



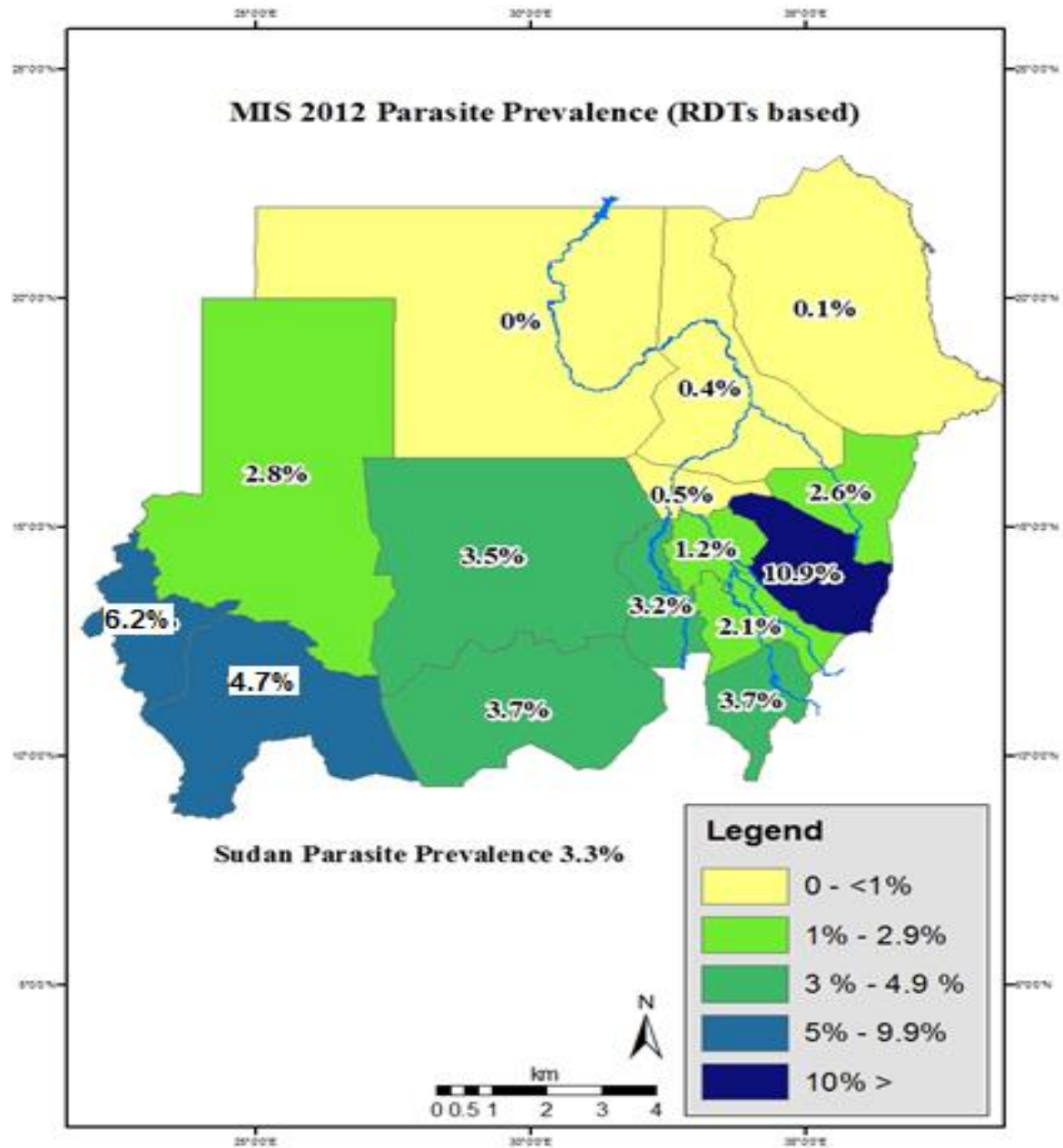
Sudan LLINs tracking system

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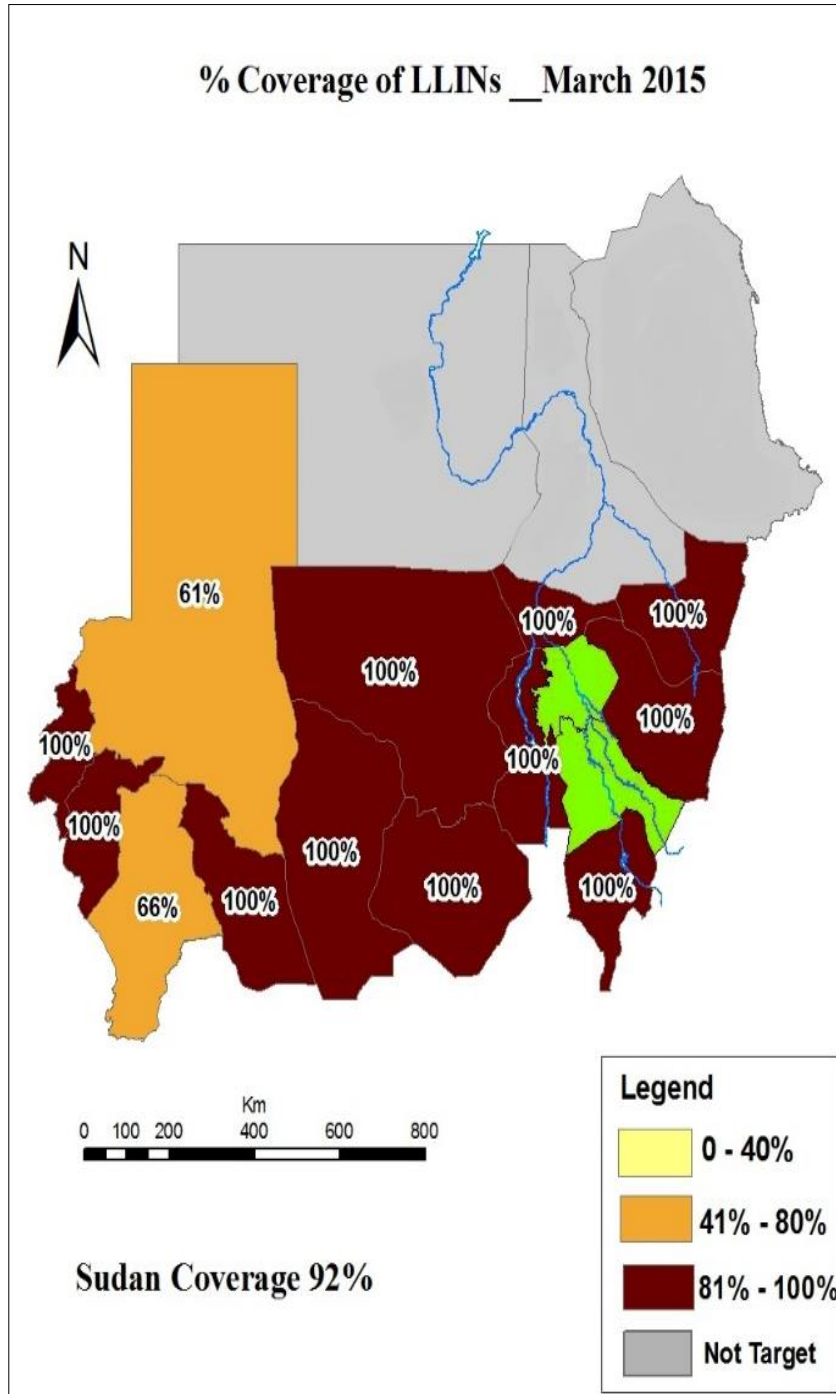
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INTRODUCTION

- Sudan National Malaria Strategic Plan aims to achieve universal coverage of 1 LLIN per 2 persons for all population at risk in the targeted 12 States including IDPs, refugees, nomads and civil mining communities.
- LLINs operational coverage March 2015 is 92% (LLINs coverage bellow).
 1. *An. Arabiensis* is the main malaria vector all over the country.
 2. *P. falciparum* represent >96.5% , *P. vivax* 2.5% , *P. malariae* (very rare) and *P. ovale*, overall malaria prevalence is 3.3%(MIS 2012) malaria prevalence map.
 3. Overall estimated malaria cases 2014 is more than million



- More than 12 million LLIN were distributed in targeted states and by end 2015 the program to reach universal coverage 100% one nets for 2 people



RATIONALE FOR LLINs tracking system

- Improve planning and implementation and timing, of LLIN mass campaign.
- Increase ownership and usage of nets as it is low(MIS2012).
- Improve the planning, implementation and assessment of effectiveness of the routine distribution through ANC to maintain universal coverage.
- Adjustment of LLINs replacement time.
- Measure coverage and usage post-campaign
- Identify geographic areas where more effort is needed to increase LLIN ownership and utilization.
- Assessment of LLINs durability and bio-efficacy of LLINs over time.

