

Developing an Evidence-based Approach to End of Life ITNs in Nigeria

Project EOLIN - A Public Private Partnership



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Project EOLIN: today

A circular economy initiative

What

Assessing feasibility for the collection of End of Life (EOL) ITNs and associated packaging for the creation of a circular economy

Why

To help address and minimize the environmental impact of malaria prevention plastics in Nigeria aligning with BASF sustainability targets and UN SDGs

Who

A collaboration between Nigeria NMEP & BASF Nigeria and BASF Public Health

Partnership

- Proof of Concept: (PoC) Collaboration with Nigeria NMEP/CRSMEP, US-PMI Nigeria, GHSC-PSM-N, and BA-N
- Pilot: Collaboration with NMEP/JSMEP, Global Fund, CRS, MC, SFH

Locations

PoC: Cross River State, Nigeria (Akampa, Calabar South)
Phase II: Jigawa State, Nigeria (TBC)

Status

- Findings from Cross River Scoping Study - March 2022
- Cross River PoC - June 2023
- Initial findings from Jigawa Rapid Assessment - December 2023
- Jigawa Pilot - June 2024



End of Life (EOL) Insecticide-treated Nets (ITNs)
From linear, To circular



ITNs life cycle needs to be better managed

It is estimated that EOL ITNs and packaging may account for up to ~1-5% of total plastic in Africa¹



- As of December 2023, **3 billion** ITNs have been distributed to countries affected by malaria since 2004
- **Over 375 million** nets have reached Nigeria since 2004. Following their useful lifespan, ITNs composed of PET or polyethylene, constitute a significant plastic waste for the country
- **End of life practices:** primarily efforts have been made on distribution campaigns with less attention paid to what happens to ITNs after their useful life
- **Dated guidance:** proper use, handling and disposal of EOL ITNs is not clearly defined for communities or households

¹ WHO estimate 2014



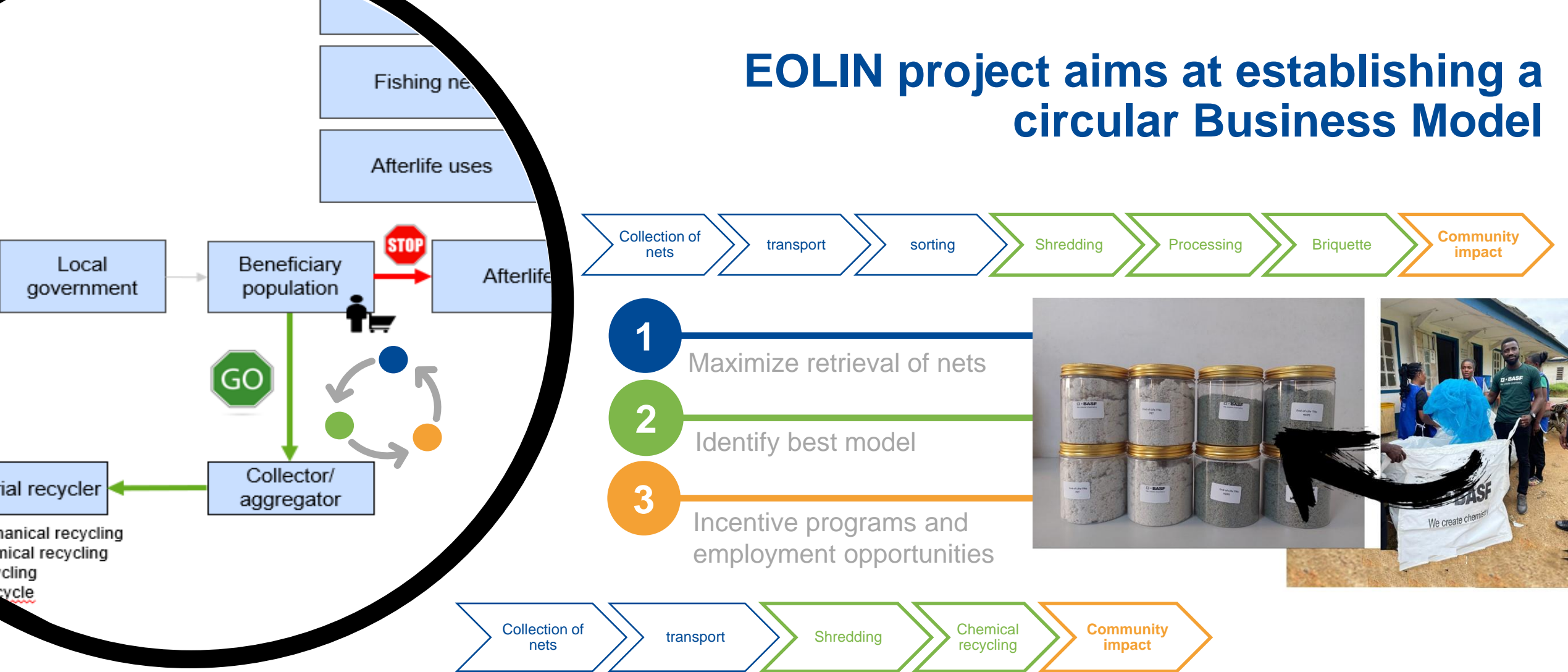
What happens when ITNs reach their end of life in Nigeria?



