

**Monitoring and Evaluation of the Tanzanian
National Net Strategy**

Universal Coverage Campaign

Household Survey Report- Coastal zone

Rose Nathan

Yovitha Sedekia

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Executive Summary

This report provides a summary of results from a household survey that was conducted in Kisarawe and Rufiji following completion of universal distribution of free nets (LLINs) and hang-up campaign. The reported household survey was conducted in October 2011.

The survey addressed four main objectives:

1. To assess coverage of the Universal Coverage Campaign (UCC) in the Coastal zone
2. To assess household ownership of ITNs in the Coastal zone
3. To assess use of ITNs for people in various age groups in the Coastal zone
4. To assess the coverage of the hang-up campaign the Coastal zone

A total of 580 households were surveyed in the Coastal zone.

Process indicators for the Universal Coverage Campaign

Prior to distribution of the nets, various preparatory activities were carried out, among them was registration of households. Procedures required each household to be visited and sleeping spaces that were not covered by a LLIN from the Under five Catch-up Campaign (U5CC) or through the upgraded fixed top-up voucher would be counted and the household would be given the number of coupons equivalent to such sleeping spaces.

In Kisarawe and Rufiji districts, virtually every head of household who was interviewed reported that s/he had heard about the UCC (99.5%). Of the 580 surveyed household, 96% were registered for free LLINs. However, just few households were asked the purposed questions that would lead to the accurate number of nets required. Of the 580 surveyed households, only 3% were asked about the number of sleeping spaces by those who were doing registration. Contrarily, most of the households were asked about household members (70%).

Household ITN ownership and sleeping spaces

Estimates of household ownership of ITN (at least one) were 97% in Kisarawe district and 98% in Rufiji district. Ownership of LLIN was also high, 97% of the surveyed households in Kisarawe and Rufiji districts owned at least one LLIN.

Success of the UCC as measured by percentage of sleeping spaces covered by LLIN was substantially high. **At the time of the survey, 79% of the reported sleeping spaces were covered by LLIN.** However, number of LLINs owned per household did not necessarily correspond to the number of sleeping spaces. While some households had more nets (LLINs) than required, others had less than the number of sleeping spaces. Distribution of LLINs through the UCC achieved a high level of equity, 99% of the households in the lowest wealth quintile had at least one LLIN and 94% of the households in the highest wealth quintile had at least one LLIN (equity ratio=1.1).

ITN use among household members

Point estimates of personal ITN use were derived from the question about sleeping under ITN in the night preceding the survey. While ownership of ITN was very high in the coastal zone, use was relatively low. 63% and 59% of household members in Kisarawe and Rufiji districts respectively, reported to have slept under ITN in the night preceding the survey.

Coverage indicators by household socio-economic status showed a lower use of ITNs among the members of households in the lowest wealth quintile, 52% compared to 65% of those in the highest wealth quintile households (equity ratio=0.8).

Post UCC coverage of ITN use among women of child bearing age (15-49) was 65%.

ITN use in children

ITN use by children under-five was 73% in both Kisarawe and Rufiji districts, this compares quite closely with the 2010 Post U5CC estimates (Kisarawe, 72% and 79% in Rufiji). It is worth noting that the 2010 survey was conducted during rainy season in November/December.

Use of ITNs among children under-five was quite equitable across socio-economic quintiles. Coverage for children in the households of the lowest wealth quintile was 69% while those in the households of the highest wealth quintile was 67% (equity ratio= 1)

Hang-up campaign

Distribution of the LLINs was followed by hang-up campaigns. **Less than half** (47%) of the LLINs received from the UCC had been hanged up by the time of the survey. Most of the LLINs were hanged up within a week of receipt (93%). Leading reasons for not hanging up the net were “using another net” (42%) followed by “there are no mosquitoes (35%). Small size was reported for few nets that were not hanged by the time of the interview (6%).

Reports from the heads of households about household visitation as part of the hang-up campaign indicated a very low coverage. 47% of the households reported that someone visited the household to give instructions about hanging-up the net.

Timing

This survey was conducted in the month of October which falls in the dry season. That might in part explain the observed low use of ITNs. The reported non-use of ITNs due to perception that there were no mosquitoes calls for sustained BCC to reinforce the critical message about consistency use of ITNs throughout the year.

Acknowledgements

We are thankful to several people who contributed in the implementation of this survey, analysis and production of the report. Among those are the project data manager (Silas Temu), Angelina M Lutambi, who analysed the data, and the field team who worked very hard to complete the work within schedule while maintaining quality.

We highly appreciate the support of the DMOs, malaria/"Hati punguzo" focal persons and village/hamlet leaders in the surveyed districts. We are indebted to the respondents who offered their time and information.

The survey was funded by the Global Fund to fight AIDS, TB and Malaria.

Background

With support from the Global Fund to Fight AIDS, Tuberculosis and Malaria (GFATM) and the United States “Presidents Malaria Initiative”, the National Malaria Control Programme (NMCP) defined a national ITN strategy between 2004-2008 which provided subsidized nets targeted at vulnerable groups through discounted vouchers issued at antenatal clinics. The voucher could be used as part of payment for ITN from appointed retailers.

