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NIGERIA CASE STUDY: FEASIBILITY OF EVIDENCE-BASED SUSTAINABLE MANAGEMENT OF END-OF-LIFE ITNS (EOL NETS) AND ASSOCIATED PLASTIC PACKAGING

FEDERAL MINISTRY OF HEALTH

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Expanding the ownership and use of mosquito nets

CONTENTS

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BACKGROUND

With the advent of cheap plastics, and the subsequent widespread use of the material in many products, insecticide-treated nets (ITNs) and their packaging have been manufactured using different types of plastic. A symbol of the throwaway culture, plastics can be harmful to the environment and to human health. Only about nine per cent of plastics worldwide are recycled, in spite of approximately 75 per cent being theoretically recyclable. In many countries, there is now a growing concern about the appropriate disposal of packaging from new ITNs and old ITNs no longer viable for malaria prevention in households and communities.

The management of ITN plastics is typically planned and implemented based on available infrastructure that may or may not meet global environmental and waste disposal standards. Current waste management practice for ITN plastics during ITN mass campaigns typically involves either burial away from water sources, incineration at high temperature and/or open air burning of ITN waste given infrastructure-constrained environments. These methods of disposal introduce another dimension to the issue of environmental pollution and degradation from ITN associated waste. The World Health Organization (WHO) does not recommend burning as there is a risk of emission of harmful substances that can pollute the air, surface water, soil and food. Incineration should only be done with high temperature incinerators for insecticide-tainted plastics, but most incinerators in sub-Saharan Africa do not comply with this requirement. If burial, then it must be under properly engineered landfill, which is not typically found in the African context[1].

To date, limited work has been undertaken on large-scale retrieval and disposal of end-of-life mosquito nets (EOL nets). To give an example of the scale of the issue and based on data from the Alliance for Malaria Prevention's (AMP) Net Mapping Project, by mid 2024, more than 426 million nets have been shipped to Nigeria since 2004 for distribution through various channels throughout the different states. With an estimated lifespan of three years, it is assumed that millions of these nets have or will be reaching their end of life. Anecdotal evidence from various states shows that many of these nets are being used for different purposes (such as crop protection, cut to fit windows and doors, etc.) while others are lying as waste material within households or in the environment. Still others will have been burnt in the open air or disposed of by other methods.

Current durability studies in Nigeria indicate that the lifespan of ITNs can vary between 18 months and five years depending on household use and care patterns[2]. As ITNs become old and are no longer used in households for the purpose of malaria prevention, they are often repurposed by households in one of three ways (positive, neutral or negative)[3]. User perception is central in determining when a net stops being useful for malaria prevention or for any other purpose. Management of EOL nets does not discourage repurposing. However, those nets that are deemed of no use for any purpose will eventually find their way into the environment, often in a manner that contradicts sustainable environmental practices.

1. https://continuousdistribution.org/wp-content/uploads/2022/03/WHO-Recommendations-LLIN-Packaging.pdf
2. Emmanuel Obi et al (2020) 'Monitoring the physical and insecticidal durability of the long-lasting insecticidal net DawaPlus® 2.0 in three States in Nigeria'. Malar J. 2020; 19: 124. Published online 2020 Mar 30. https://malariajournal.biomedcentral.com/articles/10.1186/s12936-020-03194-9
3. *Consensus Statement on Repurposing ITNs: Applications for BCC Messaging and Actions at the Country Level.*
Beneficial: "The use of inactive ITNs for purposes other than for sleeping under to protect against malaria infection. It is considered beneficial because the ITN material continues to act as a barrier against mosquitos. Examples of beneficial repurposing include using old or inactive ITNs as curtains, patches for holes in viable nets, stuffing eaves and constructing window or door screening.
Neutral: The use of inactive ITNs for household uses that do not prevent mosquito bites, e.g. covering latrines, protecting seedlings, fencing, transporting and storing crops, screening of poultry or animal enclosures, soccer goals, tearing into strips for tying objects, and other household uses."
Negative: The misuse of an active ITN for purposes other than its intended use as a bed net …with added environmental harm. Misuse of ITNs is not acceptable under any circumstances…Using any ITN, whether new, old or inactive, for fishing, is the prime example of misuse." https://endmalaria.org/sites/default/files/Consensus%20Statement%20on%20Repurposing%20ITNs.pdf