- Incineration by households
- As environmental waste
- As undisposed household waste
- Carrier of crops and other goods
- Fishing (capturing and transport)
- Protection/pest control for crops
- Protection for grains
- Cages for domestic animal, sponges, ropes, etc.



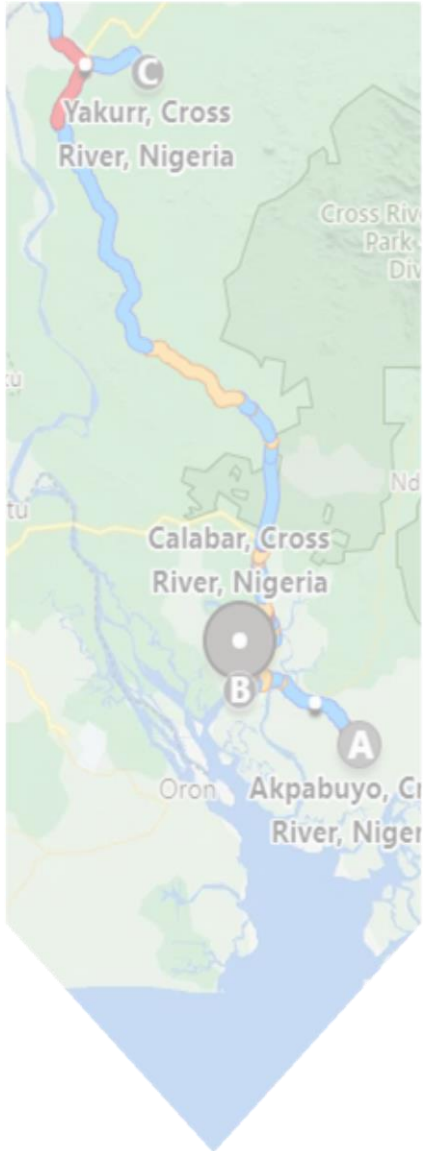
EOLIN project aims at establishing a circular Business Model



BASF serves as an enabler to fill the gap on EOL ITNs in the environment to make mosquito nets **fully circular**

Preliminary findings from 2022 BASF Scoping Study

Study conducted in Cross River State at household level



- ITNs are found in almost all households in sizable numbers
- The general perception among households is that end-of-life ITNs have no value and are not useful
- Lack of environmental awareness
- Likelihood to collect the nets and potential quantities
 - ✓ Based on the sampled LGAs surveyed, it would be possible to retrieve/collect EOL ITNs from 60% of household (about 6 in every 10 households). ***At least 50% of the last campaign ITNs are available for retrieval.***
 - ✓ Potential operational and logistics challenges include:
 - ✓ access to households (hard to reach and geographic barriers)
 - ✓ funding for the collection
 - ✓ warehousing and transportation to the destination for incineration or recycling



Proof of Concept – Calabar June 2023

Selecting Local Government Areas (LGA) & engaging communities

- To prove the concept, 19 DPs were selected in Calabar South and 6 in Akampa to assess the feasibility of collecting EOL ITNs
- Collaboration with PMI-N, GHSC-PSM and BA-N ensured enhanced SBC and planning through the engagement and training of additional Town Announcers, ITN collectors, and LGA Supervisors who could encourage the return of EOL nets