In order to accelerate coverage and address the equity gap, in 2009 the NMCP diversified the strategy to include distribution of free long lasting insecticidal nets (LLINs) to children under-five (U5CC), delivery of high-value (fixed-top up) vouchers to pregnant women and infants and the Universal Coverage Campaign (UCC) that aims at distributing LLINs to households with sleeping spaces that are not currently covered by LLIN.

Following revision of NMCP M&E framework as well as diversification of ITN strategies in 2009, IHI has been conducting a series of household surveys at sub-national level. Findings from each survey have been documented in reports that are compiled soon after completion of the field work and analysis of data. Fourth in the series of such surveys, is the evaluation of the UCC. This report presents findings from a household survey conducted in the Coastal zone to assess the impact of UCC in ITN ownership and use. This report includes only the Coastal zone where UCC was implemented in September 2011.

The Universal Coverage and hang up campaigns

Similar to the other zones, the UCC involved registration of households and sleeping spaces that were not covered by LLINs from the U5CC or through the upgraded fixed top-up voucher for pregnant women and infants. A coupon was given to the household for each sleeping space that was not covered by LLIN. Specific distribution points were set up in each community where a household member on the day of distribution, collected LLINs supposedly equivalent to the number of registered uncovered sleeping spaces. As a strategy to ensure that the free LLINs were used, a hang-up campaign that included a person visiting a household followed soon after the distribution of the nets.

Objectives

- 1.** To assess coverage of the Universal Coverage Campaign (UCC) in the Coastal zone
- 2.** To assess household ownership of ITNs in the Coastal zone
- 3.** To assess use of ITNs for people in various age groups in the Coastal zone
- 4.** To assess the coverage of the hang-up campaign the Coastal zone

Methodology

Study site

The currently reported survey was conducted in Rufiji and Kisarawe districts both in the Coastal zone. This is one of the zones selected for sub-national level household surveys.

Timing

The survey to evaluate the impact of the UCC was conducted in October 2011. Distribution of free LLINs was implemented in September 2011 in the two districts. Hang up campaign followed soon after the issuing of LLINs. Thus, the survey happened fairly close to the distribution date of the LLINs.

Sampling and sample size

Coastal zone is among the three zones marked in NMCP M&E framework as zones that would be sampled for the sub-national NATNETS surveys. Sampling scheme was adopted from the previous national TNVS household surveys where each household within the chosen district had an equal chance of being included in the sample. Sampling within the district started with selecting clusters (villages) with probability proportional to the size of the village. Within each chosen village, one sub-village (kitongoji) was selected using simple random sampling (by drawing lots). Within each selected kitongoji, 30 households were chosen using a modified EPI-type sampling procedure. From each district 10 clusters were chosen and from each cluster 30 households were chosen, thus 300 households were selected from each district. The sample size of 300 hundred households was set to estimate net use in the night before the survey in children under-five years with a standard error of 5% at district level.

The survey tool

Design of the questionnaire was primarily guided by the U5CC household survey tool. Additional questions were added to capture the process indicators specific to the UCC. In consultation with NATNETS partners and piloting, the final version of the tool was developed.

The UCC household survey questionnaire of 2011 consisted of 3 modules:

1. Household module (HH).

- Identifiers
- Household roster for all residents
- Household assets (markers of socioeconomic status)
- Education and occupation of the household residents
- Household net ownership
- Use of ITN by each household member
- Awareness of the importance of early attendance to ANC clinic
- Heard about malaria prevention campaign messages
- Location of the household using a GPS

Knowledge and participation in the UCC
Hang-up campaign issues

2. Women's module (W) for all women aged 15-49 ??? check

Awareness of the importance of early attendance to ANC clinic
Current pregnancies
Use of antenatal services
Receipt of voucher during pregnancy

3. Mothers/care providers to children under-five

Exposure to messages about malaria prevention campaign
Awareness and experience with CCAs

Data collection was done using personal digital assistant (PDA).

Logistics

Similar to the surveys in the Southern and Lake zones, two teams worked in each of the two districts. Each team had 4 interviewers, 1 supervisor and a driver. The teams were also accompanied by 1 research officer (senior supervisor) and one data manager.

Quality control

The field team

The same team of interviewers and supervisors that conducted the previous sub-national level household surveys was recruited for this reported survey.

Training

Prior to the start of the post UCC household survey in the Southern zone, the team was trained for a total of 8 days including 3 days of piloting the tool and household selection. Training included, the consent process, interview technique, probing for dates using local event calendars and household selection. Similar to the previous national surveys, a detailed interviewers' guide was prepared, piloted during the training sessions and carried in the field by each interviewer. Retraining was done for few days before start of the field work for the Coastal zone.

Field supervision

Similar to the previous household surveys, supervisors accompanied some interviews and did re-interviews on key aspects of the questionnaire in some randomly selected households. Completeness check forms were completed for each cluster.

Checking and storing data

Procedures similar to the previous household surveys were adopted. At the end of each day supervisors synchronized the PDAs to their Laptop computers and ran sets of checks using purpose-written MS

Access programmes. The quality control check compared the original interview and re-interview and identified discrepancies. The reporting programme produced a summary of the data collected for each cluster, including specific problems. Interviewers completed data error forms whenever a data entry error was encountered. These were collected by the supervisors and provided to the data manager for subsequent data cleaning.

Data processing

Data management followed similar procedures used for the TNVS national and sub-national level household surveys. All survey data were entered into handheld computers at the point of data collection. Data cleaning was undertaken by the data manager using information from the data error forms, supervisor summary forms, daily Access-generated reports and standard range and consistency checks.

