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RESEARCH REPORT

**A STUDY ON GENDER DIMENSIONS IN THE
DISTRIBUTION AND USE OF MOSQUITO NETS IN
DODOMA REGION, TANZANIA**

BY DR. FLORA KESSY

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LIST OF ACRONYMS

DC	District Council
EA	Enumeration Area
FGDs	Focus Group Discussions
GFATM	Global Fund to fight AIDS, Tuberculosis and Malaria
GRAS	Gender Responsive Assessment Scale
HRH	Human Resource for Health
IMCI	Integrated Management of Childhood Illnesses
ITNs	Insecticide Treated Nets
KI	Key Informant
LLINs	Long Lasting Insecticide Treated Bed Nets
MC	Municipal Council
MoHSW	Ministry of Health and Social Welfare
NATNETS	National Insecticide-Treated Nets Program
NBS	National Bureau of Statistics
NMCP	National Malaria Control Program
RBM	Roll Back Malaria
RCH	Reproductive and Child Health
SDC	Swiss Development Cooperation
TDHS	Tanzania Demographic and Health Survey
THMIS	Tanzania HIV and AIDS and Malaria Indicators Survey
TNVS	Tanzania National Voucher Scheme
UCC	Universal Coverage Campaign
URT	United Republic of Tanzania

EXECUTIVE SUMMARY

A significant proportion of Tanzania's population, nearly 90% is at risk for malaria infection. The disease accounts for over 30% of the national disease burden, and it is estimated that 39.4% of all outpatient hospital visits in children below the age of 5 and 48% among the population that is aged 5 years and above are due to malaria.

Because of its significant cost to the economy, malaria control has received major attention in recent years. This is visible both in national level policies, and in local/sub-national government practices. There has also been significant growth of political commitment towards malaria control which has affected national policies. Tanzania has formulated a National Malaria Treatment Policy and a National Malaria Control Strategic Plan which is built around four pillars:

- (i) Improved malaria case management;
- (ii) National scale up of Insecticide Treated Nets (ITNs);
- (iii) Prevention of malaria in pregnancy; and
- (iv) Malaria epidemic prevention and control.

Major efforts have gone into implementing pillar number two of the strategy starting with the pilot provision and social marketing of Insecticide Treated Mosquito Nets (ITNs) of the Kilombero Nets Project (KINET) in 1998 through a subsidized voucher scheme to help expectant mothers access ITNs. This was followed by launching of the Tanzania National Voucher Scheme (TNVS) in 2004 and introduction of the Under –five Catch up Campaign (2008) and most recently (2010) the Universal Coverage Campaign.

The TNVS program focused on pregnant women—only they being eligible to receive a subsidy on purchase of a mosquito net and at the age of nine months children are given their own TNVS ITNs. On the other hand, the under-five catch up campaign that followed this first program focused on under-fives. In essence both programs discriminated against men, and other vulnerable segments that may not have been able to access nets through commercial outlets because of the cost involved. Shortfalls of this nature in the ITNs distribution programs have led to growing reservations about the extent to which the campaigns have taken into account gender issues both at the design and implementation stages.

Against this backdrop, this study set out to examine the gendered aspects of accessing and using ITNs in programs distributing mosquito nets to Tanzanian households (the Tanzania National Voucher Scheme (TNVS), the under-five catch-up campaign, and the universal coverage campaign which distributed the Long Lasting Insecticides Treated Bed Nets—LLINs). Dodoma region was used as case study, and from its six councils, three councils,

Mpwapwa District Council, Kondoa District Council, and Dodoma Municipal Council were selected.

Adopting a multi stage sampling to identify enumeration areas and wards, and random sampling to identify households to be interviewed using the questionnaire, the study covered 487 households in the three districts. Focus group discussions and interviews with key informants were also held with respondents.

Using a Gender Responsive Assessment Scale (GRAS), as a lens for assessing how gender sensitive policies and programs are, answers were sought out to the following three questions:

- (i) What are the perceptions of men and women towards the TNVS approach?
- (ii) What are the gendered aspects of TNVS that improved/hindered access and use of ITNs?
- (iii) Has the change in approach to universal coverage (free distribution ITNs through the under-five catch-up campaign and the universal coverage campaign) enhanced the gendered aspects in accessing and using mosquito nets?

Findings show that social marketing campaigns to raise awareness about ITNs have had a major impact in perceptions of both men and women about the importance of using ITNs. Almost all households have heard about ITNs (98%) mostly through radio, reproductive and child health clinics, from village authorities and through community meetings.

All respondents were aware that not everyone could benefit from TNVS. Pregnant women were mentioned as the main beneficiary (79%) followed by children under five years of age (50%). Among the three campaigns, the universal coverage campaign seems to have been the most widely publicized. Still there are misconceptions about risks of using ITNS that will need to be addressed. For example, in focus group discussions some community members mentioned that ITNs led to impotency in men.

At program level, distribution of mosquito nets under the TNVS was found to be *gender unequal* in the sense that it privileged women over men. Similarly, the social marketing approaches used in the program could be classified as *gender-blind* in the sense that they ignored gender norms, roles and relations. The communication campaigns on awareness of the importance of pregnant women sleeping under ITNs only targeted women without considering the important role men play in decision making on who actually utilizes the nets in the household. Notwithstanding, it also ignored the sleeping patterns in the household by portraying a woman sleeping with a child in a mosquito net while in many instances the father also shared the bed with the mother, sleeping under the same ITN. However, at the household level some gender balance in the use of the mosquito nets has been maintained although still more women were sleeping under mosquito nets compared to men.

Majority of households own and do use nets to protect themselves from mosquito bites and malaria. Adults in the households, men and women, are more likely to sleep under mosquito nets than children but women having small children were prioritized by men in terms of using the mosquito nets. Where mosquito nets were inadequate, boys and girls (above 12 years but below 18 years) were the least likely to sleep under a net.

In terms of how people acquire nets, households have accessed ITNs from multiple sources with universal coverage campaign leading (66%). A good number of households also obtained bednets from commercial outlets (25%).

In majority of cases (55%), women collected the ITNs from vendors themselves, and in particular, TNVS beneficiaries because they were the bearers of names indicated on the antenatal clinic attendance cards. In cases where the women didn't go (45%), husbands or other household members went to collect the ITNs. In occasions where men collected the ITNs, it was either because the retail shops were located far away (the man had to use a bicycle) or a wife had been too busy and requested assistance. However, men indicated that while they may be keen to help their spouses collect nets from vendors, they are often put off by statements uttered at collection points. For example, men reported being asked if *they were the ones who were pregnant* in occasions where they went to collect nets for their spouses.

The approach adopted in distribution of the TNVS nets was also *gender-blind* in the sense that it ignored differences in opportunities and resource allocation for women and men. Women had to use their savings because men did not pay for their ITNs. Further, the approach was also *gender-blind* in the sense that it considered women as homogenous group which is not the case. There are women who cannot conceive and those who have passed their reproductive age and thus would never benefit, as well as poor and destitute groups of women who couldn't redeem their vouchers. There were old women who thought they had the right to get the mosquito nets given their old age and their vulnerability to diseases due to life cycle changes, but were not eligible nonetheless.

Management of mosquito nets was considered to be in women's sphere from hanging, washing, re-treating, hanging down and tucking and to make sure that all children slept under bed nets. However, as far as collection and funding is concerned, women strongly suggested that men ought to play a bigger role than they do at the moment. About 64% of the women reported paying for ITNs from their own savings, through support from relatives or from loans. Only 36% of the women reported that their husbands helped them pay the top up (the voucher redemption) costs. An encouraging phenomenon is that in a great number of cases (82%), spouses discussed jointly how they would finance the purchase of ITNs from TNVS.

Price paid for ITNs did not seem to bother a significant number of respondents. Majority considered the amount paid for ITN from TNVS program to be affordable/reasonable (61%). In some cases however, respondents seem to have paid prices higher than the stipulated TShs 500, in which case they considered the prices to be rather high.

While the pricing wasn't an issue, respondents were concerned about difficulties in accessing the nets from TNVS. Accessibility of TNVS ITNs is beset by failure of the existing distribution channels. TNVS Agents frequently reported shortage of mosquito nets in their shops, raised the price of mosquito nets above the recommended price and in some cases mistreated their clients. Because of such inconveniences, majority of the participants in FGDs recommended that TNVS ITNs should be made available in the dispensaries/RCH clinics where the vouchers are issued.