LGA	POPULATION	NUMBER OF HOUSEHOLDS	SIZE OF LOCAL GOVERNMENT AREA (KM2)	WEIGHT PER BALE	ITN DISTRIBUTED (2023)	NO OF BALES
AKAMPA	250,731	48,213	4,300	25 Kg	125,070	2,730
CALABAR SOUTH	322,670	63,290	264	25 Kg	171,385	3,462



VEERALIN PBO ITNs distributed with individual plastic packaging and bales

Mean weight of net	500g	Grammes
Mean weight of bale (pol	25kg	Kilogramme
mean volume of bale	0.14M3	Cubic meters



Findings from Proof of Concept

Key learnings – early planning is critical

- ✓ Confirmed that timing for **collections should be aligned with campaigns** to demonstrate local capacity and ensure scale
- ✓ Early coordination and stronger messaging for EOL ITN return will need to be co-developed earlier to ensure community engagement and return on a larger scale
- Limited EOL ITN returns (3.8MT of plastic bags recovered, 241 EOL ITNs) due to many reasons:
 - ▶ Market Day in Akampa
 - ▶ Reluctance of those who didn't receive new net cards to give up their "old nets".
 - ▶ Household repurposing practices observed, such as garden barriers
 - ▶ Possible discarding of nets (burning, etc.) as last campaign was in 2019
 - ▶ Delayed SBC by Town Announcers to engage communities and/or timing not aligned with community activities
- *Additional training required on SOPs required when managing plastic packaging*