Informed consent

Information sheet about the campaigns and the study was drawn up in Swahili, providing in summary the UCC and hang-up campaigns along with explanation about why the study was being carried out, by whom, and what it involved. A copy of the information sheet was left with each household. Respondents were asked if they had any questions and whether they agreed to take part in the study. Written consent of all respondents was obtained before proceeding with interview. This consent was sought from the household heads (or appointed representative) and from each woman /mother interviewed.

Data analysis

Data were analyzed using STATA software according to an analytical plan. The “svy” commands were used to allow the confidence intervals of estimated parameters to be adjusted for the cluster structure of the survey. Estimates of ITN coverage and other indicators are all presented as percentages. Similar to the approach used in the national surveys, principal components analysis was used to construct an index of socioeconomic status in order to examine the relationship between ITN coverage indicators and socio-economic status. Equity ratio (coverage in the lowest wealth quintile/coverage in the highest wealth quintile) was used to assess socio-economic equity in the ownership of and use of ITN.

Definition

In this report ITN is defined as follows:

LLIN (Olyset or Permanet) or an ordinary net treated with long lasting insecticide or an ordinary net treated within the previous 12 months with conventional insecticide. As such LLIN is a subset of ITN.

Results

Estimates of process indicators for the UCC, hang-up campaign and coverage of ITNs are presented. Where appropriate coverage indicators for 2008 and 2010 surveys are included. Consistent to the previous surveys, information provided by the head of household was used to calculate process and coverage indicators.

Study sample

Out of a sample of 600 households in the Coastal zone, 580 (96.7%) were interviewed. Of the interviewed households, information about net use was collected for a total of 2168 household members who slept in the surveyed households in the night preceding the survey (Table 1).

Table1: Summary of the surveyed households

	Coastal zone
Number of districts	2
Number of clusters	20
Number of households	580
Number of people in the households	2310
Number of people who slept in the HH in the night preceding the survey?	2168
Mean household size	4.0
Children under-five	302
Children under-five who slept in the HH in the night preceding the survey	293
Number of women 15-49	398

Universal Coverage Campaign

Awareness, assessed by asking the head of household whether s/he ever heard about the UCC was very high. Over 99% of the heads of household reported that they had heard about that campaign. Radio (35%) and community workers (37%) were cited most frequently by the respondents as the source of information about the UCC (Table 2).

Table2: Awareness of UCC among heads of households

Information	Coastal zone	
	n/N	% (95% CI)
Heard about the campaign	577/580	99.5 (98.4-99.8)
Main source of information		
Community worker	214/577	37.1 (33.3-41.1)
Neighbours/relatives/friend	128/577	22.2 (19.0-25.7)
Radio	203/577	35.2 (31.5-39.1)
Others	32/577	5.5

According to the responses from the heads of households, coverage of registration for free LLINs was markedly high. Of all the surveyed households, 96% were registered. Most of the households were registered before the distribution day (99%). Receipt of LLINs was also very high, 95% of the surveyed households received at least one LLIN in the Southern zone (Table 3).

Table 3: Registration and issuing of nets (LLINs) at household level

	Coastal zone	
	n/N	% (95%CI)
HH registered	556/580	95.9 (93.9-97.2)
Registration happened at home	534/556	96.0 (94.0-97.2)
HH registered before distribution day	548/556	98.6 (97.1-99.3)
Household received at least one LLIN	550/580	94.8 (92.7-96.3)

During registration of households for LLINs specific questions were supposed to be asked to establish the number of LLINs to be given to each household. Table 4 illustrates the questions that were asked by those who were doing household registration for the UCC. The question asked to most of the heads of households was about the number of household members (70%), only 3% were asked about sleeping spaces. Coverage of coupons among the registered households was very high, only about 1% of the registered households were not given any coupon.

Table 4: Household registration

	Coastal zone	
	N=556	% (95%CI)
<u>Household asked about</u>		
Sleeping spaces	17	3.1 (1.9-4.7)
Number of beds	19	3.4 (2.2-5.2)
Number of household members	391	70.3 (66.6-73.8)
Nothing	23	4.1 (2.8-6.1)
Other	3	0.5 (0.2-1.7)
Do not know	103	18.5 (15.5-21.9)
Requested to enter the house	55	9.9 (7.7-12.6)
Number of coupons		
0	7	1.3 (0.6-2.6)
1	191	34.4 (30.8-38.2)
2	262	47.0 (43.1-51.0)
3	566	10.1 (7.8-12.9)
4+	40	7.2 (5.3-9.6)

Sleeping spaces covered

Using information about the number of sleeping spaces and number of LLINs in the households received through U5CC, upgraded fixed top-up vouchers or UCC it was possible to estimate the percentage of sleeping spaces covered by LLINs and thus derive sleeping spaces that remained uncovered by LLIN after the UCC. A total of 1631 sleeping spaces were reported and LLINs received from any of the three sources were 1284. As such, **at least 79% of the sleeping spaces were covered by LLINs and up to 21% of the sleeping spaces remained uncovered by LLIN.**

As shown in Figure 1, the number of LLINs in the household at the time of the survey did not necessarily match the number of sleeping spaces, the irregularities were more pronounced in households with relatively higher number of sleeping spaces. In some households the numbers of owned LLINs were lower than the number of sleeping spaces while other households had excess LLINs. While only about 2% of the households with one sleeping space had LLINs lower than target, 50% of households with three sleeping spaces had less than 3 LLINs. Sixty seven of households with one sleeping space, 45% of those with two sleeping places and 31% of those with three sleeping spaces had LLINs that matched the target of the UCC (number of LLINs=number of sleeping spaces).