A surprising fact is that the universal coverage campaign was taken by many as a program that came to fill the vacuum left by the TNVS. Although not by design, the universal coverage campaign could therefore be termed as *gender sensitive*. This is in the sense that it tried to promote gender equality by providing mosquito nets to all members of households based on sleeping spaces not yet covered. Under the program, vulnerable groups such as the disabled and the elderly, who were not eligible under the TNVS were eligible as well to receive nets. Men on the other hand interpreted the universal coverage program as their turn to receive nets and more men went to collect the mosquito nets distributed under this program compared to those who went to collect nets from the other two programs on behalf of their spouses.

For sustainability considerations, respondents suggested that TNVS should be continued so as to take care of the newborn children. This is because the timing of the next round of universal mosquito nets distribution is unclear, yet families keep growing by the day. However, ITNs through the TNVS programs should be provided for free, the logic being that the under five catch-up campaign and universal coverage distributed bed nets for free and thus there is no need of punishing pregnant women and infants.

In conclusion, what this study suggests is that a more gender transformative approach is needed in social marketing programs for mosquito nets, as well as in the approaches adopted for distribution. In the case of social marketing, adverts could focus on messages that show spouses taking part in accessing and managing bed nets as equal partners. Messages that show either spouse taking part in redeeming/purchasing nets, washing, treating, and even hanging down and tucking the net for children to sleep under or messages portraying male involvement in decision-making on the purchase of nets, and tackling stigma attached to men redeeming bed nets with the voucher on behalf of their spouses could be particularly useful and may help address the underlying causes of gender imbalances in the access, use and management of mosquito nets. It is clear that men need

space too to play their role in the access, use and management of mosquito nets and they can play very important roles if properly sensitized and allowed the space to get involved.

In order to enhance acceptance of these messages and increased exposure, the designed messages should be piloted (e.g. test new messages with women only or men only or mixed group of men and women) in order to ensure a gender sensitive/specific/transformational approach and thus ensure that messages are interpreted as intended in order to avoid misunderstandings.

Currently, malaria interventions are mainly donor funded which is not sustainable. Reduction of resources directed to malaria interventions will necessitate involvement of all segments of community in procuring bed nets. Men have a very big space and important role to play in procuring nets given their decision making role for household resources.

1.0 BACKGROUND

Over 90% of Tanzania's population is at risk for malaria infection (IMF, 2009). Responsible for more than one-third of deaths among children under the age of 5 and one-fifth of deaths among pregnant women, malaria accounts for over 30% of the national disease burden. It is estimated that malaria contributes to 39.4% of all outpatient hospital visits in children below the age of 5 and 48% among the population that is aged 5 years and above. This fact has made it one of the top most priorities in health when it comes to allocation of resources for prevention and control (Mboera *et al.* 2007).¹

There is currently a renewed attention to malaria control, visible both in national level policies, and in local/sub-national government practices. In part this renewed attempt is a reflection of recent growth in global political commitment towards malaria control stimulated by the Roll Back Malaria (RBM) partnership and the Global Fund to fight AIDS, Tuberculosis and Malaria (GFATM). Tanzania's malaria treatment policy of 2006 aims at reducing malaria to a level where it is no longer a major public health problem and an obstacle to socio-economic development. Operationalizing the policy is the National Malaria Control Strategic Plan built around four pillars:

- (i) Improved malaria case management;
- (ii) National scale up of Insecticide Treated Nets (ITNs);
- (iii) Prevention of malaria in pregnancy; and
- (iv) Malaria epidemic prevention and control.

Major efforts have been made to implement pillar number two of the National Malaria Strategic Plan. In 1998 and later on in 2001, the Ministry of Health, Non-Government Organizations, and Development Partners introduced a national social marketing program for Insecticide Treated Nets (ITNs). The program was implemented as a pilot to develop and test processes for increasing affordable supply, demand and coverage of, and to stimulate the commercial market for ITNs in the country. Through promotions, the social marketing program offered a way to increase demand and supply of nets at subsidized prices to vulnerable groups.

Following the successes recorded, in September 2004 Tanzania launched a nationwide ITN promotion program, the Tanzanian National Voucher Scheme (TNVS), providing subsidized ITNs to all pregnant women who visit antenatal clinics. The TNVS supplies vouchers to antenatal clinics and trains clinic staff on how to distribute the vouchers. It also recruits shopkeepers near each clinic to undertake retail distribution of ITNs. Each woman who attends antenatal clinic receives a discount voucher worth TShs 2,750 towards the purchase

¹Nevertheless, there is positive trend in reduction in child mortality largely due to gains in malaria control through improved diagnosis and treatment, as well as prevention through increased use of Insecticide Treated Nets (United Republic of Tanzania (URT), 2009).

of an ITN. Using the voucher recipients purchase ITNs by providing a “top-up” payment to the retailer equal to the gap between the voucher amount and the retail price, which generally ranges from TShs 3,000 to TShs 5,000 (Magessa et al, 2005).

The TNVS began in October 2004 and by May 2006 it had been scaled up to cover all 21 regions in Tanzania’s mainland. Nevertheless, distribution of ITNs through TNVS failed in guaranteeing adequate coverage to various groups in households. Access to and use through the voucher scheme is contingent on several economic, social and cultural aspects that have gendered dimensions and which may have been largely ignored in the intervention. The TNVS program focused on pregnant women—only they being eligible to receive a subsidy on purchase of a mosquito net—and in that way it discriminated men and other groups of women.² As a consequence, several gender issues have been noted (WHO, 2007):

- ITNs have reduced both the number of malaria cases and malaria-related deaths in pregnant women and their children but little is said about men.
- The acceptability and use of ITNs are strongly linked to culturally accepted sleeping patterns, in which gender plays an important role. In some instances, young children sleep with their mother and are therefore protected by her mosquito net if she has one. Alternatively, if a household only has one mosquito net, priority may be given to the male head of the household as he is often considered the primary breadwinner. In other contexts, men have very little access to ITNs if they predominantly sleep outside or in a different house/hut.
- Economic inequities in areas such as control of household resources also affect access to ITNs and are an important gender issue. By making an ITN a “commodity” (which can be purchased and/or sold) it enters a gendered contested arena – where men can either deny funding for the mosquito net or can sell the women’s mosquito net for e.g. a drink.³ In one study in Benin, many women explained that since they were financially dependent on their husbands, they were unable to purchase an ITN for themselves and their children, even where it is subsidized, unless their husbands prioritized the use of mosquito nets.
- Women are often responsible for the maintenance of ITNs as part of their household duties. This includes washing and performing chemical re-treatment of the nets. Studies on the use of ITNs indicate that women frequently have to request their husband's permission for money to buy insecticides for re-treating the nets.

² The rationale was that under scarce resources, it makes sense to start with the most at risk groups and for that matter pregnant women and their new born and 9 months infants were targeted.

³ Personal communication with Dr Lucia da Corta, Overseas Development Institute (ODI)

With this realization it has been suggested that at a minimum any policy to increase women's/children's access to mosquito nets need to ensure two things. 1) that there are concerted efforts to involve males in mosquito nets campaigns; and 2) mosquito nets are made freely available to women. The assumption here being that if ITNs are freely accessible to households, they will lose their commodity value and problems associated with gendered access can as well be reduced.

Against this backdrop, this study set out to explore the gendered aspects of accessing and using ITNs through several programs that distributed mosquito nets. Using households sampled from Dodoma region as case study, this report explores experiences under the TNVS, the under-five catch-up campaign, and the Universal Coverage Campaign (UCC) which distributed Long Lasting Insecticide Treated Bed Nets (LLINs) to all households. The following three questions have been explored in this study:

- (i) What are the perceptions of men and women towards the TNVS approach?
- (ii) What are the gendered aspects of TNVS that improved/hindered access and use of ITNs?
- (iii) Has the change in approach to universal coverage (free distribution of LLINs through the under-five catch-up campaign, and the universal coverage campaign) enhanced the gendered aspects in accessing and using mosquito nets?

2.0 ENGENDERING DEVELOPMENT PROJECTS

2.1 Background

Despite considerable advances in gender equality in recent decades, gender discrimination remains pervasive in many dimensions of life-worldwide. In no region of the world are women equal to men in legal, social, and economic rights. Still, the nature and extent of the discrimination vary considerably across countries and regions. Gender gaps are widespread in access to and control over resources, in economic opportunities, in power, and in expression of political voice. Women and girls bear the most of direct costs of these inequalities but since the costs broadly cut across societies, ultimately everyone is harmed (World Bank, 2001).

For these reasons, “gender equality is a core development issue; a development objective in its own right” World Bank (2001, pp 1). Promoting gender equality is an important part of a development strategy that seeks to enable *all people-women* and men alike to escape poverty and improve their standard of living. In that way it strengthens countries’ abilities to grow, to reduce poverty and to govern effectively.