Open burning of waste



Waste bags awaiting evacuation

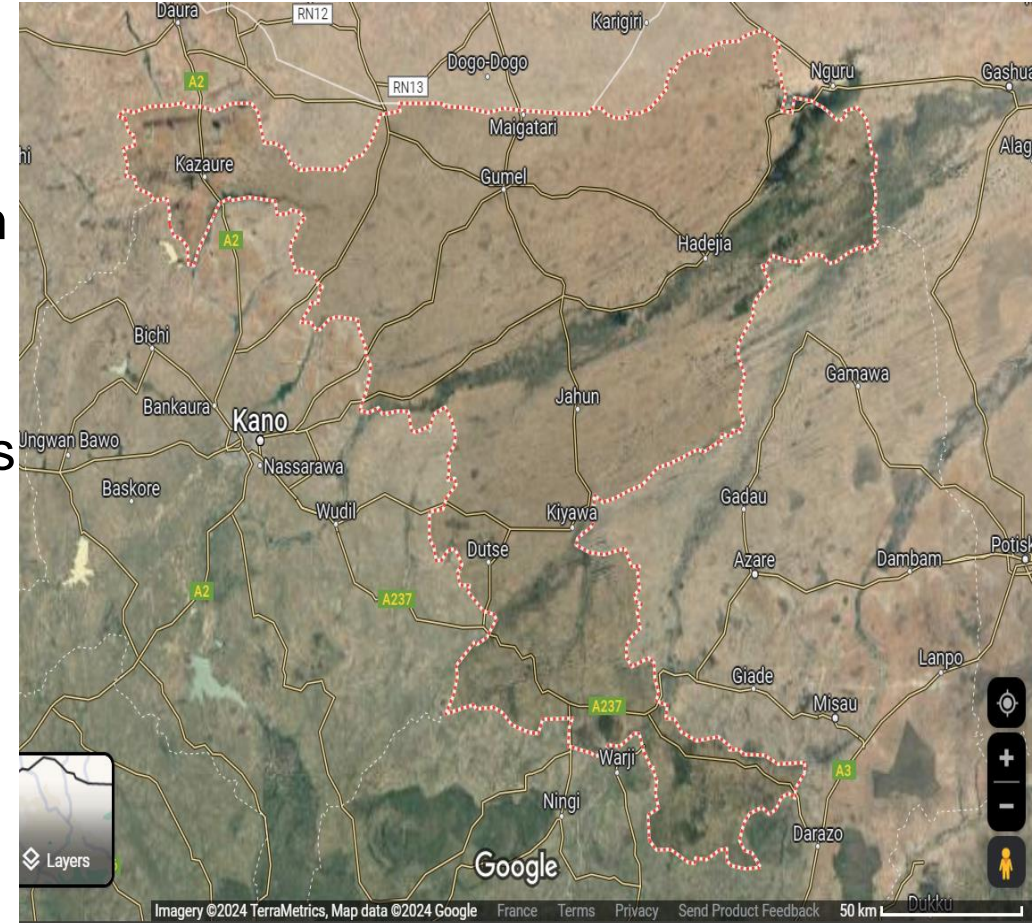


- INSERT LESSONS LEARNED VIDEO HERE....
- https://drive.google.com/file/d/1s2m_1qkX9HHD461_EDl1golZPLrOhdMh/view?usp=share_link

Scaling up EOLIN

The road to Jigawa 2024

- Opportunity to deploy a larger pilot during a Global Fund-funded mass campaign in Jigawa state in June 2024
- Objective is to scale while implementing the learnings from Calabar Proof of Concept
- A Rapid Assessment was conducted in December 2023 and delivered promising highlights on EOL ITN perceptions ownership and collectability