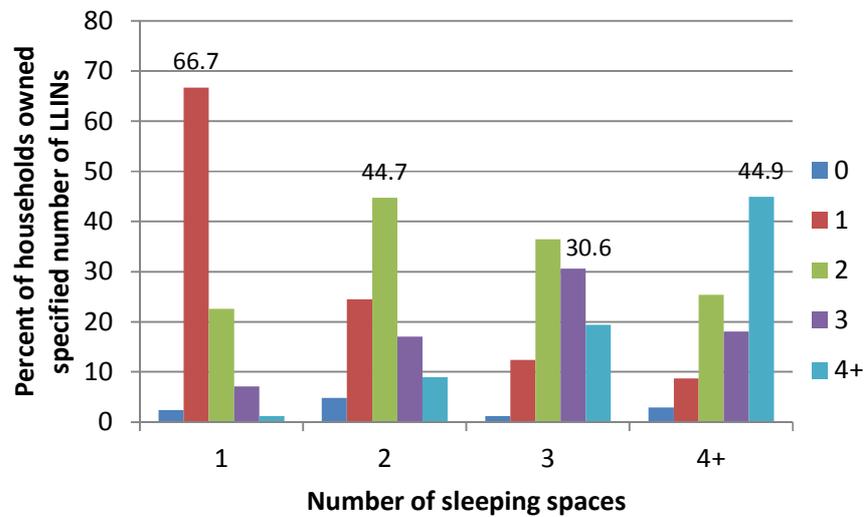


Figure 1: Number of LLINs owned per household

Proximity of the distribution point to the household is an important factor in access. This was explored by asking the person who travelled to the distribution point about time spent in travelling. A total of 323 head of households reported that they travelled to the distribution points¹. Most of the respondents (94%) spent less than one hour to reach the distribution point. The mean travel time was 16(15-18) minutes. Equally important is the time spent at the distribution point. About 80% of the respondents spent less than one hour waiting time and 5% spent at least three hours at the distribution point. The mean time spent at the distribution point was 38 (31-44) minutes. Over 80% of the households (out of those who received at least one) received one or two LLINs (Table 5).

¹ In household where the head did not travel to the distribution point, someone else in the household did

Table 5: LLIN distribution

	Coastal zone	
	n/N	%(95%CI)
Head of household travelled to the distribution point	323/571	56.6 (52.5-60.5)
Travelling time spent		94.4 (91.8-96.3)
- Less than 1hr	305/323	16.4 (14.8-18.0)
Mean (minutes)		
Waiting time spent at the distribution point		
- Less than 1hr	259/323	80.2 (75.9-83.9)
- Between 1 & 3hrs	48/323	14.9 (11.5-19.1)
- 3hrs and more	16/323	5.0 (3.1-7.7)
Number of LLINs received		
1	183/550	33.3 (29.7-37.2)
2	272/550	49.5 (45.4-53.4)
3	52/550	9.5 (7.3-12.2)
4+	43/550	7.8 (5.9-10.4)

Household ownership and use of ITN

Net ownership

Similar to the previous NATNETS household surveys, information about each net in the household was gathered. For each net, source of the net was identified and treatment status of each was established. In that way, it was possible to categorize nets as untreated, ITN (including LLIN) or LLIN. Table 6 shows that of the surveyed households in the coastal zone, 99% had at least one ITN. The current level is more than double the 2008 national estimate of 46%. Ownership of LLIN was equally high (97%).

Table 6: Household ownership of nets

Coastal zone	N	At least one net (any)	At least one ITN	At least one LLIN
		%(95% CI)	%(95% CI)	%(95% CI)
2011	580	99.0 (97.7-99.5)	97.8 (96.2-98.7)	97.1 (95.3-98.2)
Tanzania (2008)	7200	69.8 (63.8-75.2)	45.7 (40.1-51.5)	-

Number of nets

Actual numbers of nets owned by each household were reported by the heads of households in each of the survey. Distribution of households by number of nets owned in Kisarawe and Rufiji districts show a high proportion of households owing at least 3 nets. In Kisarawe district about 49% and 56% of the households in Kisarawe and Rufiji districts respectively, owned three or more nets.