Understanding this, governments and development partners are formulating gender policies to guide their development work. The Swiss Development Cooperation (SDC) Gender Policy of 2003, for example, underscored the importance of doing a gender aware analysis as the basis for all interventions:

“No context is free of gender relations. Therefore, a gender aware analysis at micro, meso and/or macro levels according to the intervention is mandatory prior to formulation of any country program and its associated procedures. Similarly, gender needs to be incorporated at the project design stage and reflected in the project cycle. Such an analysis identifies problem and needs of different groups of women and men as well as key gender inequalities and issues in the context. The analysis leads to the formulation of effective assumptions for different groups of women and men. This allows programs/projects to identify strategic ways to contribute to the reduction of gender inequalities through a cross cutting approach and/or identifying specific gender actions” (SDC Gender Equality Policy, 2003).

In the same vein, engendering health interventions call for the adoption of a gender framework in analyzing health matters and in the formulation of policies, programs and services. Fundamentally, it is about recognizing that everyone, women and men, has a “sex”

and a “gender” and that both sex differences and gender differences have significant impact on health.⁴

In this report, the approach used by TNVS is analyzed through a gender lens to gauge the extent to which the intervention was engendered. The Gender Responsive Assessment Scale (GRAS) which is a tool for assessing policies and programs has been used in gauging the gender dimensions.

2.2 Key Concepts in Gender Responsive Assessment Scale⁵

Based on the Gender Responsive Assessment Scale, development interventions may be categorized as manifesting any of the following five features:

(i) **Gender-unequal approach:**⁶

- Perpetuates gender inequalities by reinforcing unbalanced norms, roles and relations.
- Privileges men over women (or vice versa).
- Often leads to one sex enjoying more rights/opportunities than the other.
 - ✓ Example: Campaign on distribution of mosquito nets provided to women only in communities where the widely held norm is that women have the priority to sleep under ITNs.

(ii) **Gender-blind approach:**

- Ignores gender norms, roles and relations.
- Very often, though without intending to, reinforces gender-based discrimination.
- Ignores differences in opportunities and resource allocation for women and men.
- Often based on principles of being “fair” by treating everyone the same.
 - ✓ Example: Communication campaign to raise awareness of the importance of pregnant women sleeping under ITNs that only targets women without considering the role men play in deciding who ultimately utilizes the nets in the household.

(iii) **Gender-sensitive approach:**

- Considers gender norms, roles and relations.

⁴ Gender is the term used to describe the social relationship between men and women; it refers not only to men or women but the relationship between them and the way this relationship is socially constructed; thus gender is not synonym of women. On the other hand, sex identifies the biological and physical relationship between men and women; sex does not change with time but gender relations do change over time.

⁵Adapted from Olukoya (2010)

⁶Note that the situations under each aspect are not always intentional.

- Does not address inequalities generated by unequal norms, roles or relations.
- Indicates gender awareness, though often, no remedial actions are developed.
 - ✓ Example: Communication campaign to raise awareness of the importance of pregnant women sleeping under mosquito nets that also considers targeting men.

(iv) Gender-specific Approach:

- This recognizes differences in gender roles, responsibilities and access to resources, and takes account of these when designing interventions.
- Gender specific policies or programs however do not try to change the underlying causes for these gender differences.
 - ✓ Example: After revising the different patterns and roles in the community, mobiles clinics are established in order to avoid mobility constraints faced by women.

(v) Gender Transformative Approach:

- Recognizes differences in gender roles, norms and access to resources and actively tries to change these, so as to promote gender equality.
 - ✓ Example: Community women and men are consulted on an equal basis, and the same value is given to their contributions, at all levels in project planning, advisory committees and in community meetings, to establish a malaria control program.

Among the five, the transformative approach stands out as the best due to its focus on addressing the underlying causes of the perceived or observed gender imbalances. However, quite often people feel that resolving underlying causes of gender imbalances is a “feminist” issue that goes beyond programmatic objectives of interventions such as the TNVS. Though in the ITN interventions empowerment for its own sake may not be the issue, adopting this approach may yield immediate benefits in terms of access to and use of mosquito nets. For example, when men participate on an equal basis with women in establishing a malaria control program, the likelihood of higher and immediate impact is enhanced.

3.0 METHODOLOGY

3.1 Study Setting

The study was conducted in Dodoma region. Dodoma covers an area of approximately 41,310 sq. km which is equivalent to 5% of Tanzania mainland (URT, 2002), and comprises of six councils namely Dodoma Municipal Council (MC), Kondoa District Council (DC), Bahi DC, Chamwino DC, Mpwapwa DC and Kongwa DC. Population of the region is estimated at 2,105,035 million people (992,242 males and 1,112,793 females). Dodoma region was selected for this study because the region is one of the SDC's area of coverage. Further, there is an SDC funded project working on ITNS which could use the findings to understand the gender dimensions of the net distribution activities that it is facilitating.

Living conditions in Dodoma Region are dominated by its climate marked by a long dry seasons, variability of rainfall and persistent wind resulting in soil erosion. A clear majority of the population lives in agriculture with an estimated 85% of the labor force being engaged in the production of crops. Agricultural activities are mostly carried out in the tradition way with high labor input, of low productivity and without taking advantage of modern tools and techniques. The second most important economic activity is livestock production at small scale household level.

Out of the six districts in the region three were chosen for the study: Mpwapwa DC, Kondoa DC, and Dodoma MC. At the time of this study, the estimated population of these three districts was as follows: Dodoma MC (324,347), Mpwapwa DC (254 500) and Kondoa DC (429,824). The selection of these districts covered both urban and rural aspects but also took into account heterogeneity of communities in the region in terms of their cultural norms.

3.2 Sampling and Data Collection

Multi-stage sampling method was used. First, census Enumeration Areas (EAs) of Dodoma MC, Kondoa DC and Mpwapwa DC were selected from the National Bureau of Statistics (NBS). After that wards from these EAs were selected and this was followed by selection of households to be visited. A total of 24 EAs were identified (8 from Dodoma MC, 11 from Kondoa DC and 5 from Mpwapwa DC). From these EAs, a total of 21 wards were sampled. The households were then sampled randomly in order to avoid bias in the results.

One of the issues in the line of inquiry was the proportion of households with children below five years. The assumption was that if a household had children below five years of age, the women in it would have been exposed to ITN messages and would have obtained

ITN (other factors remaining equal). Therefore in addition to the projected population of the district, the proportion of under-five children, estimated by the National Census Projections at 18.4% in 2010 was used as a basis in the sample size calculation. Based on these criteria, a total of 487 households were sampled and interviewed as follows; 158 from Dodoma MC, 110 from Mpwapwa DC and 219 from Kondoa DC.

In order to get balanced views of both men and women, both men and women were interviewed (either a man or a woman in the household was interviewed). A total of 243 males and 244 females were interviewed.

Data from the households were collected using semi-structured questionnaire that had both open and closed ended questions. The questions focused on the following main thematic areas; respondents' demographic information, household awareness, access and ownership of ITNS and the gender aspects there in, the gendered perceptions on the TNVS, the under-five catch up and universal coverage campaign approaches, the gender relations in the use and management of ITNs at the household level, and the economic status of the households (see annex 1 for the study questionnaire).

Selected men and women also participated in Focus Group Discussions (FGDs). A total of 11 FGDs (6 for women only and 5 men only)⁷ were held with participants ranging from 7-10 members. Thus, a total of 93 individuals participated in the FGDs (52 and 41 males and females respectively). Other respondents in the study were Key Informants (KI) such as Malaria and Integrated Management of Childhood Illnesses (IMCI) Focal Persons (2), Village and Ward Executive Officers (3), TNVS agents (2) and ITN retail shopkeepers (5). Annexes 2 and 3 show the interview guides used for Key Informants interviews and the FGDs respectively.

⁷ The plan was to conduct 4 FGDs in each district (2 male FGDs and 2 female FGDs). However, in Dodoma MC (right at the municipal centre), it was difficult to collect men and form an FGD.

4.0 OVERVIEW OF THE MAJOR MOSQUITO NET DISTRIBUTION PROGRAMS IN THE COUNTRY

4.1 Introduction

The National Insecticide-Treated Nets Program (NATNETS) under the National Malaria Control Program (NMCP) of the Ministry of Health and Social Welfare (MoHSW) is a multi-donor, multi-partner initiative to promote the national use of ITNs by making nets affordable, accessible, and acceptable. In order to achieve these objectives the program has implemented several approaches to increase ITN ownership and use so as to meet the Roll Back Malaria (RBM) target of 80% by 2010. Approaches involved include the Tanzania National Voucher Scheme (TNVS), under-fives catch-up and universal coverage campaigns (Bonner *et al.* 2010).

