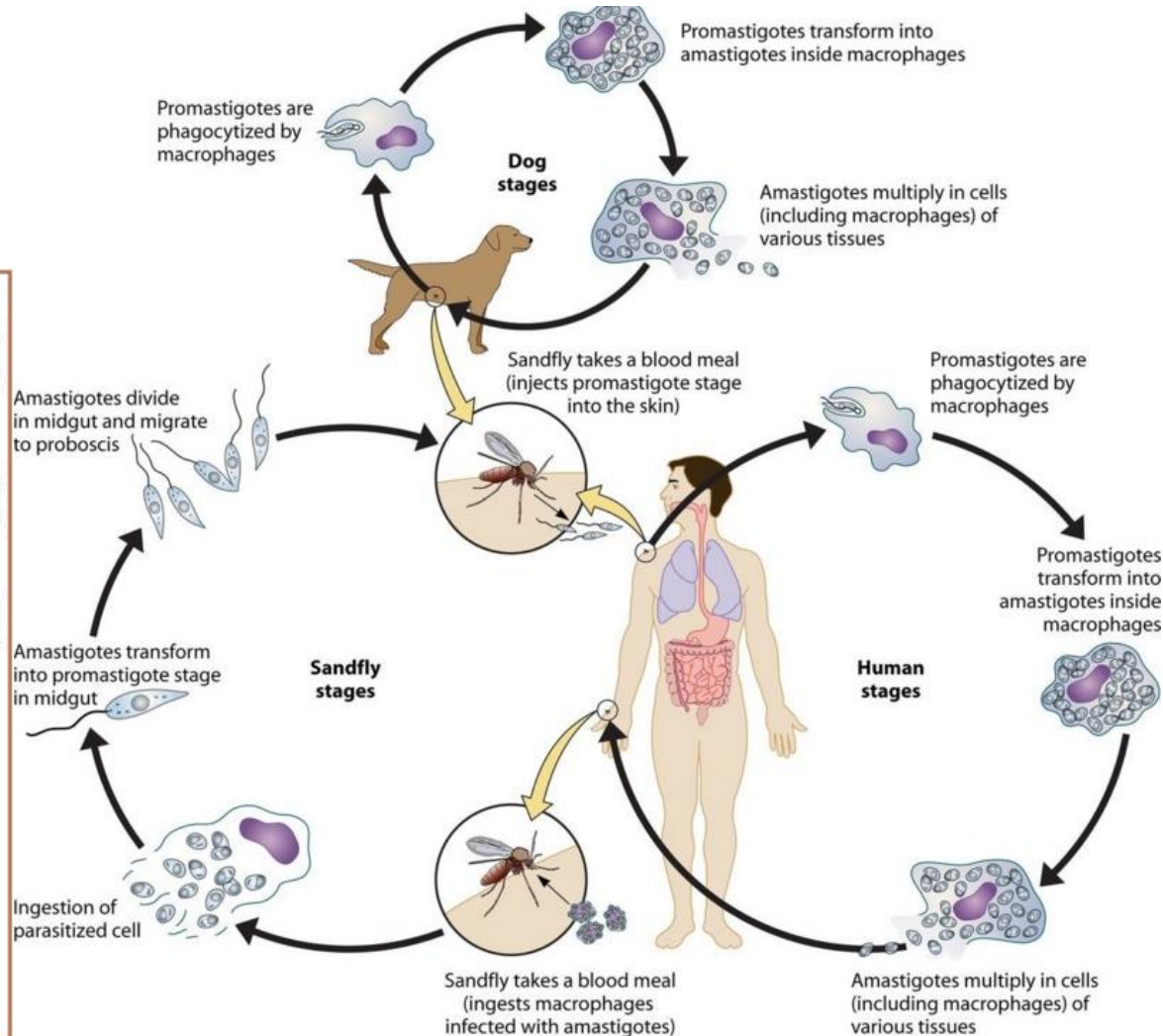
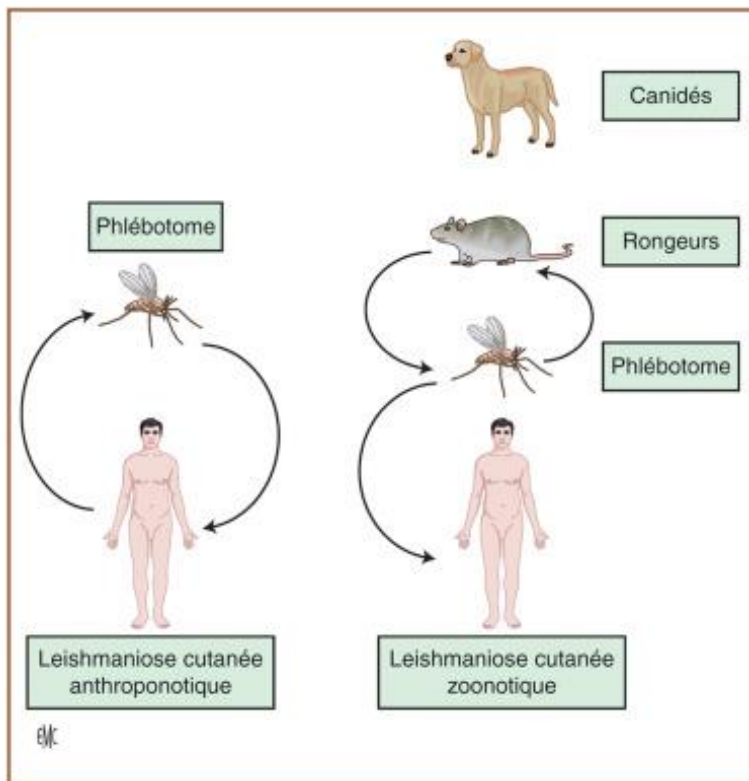
SITE OF THE PROJECT