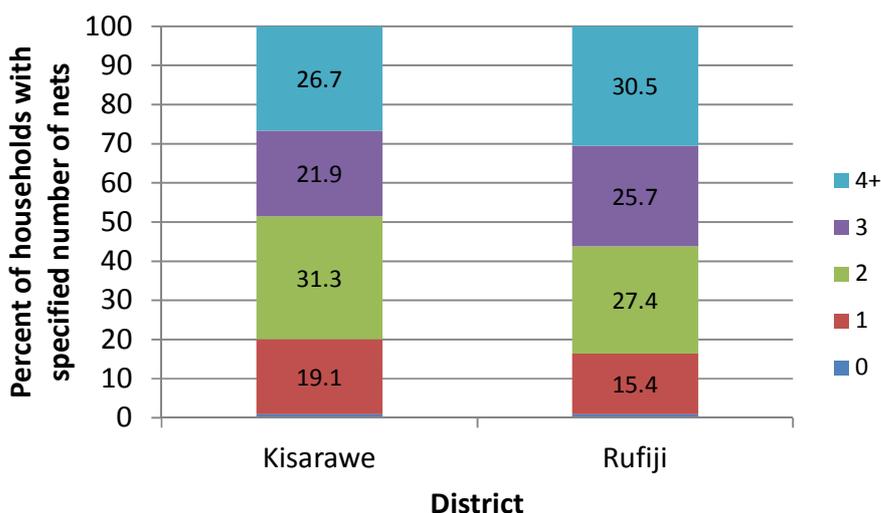


Figure 2: Net ownership by specific numbers

ITN ownership at district level

ITN ownership at district level is shown in Table 7. Estimates from the 2010 household survey in the two districts showed that Rufiji had a higher coverage of ITNs (78%) compared to Kisarawe (62%). In 2011 after universal distribution of LLINs that gap closed with very high coverage in both districts (98% in Rufiji and 97% in Kisarawe).

Table 7: ITN ownership by district

District	N (2010)	2010 % (95% CI)	N (2011)	2011 % (95%)
Kisarawe	293	62.0 (56.0-67.0)	288	97.2 (94.5-98.6)
Rufiji	296	78.0 (73.0-82.0)	292	98.3 (95.9-99.3)

Source of net

Using the information about source of each net, contribution of UCC to the ownership of nets was assessed (Table 8). In both districts, UCC was the main source of nets followed by U5CC. 62% and 64% of the nets owned in Kisarawe and Rufiji districts respectively, were from the UCC.

Table 8: Source of nets

Source of net	Kisarawe	Rufiji
	N=796 n (%)	N=869 n (%)
HP infant	2 (0.3)	10 (1.2)
HP pregnant women	6 (0.8)	7 (0.8)
Upgraded voucher	33 (4.1)	35 (4.1)
U5CC	92 (11.6)	76 (8.7)
UCC	491 (61.7)	555 (63.9)
Purchased	116 (14.6)	121 (13.9)
Other	56 (7.0)	65 (7.5)

Net ownership and equity

Percent of households that owned at least one ITN in 2011 showed a consistently high coverage across quintiles of socio-economic status with high achievement in equity (equity ratio=1.0). In each Socioeconomic Status (SES) quintile, at least 95% of its households owned at least one ITN. In the previous years, the households of the lowest wealth quintile had persistently low coverage compared to the households of the highest wealth quintile and thus the gains bestowed by the UCC were highest in the households of the lowest quintile. In 2008, the national survey showed that households in the lowest wealth quintile had coverage of less than half of those in the highest wealth quintile with an equity ratio of 0.4 (Figure 3).

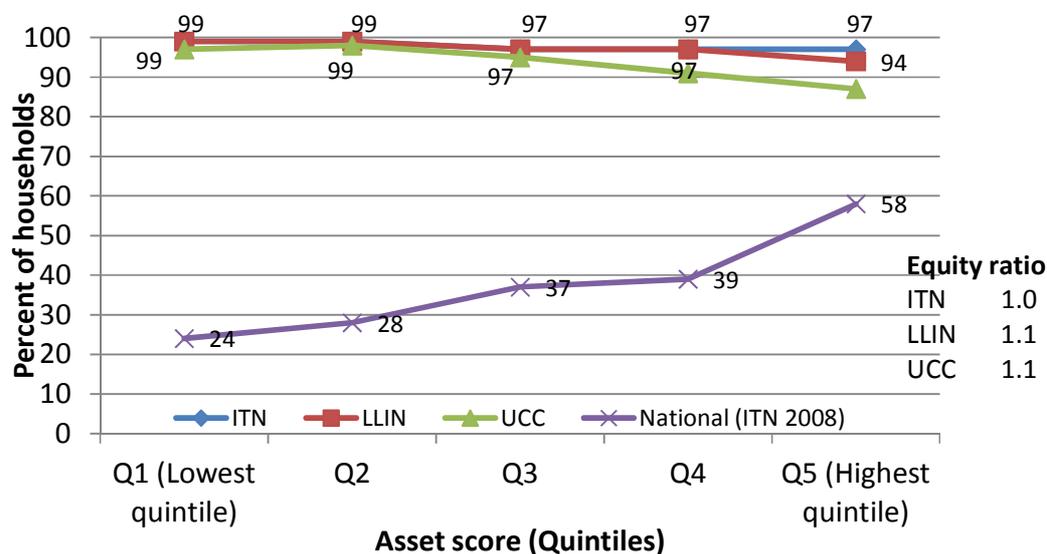


Figure 3: Percentage of households owning at least one ITN by socio-economic status

Personal use of ITN

A total of 1667 nets were reported in the surveyed households but only 815 (48.9%) were reported to have been used in the night preceding the survey.

For each unused net reasons for not using were documented (Table 9) - The most frequently mentioned reason for not using the net was “the net is not hanged”, (50.8%). This was followed by “no mosquitoes around” stated for 25% of the unused nets. Other reasons were “person travelled” (5.4%), “net was washed” (4.3%), and “net was constricting (1.9%) and “too hot” (1.9%).