4.2 Tanzania National Voucher Scheme

In October 2004, with funds from the Global Fund to fight AIDS, Tuberculosis and Malaria (GFATM), the government launched the Tanzania National Voucher Scheme (TNVS), a nationwide discounted voucher scheme for ITNs for pregnant women and their subsequently new born infants. The TNVS is at the forefront of the preventative battle against malaria by providing life-saving ITNs to these most vulnerable groups - pregnant women and new-born children.

The program makes ITNs widely available through vouchers which subsidize the cost of nets purchased at appointed TNVS retail shops. This voucher system achieves sustainability, affordability and accessibility by facilitating the distribution of ITNs through a public-private partnership of health clinics, retailers and the bed net manufacturer. The beneficiary pays a top-up amount of TShs 500 to purchase their ITN at a local retail shop (Marchant *et al.* 2010). However, the top-up varies with local market conditions and ITN characteristics such as size, brand and color. Shopkeepers exchange their vouchers with ITN wholesalers for new ITN stock; wholesalers in turn exchange their vouchers with manufacturers for new ITN stock and the TNVS pays the manufacturers TShs 2,750 per voucher.

Following the adoption of a national ITN strategy, the ownership and use of mosquito nets has risen dramatically although major disparities remain between rural and urban areas. Actual use of ITNs by under-fives has lagged behind use of “any net” although recent research indicates that even untreated nets have a major impact in reduction of personal and community risk of malaria (UNICEF, 2009).

4.3 Under-five Catch Up Campaign

In addition to TNVS, the NMCP launched a national “catch-up” campaign in late 2008 to distribute free ITNs to all children under 5 years. This was due to the fact that the coverage of risk groups increased too slowly under the voucher scheme. Thus this campaign intended to enable all under-fives who do not sleep with their mothers to have their own mosquito nets to protect them from malaria.

4.4 Universal Coverage Campaign

The Universal Coverage Campaign (UCC) began in August 2010 and was rolled out across all 21 regions of mainland Tanzania. This approach is within the Roll Back Malaria recommendation on a policy of universal coverage with ITNs so that all age groups can benefit from protection against malaria. UCC plus the other programs have made mosquito nets available from multiple sources almost free of charge.

The UCC is a one-time free distribution of Long Lasting Insecticidal Nets (LLINs) to all uncovered sleeping spaces in Tanzania. The mass distribution campaign is expected to make it possible to achieve rapid and universal LLINs coverage and significantly reduce the transmission of malaria. It was designed to complement and build-upon previous campaigns and programs to sharply increase LLIN ownership to cover a minimum target of 80% of all sleeping spaces in Tanzania.

5.0 STUDY FINDINGS

5.1 Characteristics of Respondents

A total of 487 households were sampled and from these a total of 243 males and 244 females were interviewed. Of these, 30% were urban households.⁸ The age of the respondents ranged from 16 years to 85 years with an average of 36 years. Majority of the respondents have completed primary education (72%). Some never attended school (10%) and only few had secondary education (4%). A significant number of the respondents were self-employed in agriculture (70%) followed by self-employed in trade and commerce/ownership of shops and kiosks (16%). Only 4% were employed. Majority of the respondents were also married (90%); only 6% were single.

Information on the number of children per household was also sought. Majority of the respondents had 1-6 children. The average number of children per household was 4 (range 0-10). Only two respondents out of the 487 interviewed did not have children of their own. Apart from their own children, 30% of the respondents were also taking care of children from the extended members of the family (average of 2 children per household). About 62% of the respondents had one child below the age of five, and 31% had 2 under the age of five. This suggests that, other factors remaining unchanged, if the TNVS and under-five catch-up campaigns had worked as envisaged, at least 93% of the sampled households should have an ITN.

Table 1 presents the type of house and assets owned by respondents. Majority of the sampled households owned land (79%). However, the land is un-surveyed and because none of them have valid titles over it households are unable to take the opportunity of leasing⁹ the land or using it as collateral to obtain capital to boost their economic activities. Majority also owned cropping equipment but this is mainly a hand hoe (average of 3 hand hoes per household); 17% owned ox-ploughs while only 3% owned tractors/power tillers. A significant number of households were keeping livestock (73%) mainly chicken (82%), goats (43%) and cattle (39%).

Ownership of houses was also high with 85% of the sampled households owning a house. Nevertheless, majority of these houses are in the rural areas and they are of poor quality in terms of wall and floor materials (Table 1). The average number of rooms per dwelling was

⁸ Note that some of the households in Dodoma Municipality were termed as rural because they were located quite far from the Municipal headquarters and they had all the rural characteristics e.g. lack of electricity, water etc. Their main occupation was predominantly farming.

⁹ Leasing un-surveyed land is risky since the one who leases the land may claim the land to be his/her as observed in a study conducted in Rukwa region (da Corta and Magongo, 2011).

3. A significant number of households had 2 rooms (38%) followed by those who had three rooms (30%) and one room (16%).

Table 1: Type of House and Ownership of Assets

No.	Type of asset	Percent of respondents
1.	Ownership of land	79%
2.	Ownership of cropping equipment	80%
3.	Ownership of livestock	73%
4.	Ownership of a house	85%
5.	Type of the wall material	
	<i>Cement bricks</i>	20%
	<i>Mud bricks</i>	24%
	<i>Burned bricks</i>	32%
	<i>Mud wall</i>	21%
	<i>Thatched wall</i>	3%
6.	Type of roof materials	
	<i>Tiles/concrete</i>	4%
	<i>Iron sheet/asbestos</i>	75%
	<i>Thatched/mud/cow dung/plastics/tin</i>	21%
7.	Type of floor material	
	<i>Mud</i>	63%
	<i>Wood</i>	0.6%
	<i>Tiles</i>	0.8%
	<i>Cement</i>	36%
8.	Ownership of a bicycle	65%
9.	Ownership of a radio	81%
10.	Ownership of mobile phone	72%
11.	Ownership of television	16%
12.	Ownership of milling machine	3.5%
13.	Ownership of a sofa set	28%
14.	Ownership of iron (<i>pasi</i>)	44%
15.	Ownership of sewing machine	12%
16.	Ownership of a car	2%
17.	Ownership of a computer	1%

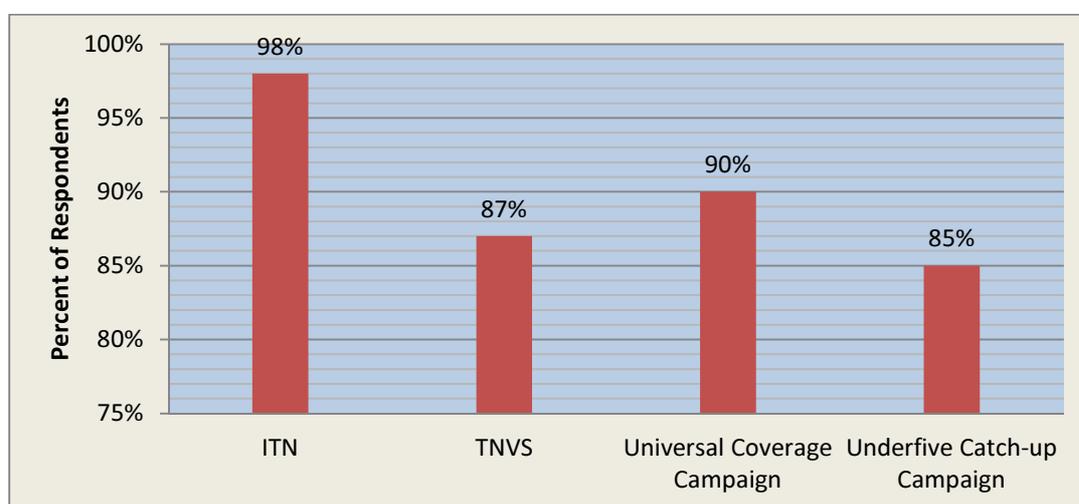
Other assets owned are as presented in Table 1 but it is important to note that ownership of mobile phones is significant (72%) despite lack of electricity in large part of the rural areas. Only 18% of the households use electricity as a major source of energy. Majority uses kerosene, fire wood and charcoal as main sources of energy (83%, 80% and 55% respectively). Few mentioned torch operated by batteries as one source of power (13%).