- Launch meeting held in January 2024 leading to pre-assessment for LGA selection
- Connectivity has been established to existing recyclers across Kano and Jigawa state with the objective of a field visit end-February
- Possible challenges: rainy season, security



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Households with EOL ITNs

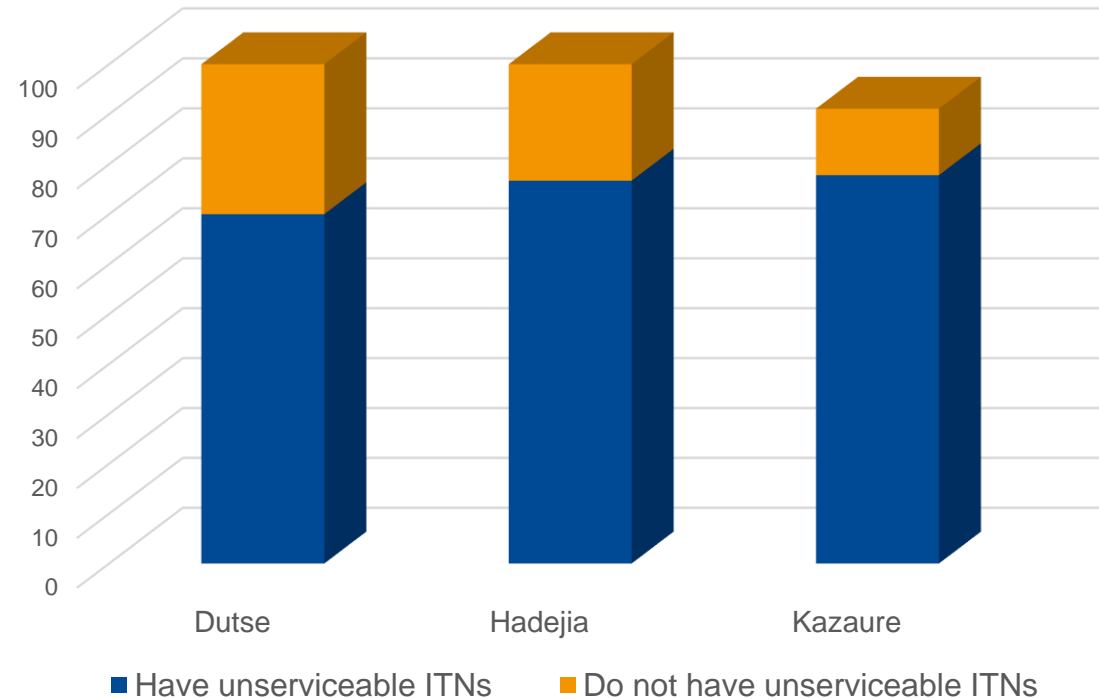
- Overall, 77.8% of households had EOL ITNs
- EOL ITNs lowest in Dutse LGA (70%), but highest in Kazaure LGA (86.70%)

Reminder:

*EOL ITNs are unserviceable and/or discarded
AND no longer used for malaria prevention*