Elements of the LLIN Tracking System

There are 7 elements for the Sudan LLIN Tracking System as follows:

1. Macro-quantification of LLINs
2. Procurement and Supply Chain Management (PSM)
3. Process assessment of the campaign
4. Periodic assessment survey
5. Bio-efficacy testing
6. Monitoring of the routine distribution of LLINs through ANC.
7. Monitoring Behaviour Change Communication (BCC).

Macro-quantification of LLINs

Include assessment of the following:

- How many LLINs are needed to achieve universal coverage?
- When were previous campaigns held, how many nets were distributed, which brands, where?
- When do we need to do a replacement campaign because the previously distributed nets are old?
- Identification of any gaps in coverage? and
- Preparation of overall gap analysis considering population growth rate.
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Procurement and supply chain management

It is following the process of LLINs procurement end to warehouses at locality level:

- When is the expected arrival date for the LLINs to arrive at the seaport? What is the status of the arrival of nets in the country?
- Is sample of nets taken to assess the quality of impregnation
- When the LLINs will be at all points of distribution? Are they going where they are needed?
- Is the quantity of the LLINs at each point correct according to gap analysis?
- Are there any blockages in the process?

Process assessment of the campaign

Will be including the assessment of:

- Is the campaign “on track”,.
- How were households registered for the campaign? How complete was the registration process in each administrative unit?
- How many nets were distributed? Did households receive the correct number of LLINs?
- What useful lessons can we learn for future mass campaigns?

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LLIN periodic assessment survey

Will be assessing the following:

- What is the ownership and use of LLINs in the household periodically?
- What is the loss of nets after the LLINs have been distributed a mass campaign?
- What are the factors affecting the ownership and use of LLINs?
- What is the physical condition of LLINs owned over time?
- What can be learned from the household survey to improve the COMBI strategy and key messages to households about bed net use, care and repair?

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Survey process

Target states were divided to 4 regions include:

1. Eastern region: Gedarif and Kassala states
 2. Central: Blue Nile and White Nile states
 3. Greater Kordofan: North Kordofan, South Kordofan and West Kordofan states
 4. Greater Darfur: East Darfur, West Darfur, North Darfur, South Darfur and Central Darfur states
- 300 houses will be selected from each region or domain for periodic survey.
 - Periodic survey were planned to be carried-out 4 time through life span of LLINs:
 - 3 month post campaign
 - 12 month post campaign
 - 24 month post campaign and
 - 36 month post campaign

Survey Methodology

- *Survey design:* a repeated cross-sectional survey will be carried out periodically.
- *Sampling frame:* The sampling frame will be those areas in each targeted state where a mass campaign distribution of LLINs has taken place.
- *Selection of primary sampling units (PSUs):* These will be villages from the list of villages that received LLINs in the mass campaign.
- *Sample size:* In each domain, 300 households will be surveyed from 25 villages or cluster, 12 house from each cluster.

Bio-efficacy testing

This element include the assessment of:

- What is the bio-efficacy (residual insecticidal activity) of the LLINs before distribution to households?
- What is the bio-efficacy of the LLINs under field conditions in target populations over time?

Bio-efficacy testing methodology

- LLINs will be collected periodically back to back with periodic survey in addition to sample of nets before distribution.
- 5 nets will be sampled from each batch pre-LLINs distribution.
- Periodically 10%(30houses) of houses will be selected for LLINs sampling per each domain or region and one nets from each house.
- Total of 30 nets will be sampled from each domain
- Susceptible colony of Dongola of *an. arabiensis* will be used for bio-efficacy testing.

Acknowledgment for LLIN Tracking System Task Force members

- Mr. Hmooda Toto Kafy, Federal Ministry of Health (FMOH), Head of Integrated Vector Management (IVM) Unit
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Thanks