5.2 Households' Awareness, Access, Financing and Ownership of ITNs

5.2.1 Awareness about ITNs and Distribution Campaigns

Figure 1 presents the findings on awareness on ITNs and the major mosquito net campaigns in the country. Almost all the respondents have heard about ITNs (98%) and majority of them have heard about ITNs from radio (40%) followed by Reproductive and Child Health (RCH) clinics (23%), ward and village authorities (10%), community meetings (8%), and TV (4%). Other sources of information include neighbors/wife; posters/leaflets; ten cell leaders, village health workers, and village government members.

Figure 1: Awareness on ITNs and Mosquito Net Campaigns



Awareness about TNVS was also high (87%). A large number of respondents heard about TNVS from RCH clinics (58%) followed by radio (24%) and wives (6%). Information on awareness of the beneficiaries of TNVS was also sought. All respondents were aware that not everyone could benefit from TNVS. According to the respondents, TNVS didn't target all members of the household, men, and all women. Pregnant women were mentioned as the main beneficiary (79%) followed by children under five years of age (50%). This finding is portraying the fact that women do sleep with their under-fives using the TNVS ITNs redeemed during pregnancy. However, at the age of nine months children are given their own TNVS ITNs which can be utilized by other household members or kept for future use. However, as it will be discussed later, only few women have redeemed the ITN voucher for their 9 months old children.

A large number of respondents were also aware of the under-five catch-up campaign (85%). In contrast to TNVS about which majority heard from the RCH clinics, respondents gained knowledge on the under-five catch-up campaign from a variety of sources: Radio (25%);

ward and village authorities (22%); RCH clinics (15%); and community meetings (12%). Other information sources included TV, neighbors, campaigners, and village health committee. About 63% of the respondents were aware that the beneficiaries of the under-five catch-up campaign were the children below five years. A surprisingly high percentage (18%) mentioned that those mosquito nets were meant for all household members.

The universal coverage campaign was also known by the majority of respondents (90%) as it was launched in the region at the beginning of 2011 and so it was still fresh in people's minds. Similar to the under-five catch up campaign, the major source of information for the universal coverage campaign was radio (27%) followed by ward and village government authorities (26%). Other sources included community meetings (13%), RCH clinics (14%), and ten cell leaders (5%). Majority were aware that the beneficiaries of the universal coverage are all household members (70%). Others mentioned children under the age of five (4%), adult people (3%), heads of the households (19%), and disabled people (2%). As will be seen in subsequent analyses in this report, men perceived this as their turn since women and under-fives were covered under TNVS. Figure 2 shows the types of mosquito nets accessed from different programs and Box 1 presents the key messages recalled by respondents about each of the campaigns.

Figure 2: Mosquito Nets Accessed from Different Campaigns



Box 1: Recalled Key Messages from Mosquito Net Distribution Campaigns

Messages on ITNs

- In order to prevent malaria transmission, everybody should sleep under ITNs.
- Nowadays there are long lasting ITNs which do not need frequent treating; there was no difference in the types of messages reported and exposure to the campaigns between men and women.
 - *“There are insecticide treated nets that last for up to five years”*: Interview with a man, Ubembeni street, Kondoa district
 - *“In order to prevent malaria transmission, there are insecticide treated nets that last for up to five years”*: Interview with a woman, Mtamba village, Mpwapwa district

Messages on TNVS

- From the responses, many people have heard about the TNVS. However, to the majority and especially men, the TNVS means subsidized mosquito nets to pregnant women; the TNVS for infants was not in the mind of the majority:
 - *“Is a program that gives free mosquito nets to pregnant women”*: Interview with a Man, Nzunguni street, Dodoma Municipal
 - *“It’s a voucher given to pregnant women and children under 9 months of age in order to get mosquito nets”*: Interview with a Woman, Mwailanje village, Kondoa district.
 - *“The voucher scheme enables pregnant women and children aged below 9 months to get subsidized mosquito nets”*: Interview with a Woman, Mtamba village, Mpwapwa district

Messages on under-five catch up campaign

- Most people had knowledge on the under-five catch up campaign which was based on the information they were given during the implementation of the campaign. For instance, during sensitization people were asked to register the names of under-fives in their households so that they could receive free mosquito nets. This is what the majority remember about the catch up campaign:
 - *“There will be free mosquito nets to all under-fives in order to protect them from malaria transmission”*: Interview with a Woman, Berege village, Mpwapwa district
 - *“They announced that all under-fives will get free mosquito nets”*: Interview with Man, Bolisa village, Kondoa district.
 - *“That the government will provide free mosquito nets to all under-fives and we got them”*: Interview with a Woman, Salare village, Kondoa district.
 - *“There are free nets to be given to all children aged less than five years”*: Interview with a Man, Nghong’onha street, Dodoma Municipal

Messages on universal coverage campaign

- Overall, this is the most famous campaign. Most people were aware of it though in some places this has been the most misunderstood campaign. The descriptions given by respondents reflect the way implementer’s messages were formulated and/or wanted the campaign to be understood. For instance in places where implementers decided that those who had already received ITNs through the under-five catch-up campaign should get a limited number, the

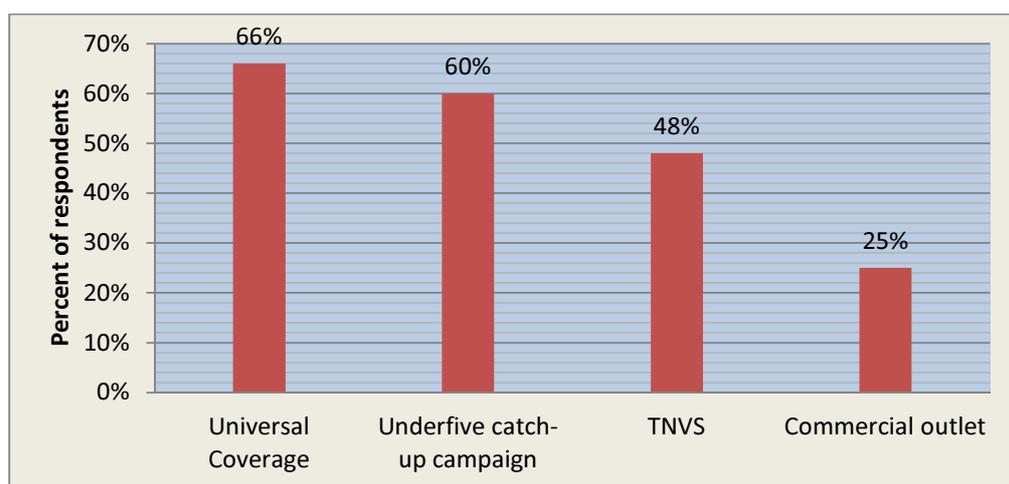
message they sent out were structured to reflect this decision. In some places it appears people had been told that this was a campaign for elders and that under-fives were not involved; in others people thought that it was a campaign for men since women were already covered under TNVS:

- *“It’s a program that distributes free mosquito nets to all elders”*: Interview with a Woman, Mazengo Street, Dodoma Municipal.
- *“It’s a national program that aims at distributing free mosquito nets to every household”*: Interview with a Man, Kubi village, Kondoa district.
- *“It’s a program aimed at distributing free mosquito nets to every household so that every sleeping place is covered with a mosquito net”*: Interview with a Man, Kiteo village, Kondoa district.
- *“The government has provided mosquito nets to every household in order to control malaria transmission”*: Interview with a Woman, Mtamba village, Mpwapwa district.
- *“These are free bed nets to men because women already get theirs during pregnancy”*: Interview with a Man, Salare village, Kondoa district
- *“This is a government program that aims to provide free nets to heads of the households”*: Interview with a Man, Mtamba village, Mpwapwa district

5.2.2 Access to ITNs

Figure 3 provides information on the sources of ITNs. It is evident that there are multiple sources of ITNs with universal coverage campaign leading (66%). A good number of households also obtained ITNs from the commercial outlets (25%).

Figure 3: Sources of ITNs



Information was also sought on who collected the ITNs (man or a woman) for those who obtained ITN through TNVS, and how long it took to obtain the ITN from the time the respondent obtained the voucher. About 55% of women collected the ITNs and the major reason given was that they were the beneficiaries and the bearers of names indicated on the antenatal clinic attendance cards. In cases where the women didn’t go (45%) husbands

or other household members went to collect the ITNs. Men went specifically because sometimes the retail shops were located far away (the man had to use a bicycle) or a wife was too busy and requested to be assisted. However, more men would wish to collect the mosquito nets for their wives but at the redemption point comments like “*are you the one who is pregnant?*” were common which discouraged men.

