

# LSM using biolarvicides in Niger with Cuban cooperation

**Dr HAMANI ALBEIDOU Boubé**

**Entomologiste Medicale**



# Outline

I. Description of the NMCP strategy

II. Context and project justification

III. Project objectives

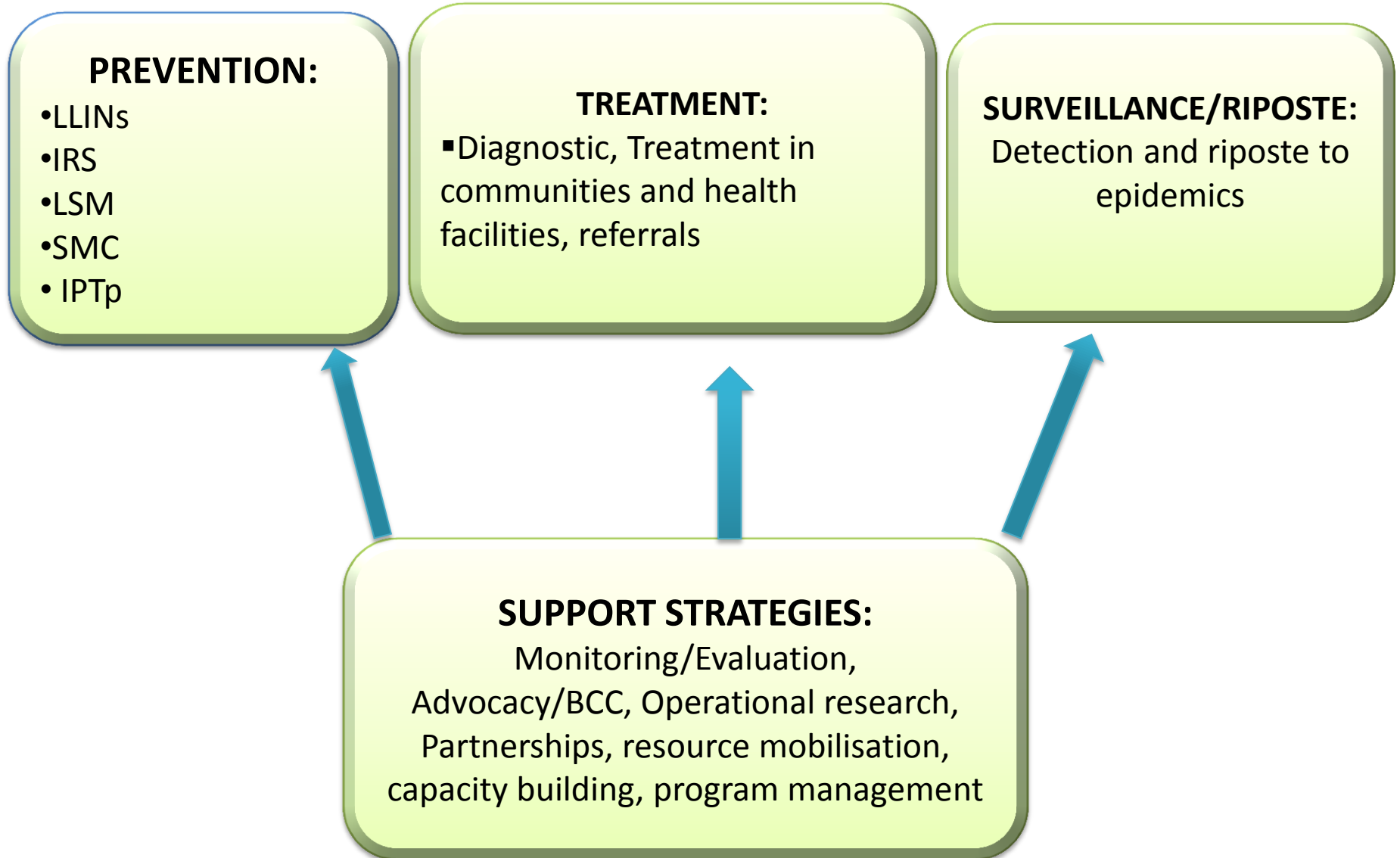
IV. Project status

V. Efficacy tests

VI. Monitoring and evaluation

VII. Future activities

# I. NMC main strategies against malaria

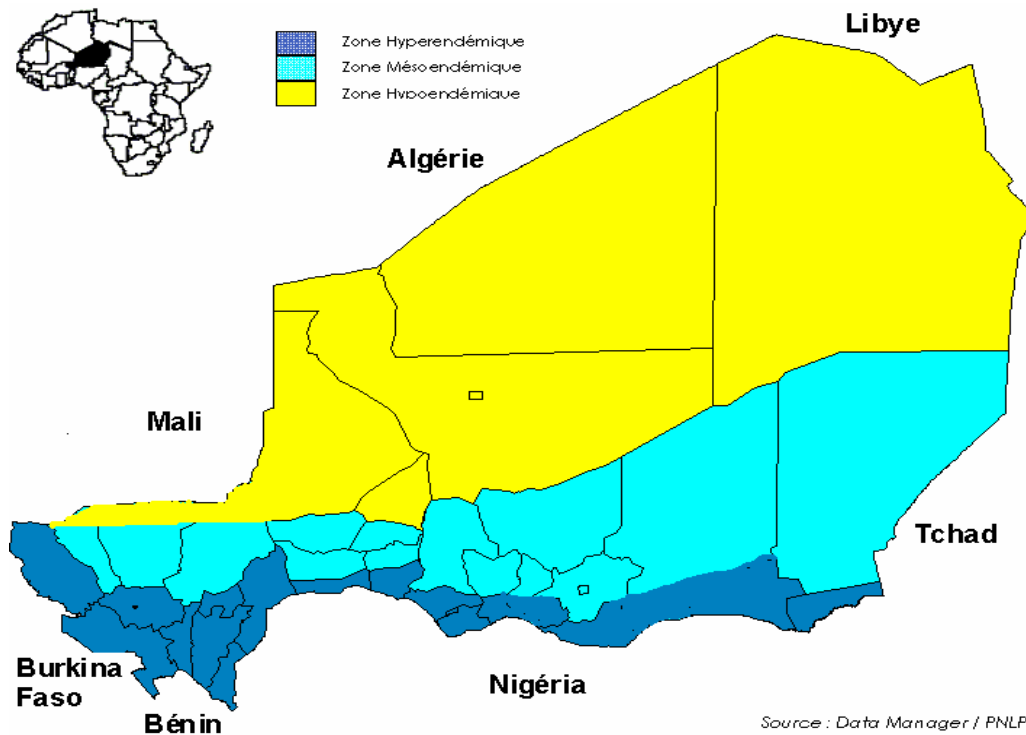


# Stratification and interventions against malaria



(PNLP) Programme National de Lutte contre le Paludisme

Hypo-endemic zone: LSM, ACT, RDT, IRS, treatment at home, epidemics management



Meso-endemic zones:  
ACT, RDT, IPT,  
LLINs, LSM,  
treatment at home,  
epidemics  
management, IPT,  
SMC

Hyper-endemic zone: LSM, treatment at home, epidemics, SMC, ACT, RDT, IPT, LLINs

## II. Context and project justification

- Malaria remains a public health problem in Niger
- High mortality and morbidity due to malaria
- Malaria constitutes around 20% of consultations in dry season and 80% in rainy season
- The most at risk groups are children under five and pregnant women

### III. Project objectives

- LSM is one of the strategies for vector control in the National Strategic Plan for Niger
- Convention between Niger and Cuba: Implementation of a larviciding project using bio-larvicides

#### **Main objectif**

- Larviciding with bio-larvicides (BACTIVEC® and GRISELESF®) to reduce malaria transmission

# Specific objectives

- ✓ Include larviciding with BACTIVEC® and GRISELESF® in the vector control national strategy
- ✓ Larviciding implementation
- ✓ Test the efficacy of the project
- ✓ Improve entomological surveillance and maintain a good level of control
- ✓ Improve community awareness and involvement in vector control

## IV. Project status

- Project launch
- Workshop to reach consensus on the project with participation of administration and technical authorities of target regions
- Larviciding equipment and hosting the Cuban experts in Niger
- Payment of Cuban experts



## IV. Project status

- ❑ Ordering and reception of bio-larvicides ( Bactivec, Griselesf)
- ❑ Acquisition of logistics and equipment necessary for the project



## IV. Project status

- ❑ Training of two NMCP technicians in Applied malaria entomology and public health at CREC
- ❑ Training of fieldworkers in larvicide application