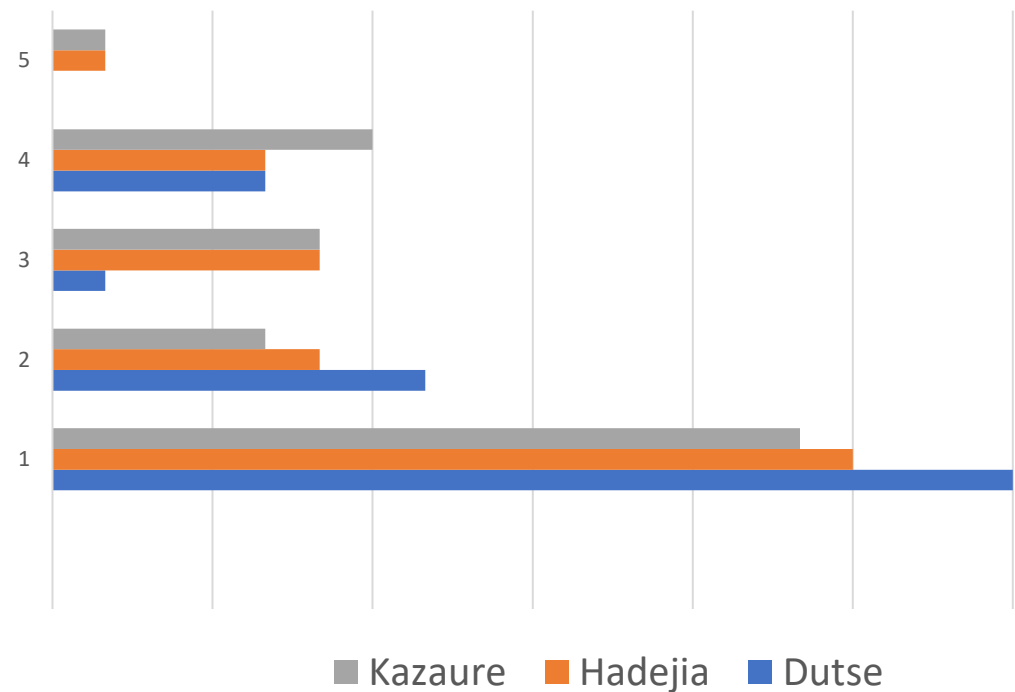


EOL ITNs in select Households

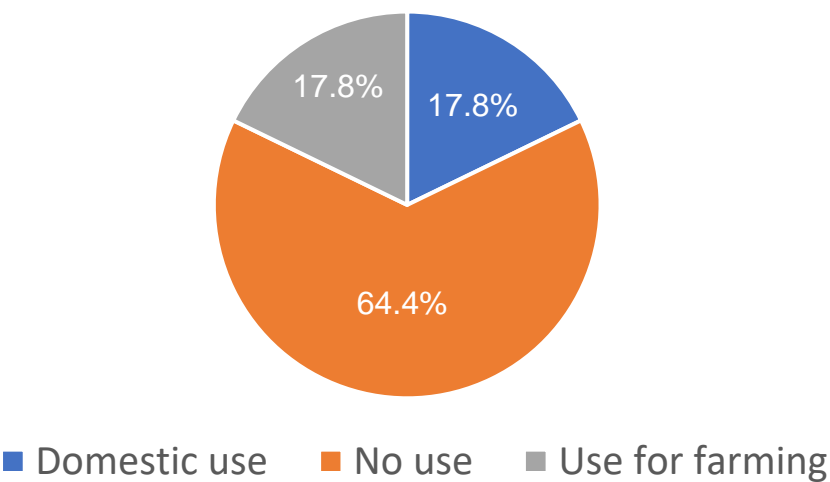


Number of EOL ITNs in households & uses

ITNs no longer being slept under



Uses for EOL ITNs



EOL ITNs were observed in 77.8% of households

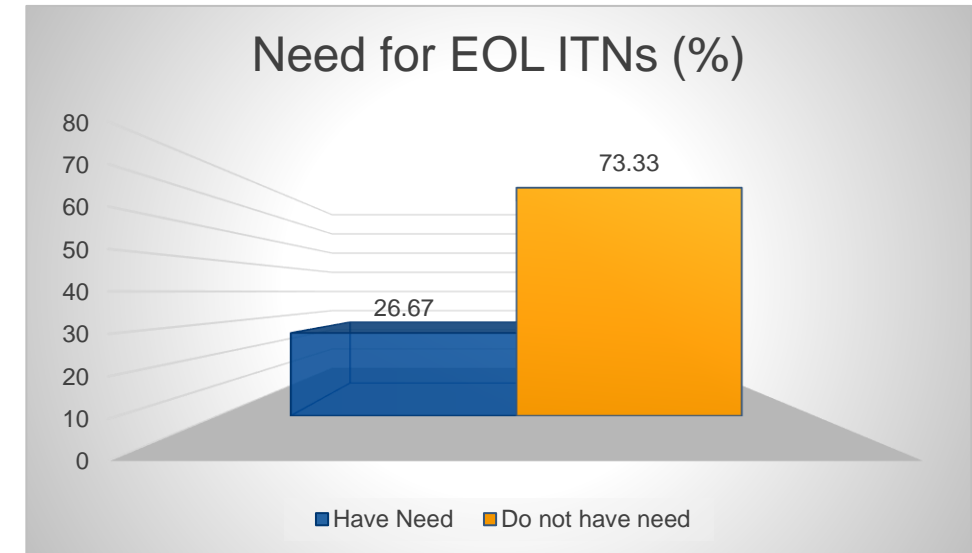
■ *Based on the Rapid Assessment: likely to find EOL ITNs in at least 7 out of 10 households*

35.6% of respondents likely to repurpose their EOL ITNs



Willingness to return EOL ITNs

- 73.33% have no further need for their EOL ITN(s)
- Suggesting a large volume of EOL ITNs will be discarded in the household environment
- 26.67% indicated they still had use for their EOL ITNs and will repurpose them
- 95.6% of respondents indicated they will be willing to give up their EOL ITNs (for proper management)



While the Rapid Assessments shows a willingness to return EOL ITNs, we believe large percentages can only be realized by strong SBC, coordination, and community engagement

Will you be willing to give up all the old nets in the household?	DUTSE n (%)	Hadejia n (%)	Kazaure n (%)	Total n (%)
Yes	29 (96.7)	28 (93.3)	29 (96.7)	86 (95.6)
No	1 (3.3)	2 (6.7)	1 (3.3)	4 (4.4)
Total	30 (100)	30 (100)	30 (100)	90 (100)