For majority of respondents, it took less than a week to get ITN through TNVS (73%). About 6% had to wait for one week, while 17% waited for more than one month to get the ITN. Findings from male FGDs show that accessibility of TNVS ITNs is overwhelmed by failure of the existing distribution channels. TNVS retailers frequently reported shortage of mosquito nets in their shops, raised the price of mosquito nets above the recommended price and in some cases mistreated their clients.

Because of the problems in the distribution channels and inconveniences experienced by recipients of vouchers, majority of the participants in FGDs recommended that TNVS ITNs should be made available in the dispensaries/RCH clinics where the vouchers are issued:

“I think the government should do something about the voucher scheme because the voucher nets are issued at low price but once they reach here they are sold at high price... What I know is that these nets are supposed to be sold at TShs 500 but in our case we buy them at between TShs 1,000 and TShs 2,500”: FGD with Men, Lugalla Village, Dodoma Municipal Council.

“I also heard about these complains on mosquito nets vouchers; as my colleagues have just said to-date there are people who still have their vouchers. That’s the reason we suggest that the mosquito nets should best be made available at the dispensaries because they (the nurses) know their clients and it’s more likely that when a pregnant woman goes there she will get her mosquito net”: FGD with Men, Gulwe Village, Mpwapwa district.

“Of course we get them but sometimes you need to use a lot of efforts, you may go there but they have a lot of bureaucracies. For instance the first time I was pregnant and went to collect the net the agent kept telling me to come back again but in the end I could not redeem the bed net. When my child reached nine (9) months he also did the same with me and in the end I could not redeem the mosquito net... When you go there he says the bed nets are out of stock, every time I went he told me that the bed nets had not arrived. I was disappointed and I still have both vouchers at home”: FGD with Women, Kidoka Village, Kondoa district

The delays in accessing ITNs were more pronounced in the under-five catch-up and universal access campaigns. More than one month elapsed from the date respondents got vouchers from the under-five catch-up campaign and universal coverage (55% and

61% respectively) to the date they access mosquito nets. The major reason mentioned was the delay in delivering the mosquito nets to the villages. Some households didn't even redeem their vouchers for the reason that the consignment was finished (Figure 4).

Figure 4: Un-redeemed Voucher from the Universal Coverage Campaign



5.2.3 Financing ITNs

The cost of redeeming an ITN under the TNVS is TShs 500, and majority (72%) did pay exactly this amount to obtain ITNs under the TNVS. The rest paid different prices as follows: TShs 600-TShs 1,000 (12%); TShs 1,200-TShs 2,000 (10.3%); above TShs 2,000 (5.2%).

Majority reported that the amount paid for ITN from TNVS program was affordable/reasonable (61%). About 18% thought the price was high and another 18% thought it was too low. Those who perceived the price to be high are the ones who obtained ITNs at higher prices than the stipulated price of TShs 500.

A significant number of the respondents didn't know how much the mosquito net of the same size would cost in the commercial retail market (45%) which could be taken as an indication that a good number have never accessed mosquito nets from commercial retail shops. Those who expressed knowledge indicated the price in commercial outlets to range between TShs 2,000 and TShs 9,000 with an average of TShs 5,230 per net. Very few, 4% of the respondents mentioned a price range of between TShs 7,000 and TShs 9,000.

Information was also sought on how much INTs distributed through TNVS should cost. About 57% of the respondents were of the opinion that the TShs 500 should be maintained followed by 26% who mentioned that ITNs through the TNVS programs should be provided for free the logic being that the under-five catch-up and universal coverage campaigns

distribute mosquito nets for free. Why punish pregnant women and their unborn children? Only 8% suggested that the ITNs should be sold for less than TShs 500 (TShs 200-TShs 400); while 7% suggested a higher price, above the stated TShs 500 (TShs 600-TShs 1,000); and 2.3% above TShs 1,000.

About 82% of the respondents discussed with their spouses how to finance ITNs from TNVS program. This percent is rather high for patriarchal tribes like those in Dodoma. In part, this can be explained by the fact that if men control resources, the surest way for women to redeem their nets is to discuss with their spouses expecting to get money to redeem them. However, this might also have been facilitated by the fact that it is now a requirement for a pregnant woman to go with her husband to the clinic for HIV testing. This means that if the husband accompanies the wife to the clinic, he will also hear the messages about TNVS and discussion to finance it at household level may be easier because the husband has heard it from the nurses. Men indicated in FGDs that they indeed accompany their wives to the clinic as it is mandatory to go for HIV testing. Still not all men go to collect the HIV test results.

“What pushes us to go is the pregnancy; nowadays when a woman starts attending clinic they want her to be accompanied by her husband so that both can test for HIV”: FGD with men, Lugalla village, Dodoma Municipal.

“If you go together to the clinic on the first day for blood test, you will both get the instructions; the woman can continue to attend the clinic alone”: FGD with women, Gulwe village, Mpwapwa district

That discussion about financing of ITNs takes place between spouses doesn't however mean that husbands will automatically pay the cost of accessing the ITNs. About 64% of the women reported paying for ITNs from their own savings, through support from relatives or from loans. Only 36% of the women reported that their husbands paid the bill.

5.3.4 Ownership of ITNs

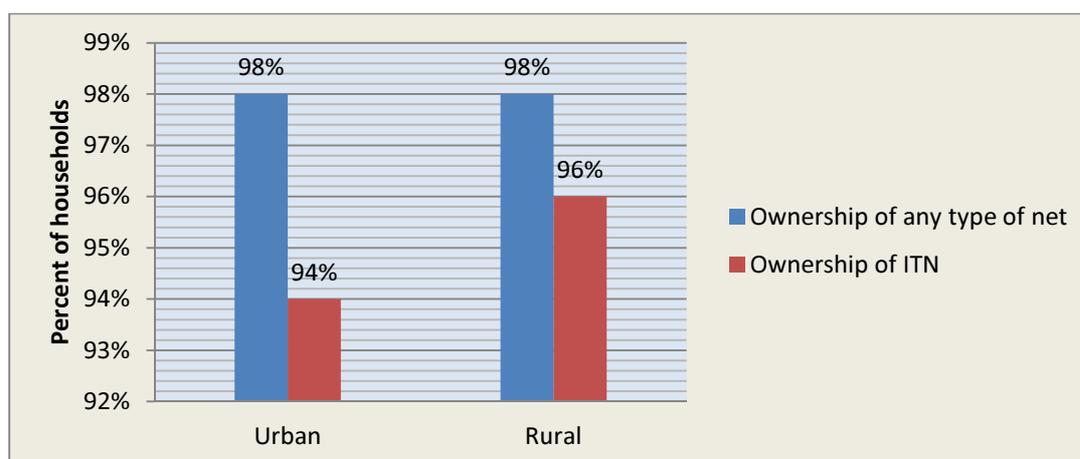
Majority of households owned ITNs (79%) which could be an indication of success of the social marketing campaigns on the use of ITNs and the three associated programs which have contributed to increased number of mosquito nets at household level. Table 2 shows the number of ITNs owned by the sampled households. Majority owned 3-4 ITNs (43%) followed by those who owned 1-2 ITNs (39%).

Table 2: Ownership of ITNs by Households

Number of owned mosquito nets	Frequency	Percent of Households
1-2	188	39%
3-4	211	43%
5-6	61	13%
7-8	6	1%
No ITNs	21	4%
Total	487	100%

Ownership of mosquito nets (any type) is almost equal between rural and urban areas. Ownership of ITNs is however slightly higher in rural areas than in urban areas (Figure 5). This may suggest that households in the rural areas are more likely to collect mosquito nets from different programs compared to households in the urban areas. Further, urban households are more likely to obtain ITN from commercial outlets (67%) compared to rural households (33%).