BASF PROJECT EOLIN

BASF, the manufacturer of Interceptor® G2 ITNs, is leading a project (BASF Project EOLIN) to develop an operational framework for the effective management of EOL nets in Nigeria. The process began with the development of a concept note in March 2022 detailing the need to manage EOL nets, the project rationale, key objectives and proposed methodology. A scoping study was conducted in three local government areas (LGAs) (Calabar Municipal, Akpabuyo and Yakurr) of Cross River State in April 2022 to understand household perceptions regarding old ITNs and the feasibility of collecting these ITNs and associated plastic packaging from households and communities during a mass ITN campaign. The outcomes of the field study indicated that it was feasible to retrieve EOL nets at scale from households.

The findings of the study and a plan for the Proof of Concept (PoC) were presented to key stakeholders - including the Nigeria National Malaria Elimination Programme (NMEP), Global Fund, United States President's Malaria Initiative (US-PMI) and other key stakeholders and implementing partners. The design of the PoC was presented to the NMEP's Integrated Vector Management Sub-Committee (IVM SC) on 24 August 2022. Following its provisional acceptance, an EOLIN Task Team was established to review the PoC and support the process for the development of a protocol, plan and budget for the roll-out of the PoC in selected sites in Cross River State or any other agreed state in Nigeria. The formal launch of the PoC was held on 25 August 2022. The PoC was implemented in Cross River State in June/July 2023 with mixed results due to lack of sufficient and timely information provided to communities to return their EOL nets, while the scaled EOL nets project pilot was rolled out in Jigawa State in July/August 2024. Beforehand, a rapid assessment was undertaken in Jigawa in December 2023 which indicated the high likelihood of being able to collect EOL nets.

This case study documents the conceptualization, planning and piloting of the EOL nets project in Nigeria, as well as the results.

HOUSEHOLD KNOWLEDGE, ATTITUDES AND PRACTICES ABOUT EOL NETS

To assess the likelihood of collection/recovery of EOL nets, three surveys were conducted to understand the householders' knowledge, attitudes and practices regarding these nets. A scoping study was undertaken in Cross River State in 2022, and rapid assessments were conducted in Jigawa State in 2023 and Ogun State in 2024. The assessments were intended to understand:

- The nature, form and condition of ITNs in the household.
- Householders' attitudes to ITN use generally and particularly to EOL nets.
- Household perception of the consequence of EOL nets to the environment.
- Current ITN-related waste management practices at the household and community levels.
- Volume of EOL nets present in households/communities, as well as their collectability for proper management and the barriers and constraints to their collection.

Cross River scoping study

The scoping study was undertaken in targeted communities in Cross River State, representing rural, peri-urban and urban settlements. A structured questionnaire was administered to 10 households in each selected LGA of Calabar Municipal (urban), Akpabuyo (peri-urban) and Yakurr (rural). A total of 30 households were randomly selected across the wards in the three LGAs.

Aside from the household interviews, key informant interviews (KIIs) were conducted with the LGA logistics officer, malaria focal person, community mobilization officer and the primary healthcare (PHC) coordinator in each local government area.

The survey instruments were digitally administered, and data analysis was carried out with STATA version 12 for quantitative data and content analysis for the qualitative data.

The scoping study resulted in the following key findings:

- Household members interviewed were mostly spouses of the heads of households who demonstrated a good understanding of the use of ITNs to prevent malaria. The average number of people in a household was six with the number of sleeping spaces ranging from three to five.
- ITNs were found in nine out of every ten households. Overall, 40.62 per cent of the households had one ITN, 28.6 per cent had two ITNs, while 17 per cent of the households had three ITNs. In terms of the age of ITNs, 76 per cent of the ITNs were three years and above in age (last mass campaign was in 2019).
- Overall, 60 per cent of households had EOL nets that were no longer used for sleeping under or repurposed for malaria prevention. By implication, at least one in every two households had EOL nets that are no longer useful or kept in a bag within the household. There was therefore a substantial quantity of EOL nets that needed proper management.
- Generally, 96.8 per cent of households were willing to give up their EOL nets, with 54 per cent of households willing to part with a net only when replaced with a new net. However, 29.2 per cent indicated they would be more motivated to do so with some form of material compensation (money, airtime, etc.).
- The general perception of households was that EOL nets had no value and were not useful. However, some respondents believed that EOL nets may still be used in the absence of new nets.
- Households had good information about net care and repair and that ITNs will last longer if well cared for. This did not, however, translate into action considering the dirty and untidy nature of most of the nets observed.