## IV. Project status

- Baseline entomology surveillance
- Baseline epidemiology surveillance
- Mapping and treatment of breeding sites

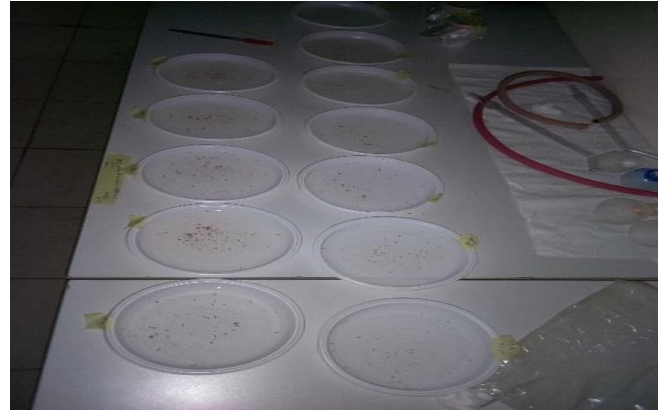


☐ Sensitisation of authorities and communities through meetings, billboards, radio and TV ads, etc.



# V. Efficacy testing

- ❑ Lab tests of larvicides efficacy
- ❑ Supervision of field testing activities



# Efficacy of Bactivec® and Griselesf® on stage 2 Anopheles larvae

## *Bactivec*

## *Griselesf*

<i>Temps en minute</i>	Survivant	Nobr de mort	% des morts	Témoins		Temps en minute	Survivant	Nobr de mort	% des morts	Témoins	
				Survivant	% des morts					Survivant	% des morts
<i>0mn</i>	25	0	<b>0</b>	25	0	<i>0mn</i>	25	0	<b>0</b>	25	0
<i>30mn</i>	19	6	<b>24</b>	25	0	<i>30mn</i>	25	0	<b>0</b>	25	0
<i>60mn</i>	13	12	<b>48</b>	25	0	<i>60mn</i>	24	1	<b>4</b>	25	0
<i>90mn</i>	6	19	<b>76</b>	25	0	<i>90mn</i>	24	1	<b>4</b>	25	0
<i>120mn</i>	2	23	<b>92</b>	25	0	<i>120mn</i>	24	1	<b>4</b>	25	0
<i>150mn</i>	1	24	<b>96</b>	25	0	<i>150mn</i>	24	1	<b>4</b>	25	0
<i>180mn</i>	0	25	<b>100</b>	25	0	<i>180mn</i>	24	1	<b>4</b>	25	0
<i>210mn</i>	0	25	<b>100</b>	25	0	<i>210mn</i>	24	1	<b>4</b>	25	0
<i>240mn</i>	0	25	<b>100</b>	25	0	<i>240mn</i>	24	1	<b>4</b>	25	0
<i>270mn</i>	0	25	<b>100</b>	25	0	<i>270mn</i>	24	1	<b>4</b>	25	0
<i>300mn</i>	0	25	<b>100</b>	25	0	<i>300mn</i>	23	2	<b>8</b>	25	0
<i>330mn</i>	0	25	<b>100</b>	25	0	<i>330mn</i>	13	12	<b>48</b>	25	0
<i>360mn</i>	0	25	<b>100</b>	25	0	<i>360mn</i>	13	12	<b>48</b>	25	0

# Efficacy of Bactivec® and Griselesf® on stage 4 Anopheles larvae

## Bactivec

## Griselesf

Temps en minute	Survivant	Nobr de mort	% des morts	Témoins		Temps en minute	Survivant	Nobr de mort	% des morts	Témoins	
				Survivant	% des morts					Survivant	% des morts
0mn	25	0	0	25	0	0mn	25	0	0	25	0
30mn	19	6	24	25	0	30mn	25	0	0	25	0
60mn	14	12	48	25	0	60mn	25	0	0	25	0
90mn	12	13	52	25	0	90mn	25	0	0	25	0
120mn	6	19	76	25	0	120mn	25	0	0	25	0
150mn	6	19	76	25	0	150mn	25	0	0	25	0
180mn	4	21	84	25	0	180mn	25	0	0	25	0
210mn	3	22	88	25	0	210mn	25	0	0	25	0
240mn	3	22	88	25	0	240mn	21	4	16	25	0
270mn	3	22	88	25	0	270mn	20	5	20	25	0
300mn	2	23	92	25	0	300mn	20	5	20	25	0
330mn	1	24	96	25	0	330mn	19	6	24	25	0
360mn	0	25	100	25	0	360mn	19	6	24	25	0