Table 9: Reasons for not using the net

Reason	N= 852 n	% (95%CI)
Net not hanged up	433	50.8 (46.1-55.5)
No mosquitoes	213	25.0 (20.7-29.8)
Person travelled	46	5.4 (3.9-7.4)
Net was washed	37	4.3 (2.9-6.5)
Net is constricting	16	1.9 (1.0-3.5)
Too hot	16	1.9 (0.9-4.1)
Net is worn out	12	1.4 (0.8-2.6)
Net used for other purposes	1	0.1 (0.0-0.8)
Other	73	8.6 (6.2-11.7)
Do not know	5	0.6 (0.2-1.40)

Sleep under a net in the night preceding the survey is a coverage indicator of use of net. The TNVS national household surveys monitored coverage by producing estimates of sleeping under any net and sleeping under ITN. The timing of the sub-national level household surveys coincided with delivery of LLINs, thus an sleeping under LLIN became an important coverage indicator.

Considering that the UCC did not target any specific population group, assessment of coverage of ITNs among all people in the surveyed household is an appropriate indicator for assessing success of the UCC. Table 10 shows coverage of ITN (including LLIN) among all household members and women 15-49. About 61% of all people in the surveyed households slept under ITN (including LLINs), 59% slept under LLINs. 42% of those people slept under LLIN distributed through the UCC. Coverage levels for women age 15-49 were insignificantly slightly higher than the estimates for the general population (65% ITN and 44% LLIN).

Table 10: Use of nets by household members

	N	ITN	LLIN	LLIN from UCC
All household members	2168	60.8 (57.4-64.1)	58.8 (55.5-62.1)	42.2 (39.4-45.0)
Women 15-49	395	65.1 (60.1-69.8)	62.3 (57.3-67.0)	44.1 (39.1-49.2)

Overall coverage can be high but disparities in subgroups are worthy exploring. Figure 4 shows that coverage among the household members in all the three indicators was slightly higher in the households of the highest wealth quintile. While 65% of the people in households of the highest wealth quintile slept under ITN, only 52% of those in households of the lowest wealth quintile slept under such a net (equity ratio=0.8). Similar disparity was observed for the use of the LLINs from the UCC (equity ratio=0.8).

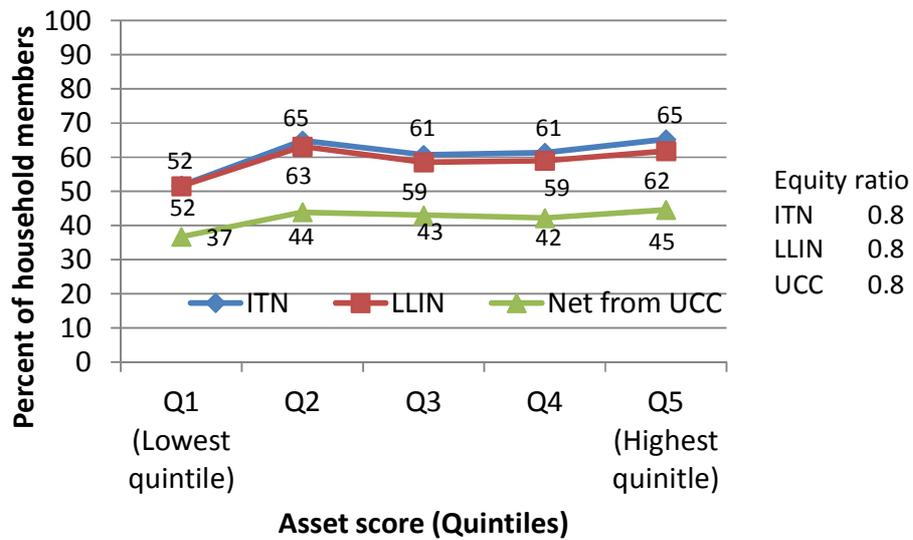


Figure 4: ITN/LLIN coverage among household members by SES

Use of the LLINs from the UCC by specific age groups of the household members indicated in both districts, a higher coverage in the oldest age groups (Figure 5). In Rufiji district children under five years of age (39%) and children between age 5 and 14 (35%) had the lowest coverage of the LLINs from the UCC. Likewise coverage in those two age groups was also lowest in Kisarawe district but with a slightly higher coverage (42%).