- Overall, 54.8 per cent of households indicated they would not use what they perceive to be old, ineffective ITNs for malaria prevention.

- Households were most likely to burn their EOL nets or just leave them unused (either stored or kept along with other household materials). Approximately, 23 per cent of households were likely to repurpose their EOL nets.

- Having mostly repurposed their old ITN in several ways, 71.4 per cent of households were not aware of any negative environmental consequences of EOL nets. However, health workers identified environmental concerns caused by EOL nets blocking drains, as a potential mosquito breeding site and contributing to general waste around the household.

- There is overwhelming evidence that households would prefer to use viable nets for malaria prevention as most respondents noted that EOL nets are not viable and should not be used. Those still using them do so because there are no new ITNs.

- Within the context of sampled LGAs, it would be possible to retrieve/collect EOL nets from 60 per cent of households (about six in every ten households). At least 50 per cent of the 2019 campaign ITNs were available for retrieval. However, potential operational and logistics challenges included access to households (hard-to-reach and geographic barriers), funding for the collection, warehousing and transport to the final destination for incineration or recycling.

Jigawa rapid assessment

The rapid assessment was done in three LGAs, one randomly selected from each of the three senatorial zones. The intention was to have a good representational sample of the study objectives across the State. In each of the sampled LGAs, three wards were selected (one urban and two rural). In each selected ward, 10 households were randomly selected and interviewed. In all, 90 households were selected for the administration of the household questionnaires. KIIs were held with community leaders, LGA malaria focal person and the PHC Director.

The field data collection was undertaken from 23—27 December 2023. The household questionnaire for the Cross River scoping study was reviewed, updated and narrowed down to specific EOL net-focused questions based on lessons learned from the Cross River PoC. The questionnaire was scripted into Kobo Toolbox and digitally administered to households using Android devices via Kobo Collect. On average, interviews lasted between 25—30 minutes.

Key findings from the Jigawa rapid assessment include:

- ITNs were found in 98.9 per cent of the sampled households indicating good ownership of ITNs in Jigawa State. This is consistent with the 2021 Nigeria Malaria Indicator Survey (NMIS) findings (89 per cent household ownership of at least one ITN for the State). The number of ITNs found in each household ranged from three to five.

- There was at least one EOL net in 52.2 per cent of the sampled households implying the possibility of recovering over 600,000 EOL nets from the 1,341,136 households reached with ITNs during the campaign in 2021. In households with EOL nets, it was thought that only around 50 per cent would have survived from the last campaign due to natural attrition.

- The age of ITNs in the sampled households ranged from three to four years (56.7 per cent) implying that most of the ITNs were obtained during the 2021 ITN mass campaign. This also affirms that the campaign was an effective channel for reaching households in Jigawa.

- Most respondents indicated that ITNs were valuable for preventing malaria and that ITNs could last for up to three years (47.8 per cent) if well maintained. This is a good foundation for future social and behaviour change (SBC) activities.

- 73.3 per cent of respondents indicated that EOL nets were not useful, and they would not use them. The conditions under which they will use an EOL net are only where a viable/good net was not available.

- The above implies that EOL nets are likely to be readily available except those that have been repurposed (34.6 per cent). ITN repurposing in households includes cover for grains, sponges for washing, ropes and cages for domestic animals; the farm uses include protection of nurseries and fencing farm boundaries. EOL nets, where not repurposed, were either considered as household waste or found in other locations in the environment or the household.

- EOL nets were seen around the household as part of dirty household clothing (45.6 per cent), hung but rolled up - not being used (18.9 per cent), inside a bag in the room (14.4 per cent) or behind the dwelling/in a shed (8.9 per cent).

- Overall, only 41.1 per cent of respondents indicated that old, unserviceable nets were harmful to the environment. This reflects poor awareness of the negative consequences of EOL nets to and in the environment.