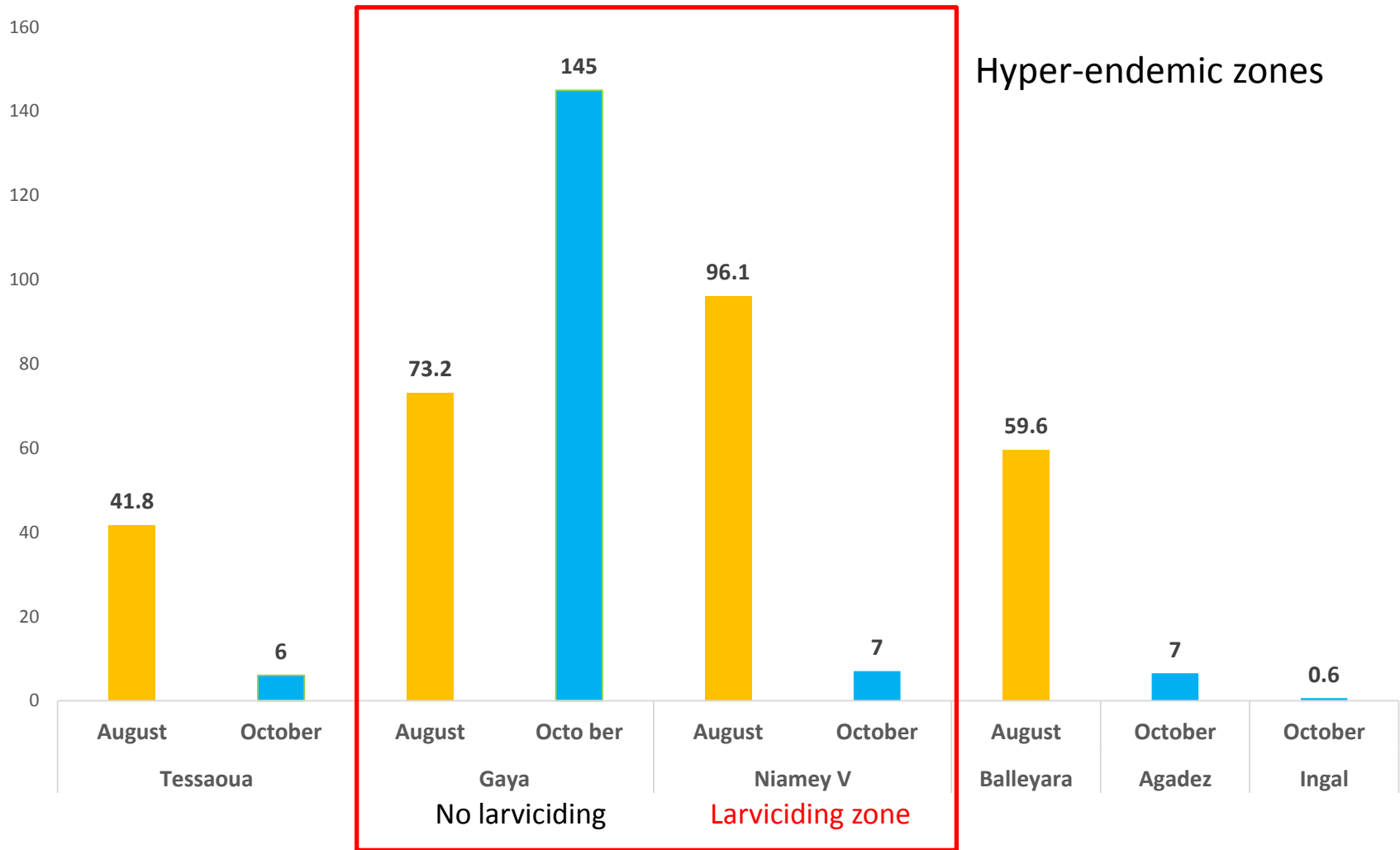
# VI. Monitoring and evaluation

## Entomological monitoring:

- ✓ Anopheline density
- ✓ EIR
- ✓ Biting pressure
- ✓ Mosquito behaviour

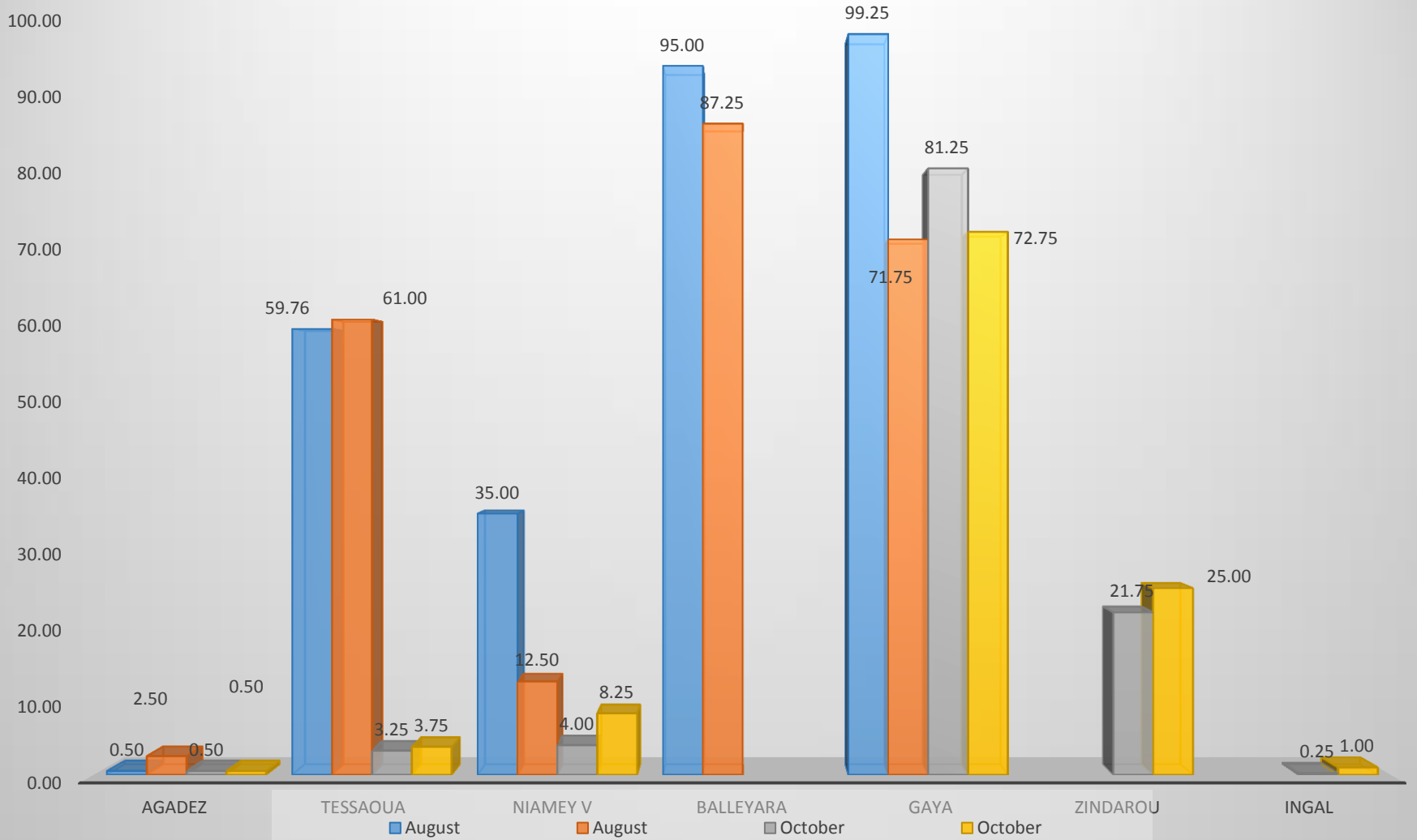


# Average monthly *An. gambiae* density



# Human biting rate per night

## HBR in HLC



## VII. Future activities

- ❖ Finalise breeding sites treatment for the first phase of the project
- ❖ Continue monitoring breeding sites to test the larviciding efficacy
- ❖ Start larviciding activities in second phase regions
- ❖ Evaluation of first phase activities
- ❖ Identification of other partners to expand the project in the whole country.

Merci