Figure 5: Ownership of any Mosquito Net and ITN by Locality

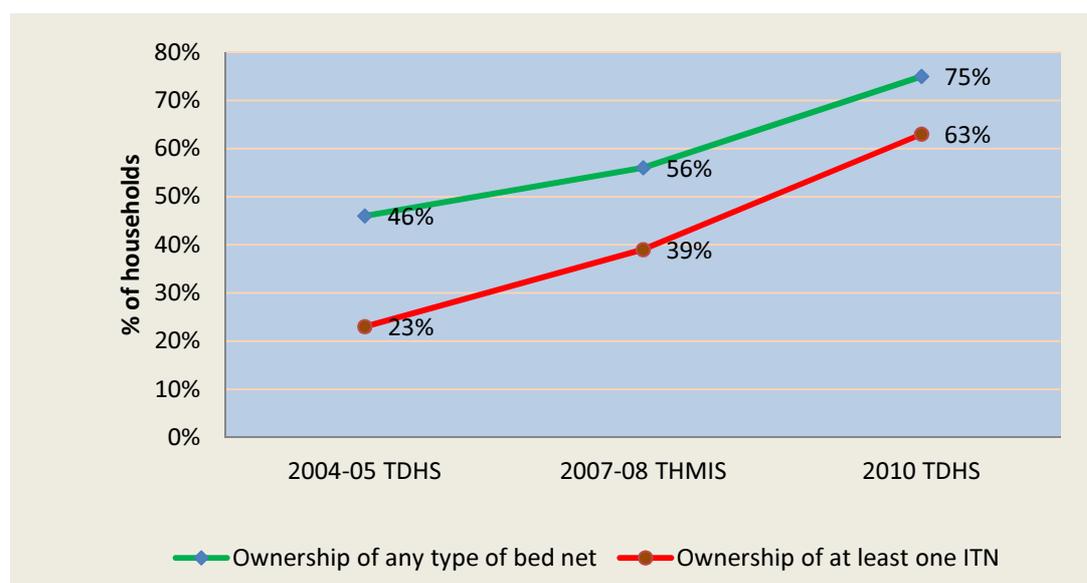


It is important to note that despite having such high number of mosquito nets, they are not enough for every sleeping space in the households as reported by 32% of the households. The implication of this finding is that while some members of the household sleep under the mosquito net some do not due to unavailability of enough mosquito nets as discussed in the next section.

These findings are in line with the data reported in the Tanzania Demographic and Health Survey (TDHS) 2010 (Figure 6). The TDHS shows that ownership of any type of mosquito net has increased dramatically, from 46% of households in 2004-05 to 75% in 2009. Even more dramatic is the increase in the proportion of households that own at least one ITN, from

23% in 2004-05 to 64% in 2009.¹⁰ The TDHS also demonstrates existence of a small urban-rural disparity in mosquito net ownership: 84% of households in urban areas owned any type of net versus 71% of rural areas while 65% of urban households owned at least one ITN compared to 63% of rural households. Furthermore, a large proportion of rural households owned Long Lasting Insecticide Nets (LLIN)—57% compared to 44% of urban households. ITN coverage has expanded even faster in part due to the shift to LLIN, and due to the scaling-up of ITN distribution to all households. About 53% of the households had at least one LLIN.

Figure 6: Ownership of Mosquito Net, 2004-2009

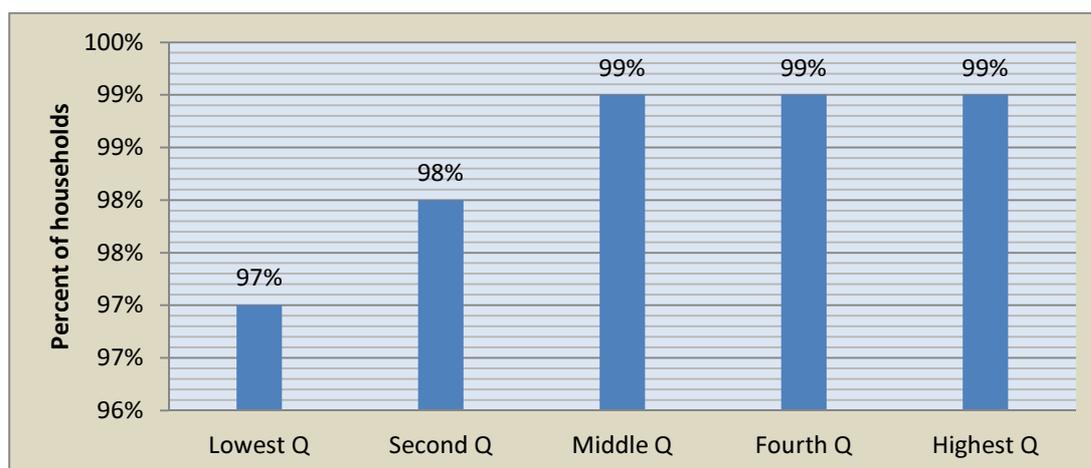


Source: TDHS, (2005); Tanzania HIV and AIDS and Malaria Indicators Survey [THMIS], (2008); and TDHS, (2010).

Findings from this study show that ownership of mosquito nets increases with wealth (Figure 7) although the difference is not remarkable. Ownership of any type of mosquito net is the same for the middle, fourth and highest income quintiles.

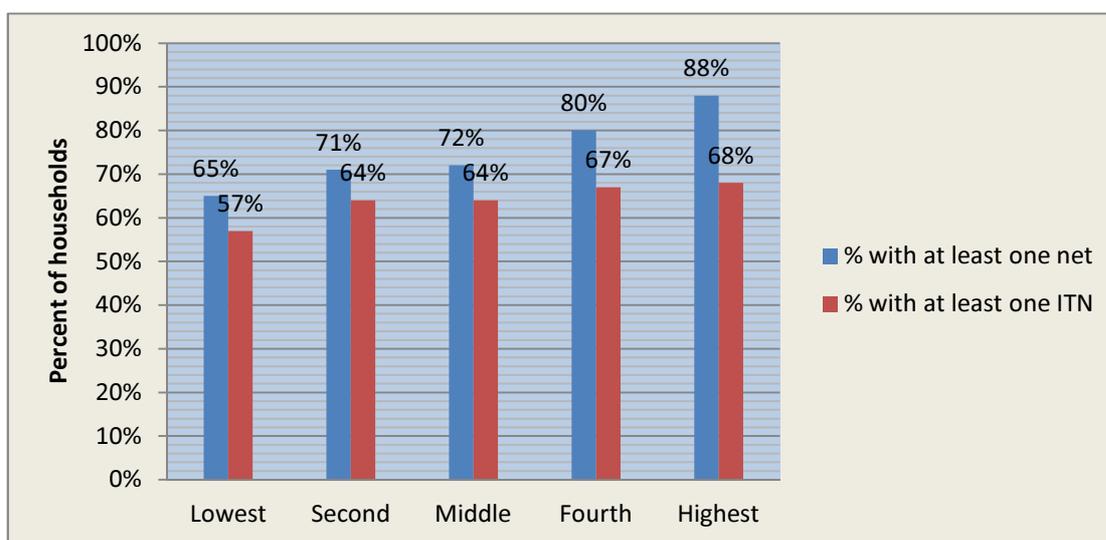
¹⁰The national figures on ownership of at least one ITN are lower than the findings from this study which could be portraying the fact that DHS data were collected in 2009 and by then the universal coverage campaign had not been undertaken. Majority of households in Dodoma received mosquito nets under universal coverage campaign in 2010 to early 2011.

Figure 7: Ownership of Mosquito Nets by Wealth Quintiles



This finding nonetheless contrasts sharply with the TDHS (Figure 8). TDHS 2010 shows that ownership of mosquito nets increases markedly with wealth quintile: from 65% of households in the lowest income quintile to 88% in the highest income quintile for any type of net, and from 57% of households in the lowest quintile to 68% in the case of ITNs.

Figure 8: Ownership of any Type of Mosquito net and ITN, 2009



Source: TDHS, (2010)

5.3 Use of ITNs at the Household Level

In gauging the extent at which household members sleep under mosquito net, information was sought on who slept under mosquito net in the last night before the survey—any mosquito net (Table 3). There is a pattern on who slept under mosquito nets which connotes the sleeping arrangements adopted in households.

Mother and father are the ones who most likely slept under mosquito nets the night preceding the survey and typically (mother and father shares a bed except when the mother is lactating in which case she sleeps with the baby). Young children, under-five years, were the second largest group that slept under mosquito nets and there was no difference between male and female children. These findings show that there is no gender discrimination in using mosquito nets. Instead they show that where each sleeping unit doesn't have a mosquito net, father and mother are given first priority in using mosquito nets.

Table 3: Sleeping under Mosquito Net by Categories of Household Members

Member of Household	Frequency	Percent
Father	351	72%
Mother	414	85%
Male children, under five years	253	52%
Female children, under five years	246	51%
Male children, above five years	183	36%
Female children, above five years	193	40%
Young men (boys, above 12 years but below 18 years)	122	25%
Young women (girls, above 12 years but below 18 years)	80	16%

Boys and girls above the age of 12 but below 18 years are the groups that use mosquito nets the least. Also except for this group, gender differences in the use of mosquito nets are not pronounced in this study. Some reasons were given on why boys didn't sleep under mosquito nets the night before the survey. Some young men were undergoing the initiation rites (the survey was conducted during the dry/cold season which coincided with the time for young men's initiation ceremonies). Another reason was that boys above 18 years were using their own separate huts/houses and in most cases if mosquito nets are not enough, this is the group that goes without one. Furthermore, boys and girls cannot sleep together in case of scarcity so both groups have to go without mosquito nets but younger ones can sleep together.