- Regarding the final disposal of EOL nets at household level, 33.3 per cent of respondents were most likely to burn their EOL nets or dispose of them along with other household clothing/waste (20 per cent). However, 30 per cent of the households would prefer that EOL nets are recovered from the household for proper management.

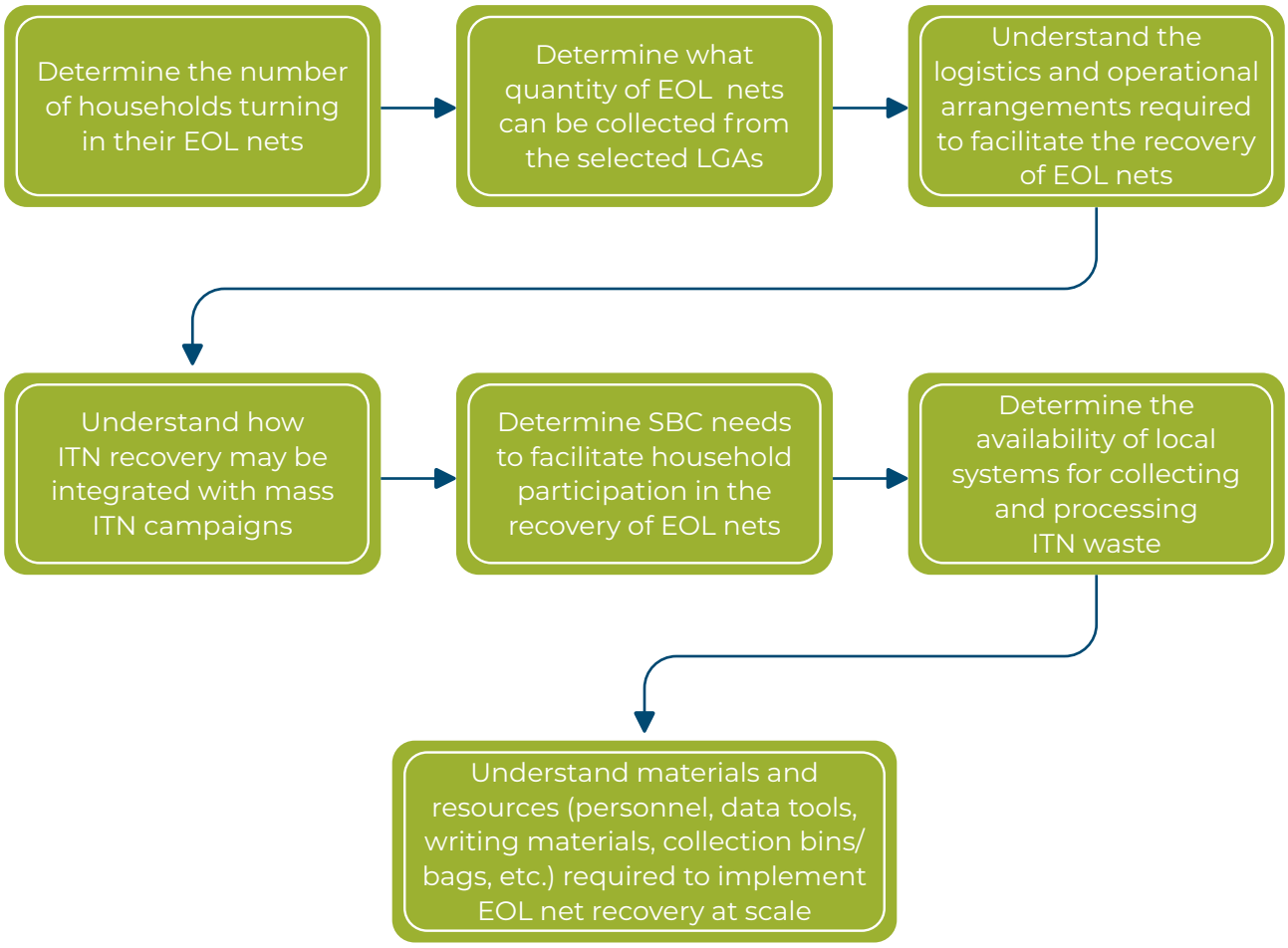
- Most households (95.6 per cent) would be willing to turn in their EOL nets. 48.9 per cent indicated they would willingly turn them in if they were no longer using them, or if there was the assurance of a new net (44.4 per cent). The major motivation to turn in an EOL net was a new, free ITN (85.6 per cent).