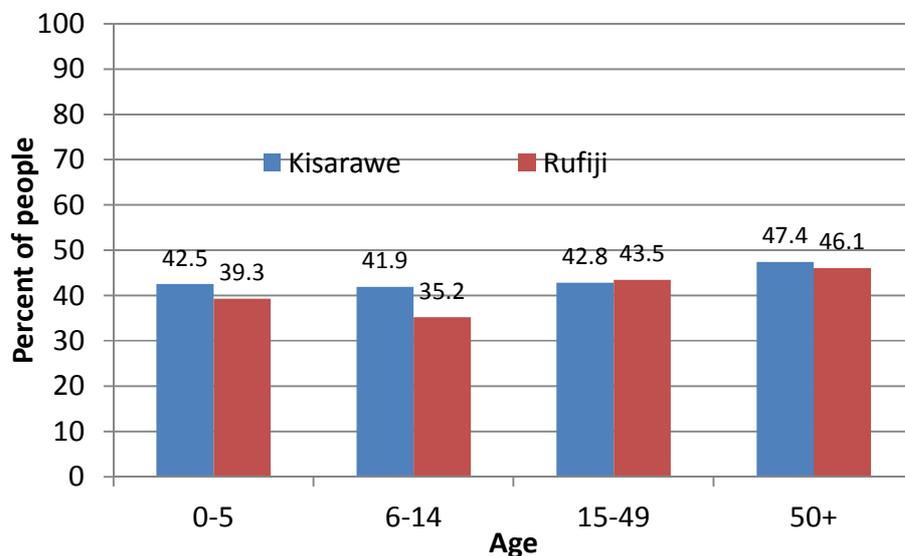


Figure 5: Use of LLINs from the UCC by age groups

Children under five

Children below the age of five years have been targeted for ITNs for several years and surveys have shown a consistent increase in the coverage for this group. Children are also beneficiaries of the universal distribution of LLINs. Proportion of children under-five reported to have slept under LLIN in the night preceding the survey was 71% in both districts. This compares closely with the 2010 estimates where 72% and 79% of children under-five slept under ITN in Kisarawe and Rufiji districts respectively (Table 11).

Table 11: Net use – children under-five

	N	ITN	LLIN	LLIN from UCC
Kisarawe				
2010	165	72.0 (64.0-79.0)	69.1 (61.3-75.9)	-
2011	288	72.9 (63.8-80.5)	71.3 (61.8-79.3)	42.6 (34.4-51.3)
Rufiji				
2010	222	79.3 (72.4-84.8)	68.9 (61.9-75.2)	
2011	292	72.5 (64.6-79.2)	70.8 (62.8-77.6)	40.4 (32.8-48.3)
Tanzania (2008)	5701	28.8 (22.3-36.3)	n/a-	n/a

Net use and equity (Children Under five)

Estimates of use of ITN (including LLIN) and LLIN by children under-five years of age across socio-economic quintiles provide an insight into equity. A marked increase in coverage from 2008 happened across all wealth quintiles with highest gains in the lower quintiles (Figure 6). The observed increase is a result of both U5CC and UCC. The gains resulted into equitable coverage across the wealth quintiles where 69% and 67% of children in households of the lowest wealth quintiles and highest wealth quintiles respectively, slept under ITN in the night preceding the survey (equity ratio=1.0).

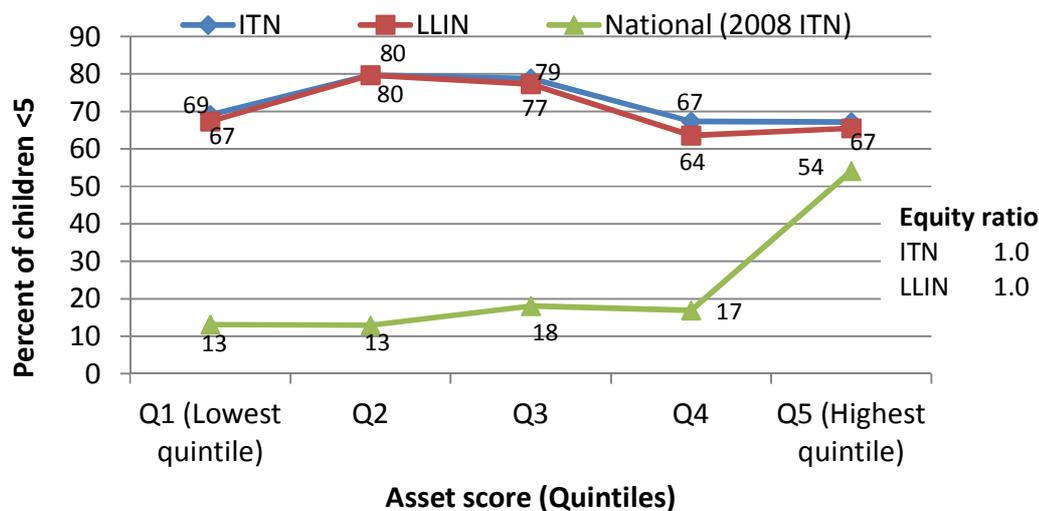


Figure 6: ITN use among children under five years by socio-economic status

District level ITN use estimates are shown in Table 12.

Consistently children had the highest coverage followed by women (15-49) and lastly all household members. While coverage for children (73%) was essentially the same level in the two districts, Kisarawe district had a slightly higher coverage in the other two groups.

Table 12: ITN use by district

District	Kisarawe	Rufiji
	% (95%CI)	% (95%CI)
All household members	63.0 (58.2-67.5)	59.1 (54.3-63.7)
Women 15_49	67.6 (60.4-74.1)	63.0 (56.0-69.5)
Children <5	72.9 (63.8-80.5)	72.5 (64.6-79.2)

Hang-up campaign

Among the LLINs received by the surveyed households only 47% had already been hanged. Most of such LLINs were hanged within a week of receipt (93%). The most frequently stated reason for not having hanged up the net was “using another net” (42%) followed by “no mosquitoes (35%). Other stated reasons included the small size of the net (6%). Giving a net to another household was also mentioned

(4.5%). Heads of the households that received LLIN were asked whether they received any instructions about hanging up the net; of those 43% said “yes”. Of all the surveyed households, 44% were reported by the heads of households to have been visited for instructions about hanging up the net. However, the leaflet/sticker that was to be delivered to the households by the hang-up volunteers were reported to have been received by 47% (Table 13).