EOLIN Success - Key Take Aways

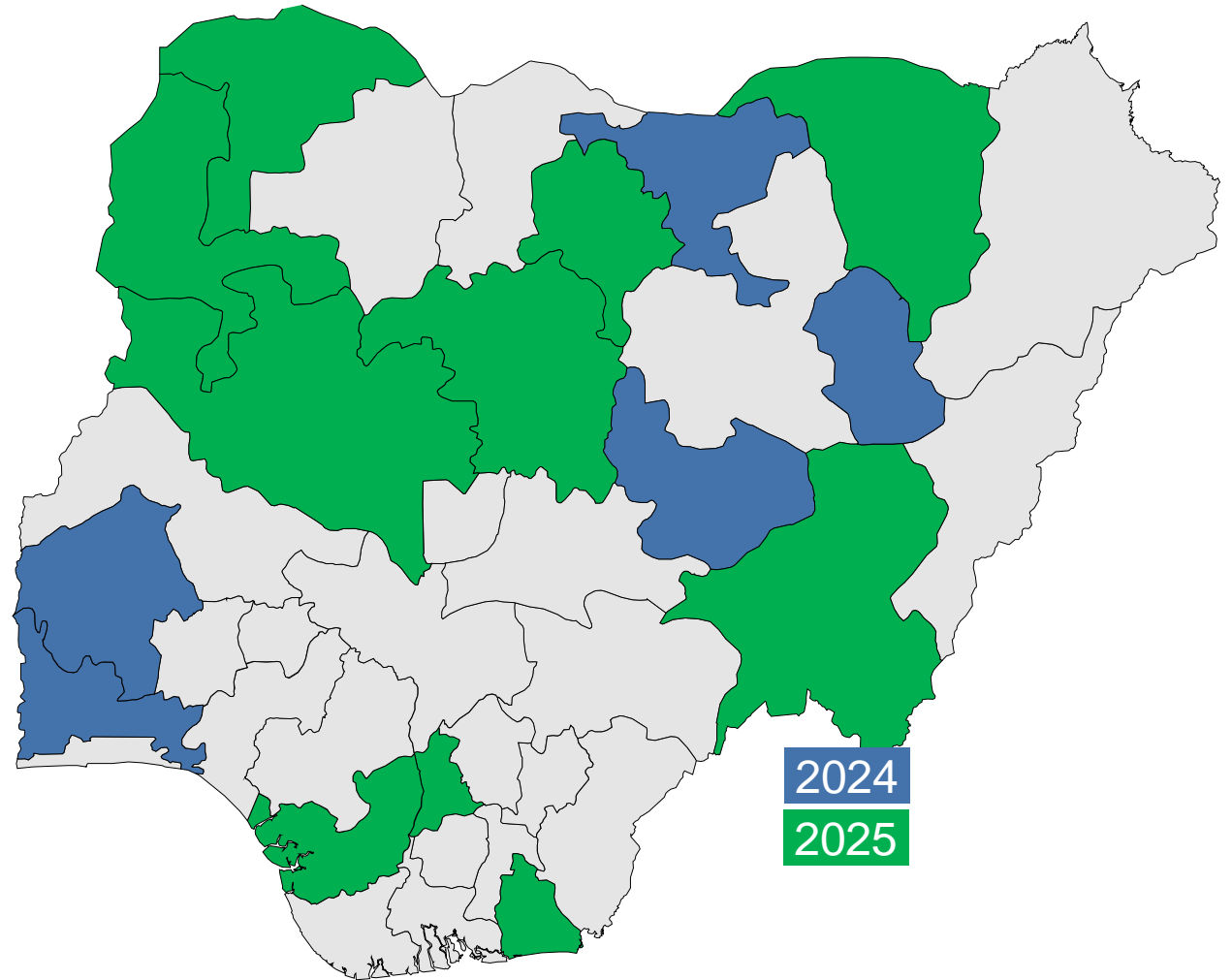
- ✓ It is best that timing for **collections should be aligned with campaigns** to demonstrate local capacity and ensure scale
 - ✓ Routine and continuous need to be integrated outside of campaign cycle
- ✓ Effective partnerships identified early and roles clearly defined
 - ✓ Additional staff may be deployed depending on the agreed HR capacity gap
 - ✓ Taskforce must be very operational
 - ✓ The role the DP Supervisors in driving collection is critical.
 - ✓ Local stakeholder and community engagement a key component
- ✓ Stronger messaging for EOL ITN return needs to be co-developed to ensure community engagement and return on a larger scale
 - ✓ SBC by Town Announcers to engage communities and/or timing must be aligned with community activities
- ✓ Model should be designed to collect individual ITN plastic and other plastics at the focus DPs in addition to EOL ITNs
- ✓ End process should be conducted at the end of collection exercise to understand processes and implementation gaps
- ✓ It is important that the circular loop be closed at the end of each collection exercise



Going to Scale: Potential EOLIN States

- Based on findings from the PoC in Cross Rivers, the pilot in Jigawa and one other state in 2024 (TBD), the EOLIN Protocol will be added (eventually) as an annex to the ITN implementation guideline
- Once enough successes have been demonstrated, EOLIN will become a standard within Nigeria.

*Routine and Continuous
will be integrated*



Project EOLIN Acknowledgements

- Nigeria National Malaria Elimination Programme
- Cross River & Jigawa State Ministry of Health
- Cross River & Jigawa SMEP
- The Global Fund (TGF)
- TGF PRs and SRs (NMEP, CRS, MC, MSH, SFH)
- USAID/PMI
- PMI Implementing Partners (GHSC-PSM and BA-N)
- Alliance for Malaria Prevention
- BASF West Africa
- BASF Public Health

And - last but not least – the participating communities of Cross River & Jigawa





WE CANNOT STOP HERE!

The success of Project EOLIN relies on your support!



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