Overall results

Both studies indicated the feasibility of EOL nets recovery based on the positive survey percentage scores (60 per cent or above) for recoverability and willingness of the households to turn in their ITNs without an incentive. In cases where the indices are lower on recoverability and willingness to turn in EOL ITN waste, it may not be recommended to pursue an EOL net recovery exercise.

THE EOL NETS PROOF OF CONCEPT

The aim of the Proof of Concept was to validate the findings of the scoping study. It was intended to further confirm the validity of the study assumptions, enable the stakeholders to ascertain an expected margin of error in the outcomes and assess lessons learned for future undertakings. Based on the scoping study, Cross River State was chosen as the site for the validation. The following sequence was planned:



Planning and coordination

Along with the USAID Global Health Supply Chain Programme - Procurement and Supply Management (GHSC-PSM) and Breakthrough Action-Nigeria (BA-Nigeria) teams, the BASF Project EOLIN team conducted a reconnaissance visit to all the collection points and their catchment communities in May 2023 to understand the terrain and probable or potential operational challenges in readiness for the roll-out of operations for the exercise. The implementers carried out planning meetings to ensure full integration of the pilot for the EOL nets project into the ITN mass campaign. Implementation roles were assigned as proposed during the design of the Proof of Concept, with GHSC-PSM responsible for technical aspects of the pilot (personnel management, training, and supervision) and BA-Nigeria responsible for the SBC for the pilot. BASF provided technical direction, deployed the digital platform for data collection, supervised the implementation process and managed the project logistics (transport of EOL nets to final processing site).

Location and selection of collection points

The LGAs selected for the PoC were Akamkpa LGA to represent rural/peri-urban households and Calabar South LGA for the urban households. The Proof of Concept was implemented at six distribution/collection points in Akamkpa and 19 distribution/collection points across ten wards in Calabar South LGA. One of the main findings from the scoping study was that timing for recovery of EOL nets should be aligned with a distribution campaign, since householders were more likely to give up their old nets in return for a new one. The EOL nets recovery was therefore planned to be carried out at the same time as a mass distribution of new ITNs. Collection points were the same as distribution points (DPs) as planned during the microplanning process.

Social and behaviour change communication

BA-Nigeria was responsible for the SBC for the EOL net collection. Targeted messages were developed and reviewed by staff of the SBC workstream of the campaign. The final agreed messages were translated into local languages and scripted for use in the EOL nets collection exercise. To strengthen the delivery of the messages, BA-Nigeria engaged and trained an additional eleven town announcers (one per ward) to focus on the engagement and mobilization of the target communities for the EOL nets collection. The town announcers visited all the catchment communities of the distribution/collection points and relayed messages specifically on EOL nets to the households in the communities, first during the household registration exercise conducted over a nine-day period, and later during the nine days of ITN distribution/EOL nets collection. The idea was to ensure that households were provided with sufficient and correct information and call to action during the ITN distribution/EOL nets collection days.

Training of EOL nets collectors

By design, two EOL net collectors were required to support each ITN distribution/EOL net collection point. While the first collector was responsible for receiving the EOL net (including determining if the net was eligible for recovery and entering the data), the second collector was responsible for collecting and bagging the EOL net. Specific criteria were provided on the type of EOL net that could be collected and those that would be refused. For example, any nets that looked new or had minor holes that could be repaired were refused.

For the 25 distribution/collection points, a total of 50 EOL net collectors were engaged by GHSC-PSM for the exercise. They were provided training on the standard operating procedures (SOPs) for the collection of EOL nets and the campaign processes at the DPs. The EOL net collectors were supervised by GHSC-PSM and monitored by BASF. The EOL net collectors also received training on the end process assessment, which was conducted on the last day of the EOL nets collection exercise.

Logistics

The logistics for the EOL nets collection were managed by BASF, which had identified a functioning recycling facility in Calabar South LGA to receive the EOL nets and other ITN waste (packaging, straps and bale sacks) generated at the PoC sites. BASF monitored daily EOL net collections virtually on the Kobo Collect platform and through physical visits to collection points, assessing the quantity/volume of EOL nets and other waste collected. Based on an assessment of the volume of waste to be managed, BASF provided trucks to transport the EOL nets and ITN waste from the collection points and ensure their delivery to the premises of the recycling company for processing. The waste transport exercise took place from 26—27 June 2023 and all communities within the distribution and collection site of the PoC were completely free of all EOL nets and ITN waste at the end of the campaign.