Table 13: Hang-up campaign indicators for the UCC

	Coastal zone	
	n/N	% (95%CI)
The new net already hanged	503/1077	46.7 (43.0-50.4)
Time lapse between receipt of LLIN and hang-up		
Within a week	468	92.7 (89.5-94.9)
Within a month	34	6.7 (4.6-9.8)
Over a month	3	0.6 (0.2-1.8)
Reasons for not hanging		
No mosquito	199/574	34.7 (29.1-40.7)
Using other net	240/574	41.8 (36.3-47.5)
Didn't get around to it yet	33/574	5.8 (3.6-9.1)
Jointed two nets into one	1/574	0.2 (0.0-1.2)
Gave to another household	26/574	4.5 (2.9-7.1)
Net too small	35/574	6.1 (4.0-9.2)
Cannot hang it	4/574	0.7 (0.3-1.9)
Other	36/574	6.3 (3.7-9.9)
Received instructions about hanging the net	238/550	43.3 (39.2-47.3)
Household visited for instructions on how to hang up the net*	252/579	43.5 (40.1-47.0)
Household received a leaflet/sticker (use and importance of sleeping under a bed net)	274/580	47.2 (46.9-52.9)

*1missing

Discussion

This report has summarized process and coverage indicators of the UCC and hang-up campaign for the Coastal zone. Ownership of ITNs in both Kisarawe and Rufiji was markedly high but use was comparatively low.

UCC

Essentially all the interviewed heads of households stated that they had heard about the UCC (99.5%). This high coverage of awareness is an indication that the community was well reached with the information.

Results are indicative that the registration process in the Coastal zone was highly successful in terms of coverage of households (96%) but instructions on how to determine the number of LLINs per household were not observed. Apparently, most households were asked about the number of its members (70%) with very few asked about sleeping spaces (3%).

Geographical access to the distribution points, assessed by the time it took the head of household to reach the point, suggested that they were fairly close to their households. 94% of those who travelled to the distribution points reported that they spent less than one hour to get there. Similarly, waiting time was reasonably low, 80% of the LLIN recipients spent less than one hour at the distribution point and only 5% reported to have waited for more than three hours to get the net. Equally encouraging is the high percent of the surveyed households that received at least one LLIN from the UCC (95%).

Net ownership

Net ownership was assessed by “at least one ITN (including LLIN) and LLIN” owned per household. At the time of the survey, 97% and 98% of the households in Kisarawe and Rufiji districts respectively, owned at least one ITN (including LLIN) and 97% owned at least one LLIN. These estimates were much higher than those derived from the 2010 survey where 62% of the households in Kisarawe district owned at least one ITN and 78% in Rufiji district. The main source of the nets in the households was from the UCC (62% in Kisarawe and 64% in Rufiji district).

Disaggregation of ITN ownership by socio-economic status showed that the households of the lowest health quintile had coverage of 99% and 97% of the households of the highest wealth quintile.

Use of ITN

Ownership of ITNs is a necessary but not sufficient condition for use – findings from this survey underscore that statement. Despite a very high ownership of ITNs, use was lower than desirable. Among the reported 1667 nets in the surveyed households only 49% were used in the night preceding

the survey. Overall, 61% and 55% of people slept under ITN and LLIN respectively, in the night preceding the survey

While equity was highly achieved in ownership of at least one ITN in the household, use was not as successful. Coverage indicators by household socio-economic status revealed a higher use of nets among the members of households of the highest quintile of 65% compared to 52% of those households of the lowest wealth quintile (equity ratio=0.8). A similar disparity was observed for LLINs (equity ratio=0.8).

Coverage of ITN among children under-five remained at comparable levels with the 2010 estimates. Coverage in Kisarawe district was 72% in 2010 and 73% in 2011, for Rufiji district coverage was 79% in 2010 and 73% in 2011.

Use of ITN among children was fairly equitable across socio-economic quintiles. Children in households of the lowest wealth quintiles had a coverage of 69% and 67% for those in households of the highest wealth quintile (equity ratio=1.0).

The LLINs distributed to the households contributed most to the use of nets to all household members. In both districts, the most senior household members (50+ years) had a slightly higher coverage by the LLINs distributed through the UCC.

Hang-up

Responses to the question of whether the LLINs received from the universal distribution had been hanged indicated that only few of them were already hanged-up (47%). 93% of those LLINs were hanged within a week of receipt. Using another net was the most common stated reason for not hanging-up the net (42%). This finding is a reflection of excess nets in some households (but not necessarily ITNs) and a potential limitation of use of LLINs. "No mosquitoes" accounted for 35% of the nets that had not been hanged. Small size as a reason for not hanging-up a net was stated for 6% of those nets. Visiting households for instruction on how to hang-up the net was low, only 44% of the heads of households reported that they were visited for that purpose.

Note

This survey was conducted during dry season in October 2011, while the included estimates from the 2010 were derived from a survey carried out during rainy season in May. Comparatively we would expect to have a much higher use of ITNs in 2011 if the survey was conducted in rainy season. The reported non-use of ITNs due to perception that there were no mosquitoes calls for sustained BCC to reinforce the critical message about consistency use of ITNs throughout the year.