- OCEAC Project
- Active surveillance in the 9 districts spread across 6 provinces as part of the OCEAC project.



GENERALITIES ON LEISHMANIASIS

Anthroponotic or zoonotic and disease cycle



OBJECTIVES AND MILESTONES OF THE INTERVENTION

1. Demonstrate that leishmaniasis is a national health problem
2. Accelerate the elimination of leishmaniasis as a public health problem by 2030

A MAJOR HEALTH PROBLEM

- Between 2021 and 2023, 1380 cases of cutaneous leishmaniasis were detected and reported.
- 2018-2023 visceral leishmaniasis (423 cases)
- National public health problem in Chad (2022).



OUTCOME OF SURVEILLANCE

- 1380 clinical cases of cutaneous leishmaniasis;
- Results were obtained only in 55 health centers out of the 175 in the 9 target districts of the project.



CASE MANAGEMENT

65% of cases under treatment

CL healing rate around 70%

VL cure rate 81%

Main challenges:

Limited resources

Leishmania species not specified for CL

Lack of prevention

Threat:

Influx of refugees

Border insecurity

OUR OUTLOOK

After the recognition of leishmaniasis as a public health problem, the next step is to :

1. Know the species of leishmania and their distribution
2. Know the place of the bio-ecology of sandflies on the epidemiology of leishmaniasis
 - Know the impact of peri-urbanization on the bio-ecology of sandflies
 - Know the impact of climatic and environmental factors, particularly temperature, on the epidemiology of leishmaniasis
3. Propose means of prevention through the use of insecticides in conjunction with manufacturers

**WHY BE INTERESTED IN THE BIO-
ECOLOGY OF SANDFLY ?**

Climate change and periodic fluctuations in disease incidence

- Effects on the ecology of vectors and reservoir hosts by altering their distribution and influencing their survival and population sizes.
- Influence on the development cycle of promastigotes in sandflies and possibly allow transmission of the parasite to regions where the disease was not previously endemic.
- Large-scale displacements and migrations towards areas of leishmaniasis transmission and the poor nutritional state of these displaced populations could compromise their immunity.

These annual cycles are important for predicting transmission seasons as well as for developing control methods and timing of interventions.

Population movement on the epidemiology of leishmaniasis and the bio-ecology of sandflies

Like all Sahelian countries, Chad has recorded recurring rainfall deficits for almost three decades which, combined with anthropogenic actions not always respectful of the environment, have led to a degradation of natural resources and a decline in agrosylvopastoral production. . This context of high aridity is at the origin of strong migratory flows towards urban centers of rural populations.

The nomadic population is estimated at around 4% of the total population.

These population movements can also influence the epidemiology of this disease.

CONCLUSION

Global warming requires innovations in strengthening strategies to combat neglected tropical diseases.

According to the WHO, neglected tropical diseases (NTDs) are potentially and particularly sensitive to these changes because they are prevalent among vulnerable populations in countries expected to experience the greatest environmental changes over the coming decade. Rising temperatures and changes in precipitation patterns alter vector breeding habitats and the development of pathogens, thereby altering the geographic distribution of diseases and transmission risks.

The strengthening of the fight against leishmaniasis in Chad provides us with a good illustration of the situation.

THANK YOU FOR YOUR ATTENTION