End process assessment

A post-campaign EOL net collection rapid assessment was conducted to understand household attitudes and responses to the ITN mass campaign and the EOL nets recovery. The rapid assessment was conducted in two communities in each of the distribution/collection point catchment areas in the 13 wards across Akampa and Calabar South LGAs. Five hundred households were selected through a stratified random sampling process across the 25 DP catchment areas. The assessment questions were digitally administered to respondents.

Overall, 62.2 per cent of respondents reported that they received a new net during the campaign, with 37.8 per cent of respondents reporting non-receipt. Among respondents who did not receive a net, 52.5 per cent reported not receiving a net card to exchange for a new net, while 16 per cent did not hear the announcement made by the town announcer.

Among the sampled respondents, 15.8 per cent still had an old net in their household after the EOL net collection exercise. Some of the photographs taken during the survey indicated the nets in various states, including one still in its original individual packaging from the 2019 campaign. The most common reason for not turning in EOL nets was not hearing an announcement to return them (37 per cent). Other reasons included:

- Having a need for the old net (1 per cent)
- Did not receive a net (1 per cent)
- Did not feel like returning it (0.6 per cent)
- Only net in possession, or still being used (1 per cent)

Distribution outcomes and EOL nets collection

The target was to collect/recover five per cent of ITNs distributed in the 2019 ITN mass campaign in the selected distribution point catchment areas. Across all the target distribution points, 241 EOL nets were collected. In Akamkpa LGA, 62 EOL nets were collected while 179 EOL nets were collected in Calabar South LGA. Collection rates for both rural and urban areas were roughly the same.

It is important to note that five collection points in Calabar South did not collect any EOL nets. In relation to meeting the target collection of five per cent from the 2019 campaign, the pilot achieved 0.07 per cent collection (241 out of 3,355 EOL nets).

Packaging waste collection

The collection of packaging waste was, however, more successful. BASF collected a total of 3,811 kilograms of packaging from the 63,530 ITNs distributed at the 25 DPs in Akampa and Calabar South. It was estimated that incineration would have generated at least 11 metric tonnes of CO_2 while mechanical recycling will generate about six metric tonnes, a theoretical saving of 45 per cent. It was estimated that for the over two million ITNs distributed in the State during the campaign, 120 metric tonnes of plastics would have been generated. If recycled, the estimate of street value of the carbon comes to USD 32,000, or a saving of about 600 metric tonnes of CO_2.

Weaknesses

Considering that the pilot achieved mixed results in terms of expectations versus achievements, it is important to highlight some of the weaknesses with the EOL nets pilot as follows:

- Planning with co-implementers was too late to ensure seamless operations.
- The first time that the BASF EOLIN team and the other implementers (GHSC-PSM and BA-Nigeria) met was at the point of State engagement. There was little opportunity for the teams to blend as well as poor clarity of roles and responsibilities.
- The BASF EOLIN team was not included in some key activities such as inception meetings, central level training, and personnel selection because it was thought that these activities were assigned to other partners. Not participating in the training, for example, meant that the BASF EOLIN team could not assess the quality of training of the EOL nets-specific personnel.
- Delay in commencement of EOL nets SBC activities.
- Knowing that community engagement and communication were key to the success of the EOLIN PoC, leaving the SBC until the distribution period had negative consequences.

Lessons learned

- Early planning and working with other implementing partners are key to the success of the EOL net collection. From state engagement to training and household registration, the BASF EOLIN team should be an active participant.
- Early clarity of roles and responsibilities, as well as ensuring the commitment of other partners, is key to the success of any and all EOL net collection excercise.
- SBC, being an essential component of the EOL nets collection, should occupy top priority. There is a need to document and communicate to households why they should return their nets for recycling given a recurring question of why households should give up their nets.

JIGAWA MASS ITN DISTRIBUTION CAMPAIGN AND EOL NET RECOVERY: SCALED-UP PILOT

Using the lessons learned in Cross River, a larger scale pilot took place in Jigawa State in July/August 2024. Four LGAs were selected: Jahun, Ringim, Taura and Hadejia. The target for the EOL net retrieval was set at 20 per cent of the ITNs distributed during the last campaign in 2021 when around 545,050 ITNs were distributed in the focus LGA's. It was estimated that of these, 50 per cent would still survive[4]. Twenty per cent of these amounted to 54,505 EOL nets that could be collected. The Waste Pickers Association of Nigeria (WAPAN) would serve as the primary recipients while an existing recycling company in Kano State would recycle EOL nets into household mats and other textiles.

Some of the key positive aspects of the Jigawa scaled-up pilot included:

- ***Better integration with other implementers.*** The recovery of EOL nets was not seen as a different activity but was regarded as part of the ITN mass campaign process. Plans (training, SBC, logistics, personnel, monitoring and evaluation) were synchronized into one unified plan.

- ***Joint ownership of EOL net recovery outcomes by stakeholders.*** The NMEP, as well as the Global Fund implementing partners, gave equal importance to both the campaign and the recovery of EOL nets.

- ***Active collaboration with the State Waste Management Agency.*** The agency provided assurances of managing all the campaign plastic waste even outside the EOLIN project supported LGAs.

While there were initial issues with EOL nets recovery data, the final results indicated that 10,008 EOL nets were reported by DP supervisors as of end of August 2024. Ringim, with 63 DPs, reported 1,594 EOL nets, while Hadejia, with 25 DPs, reported 1,461. Manual counting was undertaken when the EOL nets were returned to LGAs through waste management and reverse logistics budgets. Based on visual monitoring, it is estimated that around 15,000 EOL nets were collected.

Recycling and prospects for circular economy

Polyethylene nets were delivered to BBY Limited, the recycling company in Kano State. Fifty per cent of the polyester nets retrieved were delivered to Tofa Textile Limited, and have been recycled into napkins and blankets, while the other 50 per cent remain in WAPAN storage for future recycling at Rumbu Industries.

Packaging was delivered to Omnik Nigeria for recycling into pellets for non-food household items. In collaboration with UNICEF Generation Unlimited, straps were delivered to the Straps Upcycling Capacity-Building and Empowerment Programme for 600 unemployed women in Jigawa State.

Under agreement with UNICEF, WAPAN has commenced the process of selection of community women to benefit from training to re-use bale straps for household items. This is a way of empowering community women to earn income from upcycled ITN waste.

Weaknesses

- The campaign was delayed due to nationwide protests, the rainy season and flooding. This led to confusion about how long the distribution would last and corresponding crowd control issues at DPs.

- Some DP supervisors did not report on EOL net returns, making numbers reported inconsistent with observations by monitors of EOL nets being returned.

4. WHO is currently (2025) using a 60 per cent attrition rate.

- Awareness of the retrieval of EOL nets was not consistent across the LGAs selected.

- Positioning of EOL net collection bags was not according to the SOPs and was not consistent across LGAs. In addition, EOL banners were either not used or were improperly placed in some DPs. In some cases, planned SBC was not implemented.

- The fact that 280,000 Interceptor IG2 ITNs were being distributed (in individual packaging) was not well publicized, with the result that campaign workers did not realize how much effort would need to be put into managing waste from individual packages.

Lessons learned

- One platform should be used for reporting of all campaign activities, including EOL net collection, to be consistent and not overwhelm DP supervisors.

- Training in general should be strengthened. Health educators and town announcers need further targeted training and more consistent monitoring. Staff at the DPS also need training to ensure that the SOPs are followed and that results are reported consistently and correctly.

- Pre-campaign SBC had mixed results and should be strengthened through community channels. Questions about EOL nets need to be asked during household registration to assess the overall situation (attrition, number in households, etc.).

- Additional channels and strategies to provide messages to householders and at DPs need to be further explored.

- There is a need for a definitive timeline for the transport of waste management, including EOL nets, at the end of the campaign. Many EOL nets remained at DPs at the conclusion of the campaign.

- Memorandum(a) of understanding (MoU) with recycling entities should be agreed and signed in advance of the ITN distribution and EOL nets retrieval campaign.

OGUN STATE PILOT

A further pilot project took place in Ogun State in November 2024, which continued testing the concept at larger scale and with a different implementing partner. The lessons learned from Jigawa were applied to Ogun as much as possible. A rapid assessment took place in August 2024 to indicate the potential availability of EOL nets. At least one EOL net was found in four out of every ten households sampled. The assessment showed that, in general, respondents would be willing to give up their EOL nets (82.5 per cent) and would be happy to take them to a collection centre, especially if the centre is within their communities (52.5 per cent). However, householders are more likely to burn their EOL nets (48 per cent) or dispose of them in another way (14 per cent), and there is a large-scale informal market for old nets thriving in the State.

Based on the assessment and on the 2021 ITN distribution, targets were set at 20 per cent of distribution less 50 per cent attrition rate. This amounted to 177,253 EOL nets, equivalent to 70,000 kilograms of polyester. Packaging targets were set at 2.8 million sacks.

A detailed report on the Ogun State campaign will be shared in due course, but early results show that only 1,589 EOL nets were recovered, 0.9 per cent of the target.

CHALLENGES IDENTIFIED FROM ALL THREE PILOT PROJECTS

- Negative response to call to action regarding recovery of EOL nets. Despite massive awareness promotion, householders need to be convinced of the need to return old nets without an incentive.
- Fairly extensive repurposing practices observed.
- Nets sold to informal waste pickers, with cash incentive.
- Timing of last mass distribution. The longer the period since the last distribution, the more likely there would be major attrition and repurposing.
- Ways to ensure community engagement need to be further explored.
- A budget for waste management (transport, storage at rented facilities and stipends) needs to be established as part of planning. In some cases, waste management as a key activity of the campaign did not feature in the campaign timeline. Waste requires proper management.
- Adequate provision needs to be made for resources/budget for transporting waste.
- Partnerships and integration need to be strengthened between all partners.

KEY ACHIEVEMENTS OF THE BASF PROJECT EOLIN

- Development of tools for conducting rapid assessment of household preferences.
- Development of protocol for an EOLIN proof of concept and a protocol for the implementation of end-of-life nets recovery.
- Demonstration of the feasibility of a comprehensive sustainable waste management solution that collects EOL nets and ITN plastic waste for recycling, leading to the reduction of open air burning of ITN plastic waste.
- Demonstration of the concept of “integrability” described as the ability to integrate an EOL nets collection exercise with a mass campaign.
- Demonstration of the concept of “collectability” described as the ability to recover EOL nets during a mass campaign.
- Ongoing efforts to fully demonstrate the concept of recyclability, having partially done so with Jigawa EOL nets/campaign plastic waste where the most EOL nets were collected. Further results will be reported in due course.
- Sustained buy-in by the national malaria programme and campaign implementers.

THE WAY FORWARD

While the pilot projects show mixed results, the process of EOL net collection will move forward throughout Nigeria, integrated into all campaigns. The results to date have shown that:

- EOL net retrieval can be successful and integrated with mass distribution when coordinated carefully in the early stages of campaign planning. However, integration should be across all campaign thematic areas, particularly data management and logistics.

- Partnerships, if identified early and with clearly defined roles, can be effective.

- Stronger messaging for EOL net retrieval is necessary to ensure community engagement on a larger scale. Key to the success of collection is local stakeholder and community engagement.

What initially started as an effort to recover EOL nets to boost a circular economy with plastic waste has now grown to become a comprehensive waste management solution recovering both EOL nets and ITN plastic waste and managing them in an environmentally sustainable manner.

Based on the pilots, an EOL net retrieval activity will be included in more Nigerian states, with the addition of collection of old nets being included in routine (via ANC and EPI) and continuous (school-based, community-based) distribution wherever these channels are used. It is planned that collection will become standard in Nigeria after more projects in 2025 and that the lessons learned will be used to improve each successive pilot, but also to inform other national malaria programmes planning such recovery projects regarding challenges and best practices.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AMP CONTACTS

To join the weekly AMP conference call each Wednesday at 10:00 AM Eastern time (16.00 PM CET) use the following Zoom meeting line:
https://us06web.zoom.us/j/2367777867?pwd=a1lhZk9KQmcxMXNaWnRaN1JCUTQ3dz09

You can find your local number to join the weekly call:
https://zoom.us/u/acyOjklJj4

To be added to the AMP mailing list visit:
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