It is important to note that in a situation of changing malaria epidemiology like what Tanzania is starting to experience now neglecting the young group (boys and girls, above 12 years but below 18 years) could be a problem in the future. Studies have shown there is an age shift from very young age group to slightly older age group in the vulnerability to malaria (Schellenberg et al. 2004; TACAIDS et al. 2008; Trape et al. 2011). As malaria transmission gets lower and lower we expect all age groups to be vulnerable to malaria. So, in the future if this particular age group is less protected by ITNs compared to others it is more likely to suffer more from malaria. Therefore whatever strategies are put in place for

malaria control, we need to ensure that even this age group is well covered like the rest; that is the essence of Universal coverage.

It is important to note further that, most of health interventions are focusing on children underfive, pregnant women and lactating women. The youths are mentioned in policy documents but in practical terms no concrete focus is given to them.

Some households were not using mosquito nets because it was a dry season and all mosquito nets have been washed and kept in a safe place. In some instances, men prioritized the use of mosquito nets by the wives and under-fives by exchanging the old with new mosquito nets (Figure 9). There are also perceptions by men that the mosquito nets accessed under the universal coverage campaign are for men. The following quotes drive the point home (Box 2):

Figure 9: Condition of some Mosquito Nets



Box 2: Statements about use of Mosquito Nets

“Nobody slept under mosquito net last night because this is dry season and there are no mosquitoes. All the mosquito nets have been washed and kept until rain season as we don’t want them to wear out” Interview with a Woman, Nzunguni Village, Dodoma Municipal.

“I got a new mosquito net from the universal coverage campaign. I gave it to my wife because she is sleeping with children. The mosquito net obtained under TNVS is old and worn out so I exchanged my mosquito net with my wife so that she can use the new mosquito net together with children”: Interview with a Man, Lugalla Village, Dodoma Municipal.

“I want to ensure that the health of my wife and children is protected. So, I gave them the new mosquito net. The one that I am using is very old; we purchased it long time ago!”: Interview with a Man, Dalai Village, Kondoa District.

“Why would I sleep under the ITN obtained from the TNVS? It was meant for women and children. Now, the government has given me mine”: Interview with a Man, Sanzawa Village, Kondoa District.

“My wife and her young child slept under the ITN obtained through the under-five catch-up campaign because they were the target group for that mosquito net. As for me, I used the one from the universal coverage campaign because it targeted me,” Interview with a Man, Sanzawa Village, Kondoa district.

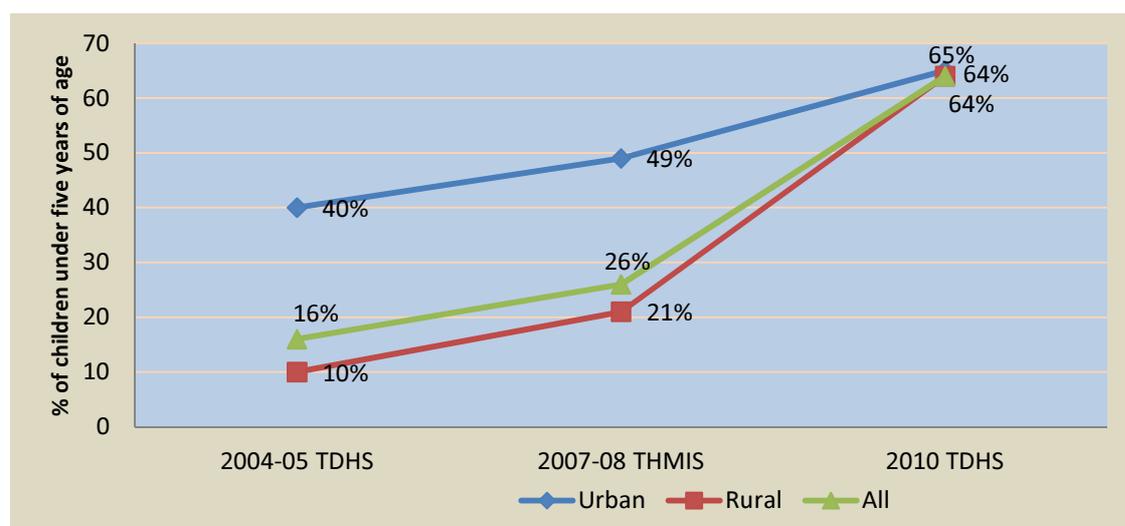
“All female children slept under mosquito nets but male children didn’t because the mosquito nets are not enough”: Interview with a Woman, Kubi Village, Kondoa district.

“My older son is 14 years old. He doesn’t sleep under mosquito nets because we don’t have enough and at his age he cannot sleep with his sisters or his father”: Interview with a Woman, Ikengwa Village, Kondoa district.

Results from the TDHS 2010 show that a higher percentage of under-fives slept under mosquito nets the night before the survey in 2009 (Figure 10). A slightly higher figure is however reported for urban households (65%) compared to rural households (64%). These figures are higher than those reported in 2004-05 TDHS, most likely a reflection of the fast growth of coverage from the under-five catch-up campaign which was launched in late 2008. As in the 2004-05 TDHS, there is no significant difference by sex in the use of mosquito nets among children.

The difference between the national figures and those obtained under this study in terms of who sleeps/does not sleep under a net may be a reflection of the norms adopted by households. This is particularly the case where prioritizing who should sleep under the mosquito net in cases where the household has more than one child under the age of five and inadequate mosquito nets.

Figure 10: Percentage of Under-fives who slept under an ITN the Night before the Survey, Rural and Urban, 2004/05, 2007/08 and 2009



Source: TDHS, (2005); THMIS, (2008); and TDHS, (2010)

5.4 Management of ITNs

Women play a major role in management of ITNs: redemption, treatment, hanging, and hanging down and tucking the nets over the beds and washing. Redemption of nets from TNVS and under-five catch-up campaign was done mostly by women whereas men were mostly involved in redemption of nets distributed under the universal coverage campaign. This might have been due to the fact that nets under the universal coverage campaign were distributed in village organized meetings, and at ward/village/street offices and they felt that the program targeted them.

Women felt that the role they play in management of ITNs is theirs and they in most cases therefore did not ask their husbands for assistance. Men also appear to believe that it is the duty of women to collect bed nets from different sources of distribution but especially from TNVS, to hang them over sleeping places, wash, re-treat, and to make sure that all children sleep under them. The same notion was held by women but only for some of the activities in the chain (hanging the net, washing, re-treating, hanging down and tucking the net and making sure that children sleep under mosquito nets).

Occasionally men may help for example in hanging the net especially when it is tricky to hang it depending on the type of sleeping space. As far as redemption/collection and funding is concerned, women strongly suggested that men need to take a more prominent role.

“Father is the bread winner so it’s not easy for him to wash a bed net while the mother is around. So it’s true that all the issues related to bed net usage are women issues”: FGD with Women, Ubembeni Street, Kondoa district.

“Our participation is mainly on reminding our women to make sure that children are sleeping under a mosquito net”: FGD with Men, Lugalla Village, Dodoma Municipal.

“In fact this is women’s job, they should make sure that children are sleeping under bed nets, a man may come back home while he is drunk. On such occasions what he does is just throw himself on a bed and cares about nothing else”: FGD with Women, Winza village, Mpwapwa district

Majority of households do not impregnate their mosquito nets with insecticides and for those who do impregnate, they do so at different intervals. No pattern could be established except for those who mentioned five years which will be portraying they have LLIN (Table 4). The reasons for not impregnating the mosquito nets include lack of funds to purchase the insecticide/*ngao*, unavailability of *ngao*, fear of the side effects of the insecticide, and the widely publicized message that the insecticide in LLINs will last for 5 years. Some mentioned that they didn’t see the need of impregnating their mosquito nets.

Table 4: Intervals for Impregnating Mosquito Nets

Interval	Frequency	Percent of Households
Every three months	90	19%
Every six months	59	12%
Every five years	59	12%
Never impregnated the mosquito nets	194	40%
After washing	31	6.4%
Every one month	10	2.1%
Every twelve months	11	2.3%

5.5 Program Implementation Challenges

It was not the intention of this study to assess the implementation challenges faced by different mosquito net campaigns. However, it is worth pointing out few issues echoed by the respondents and which may need to be rectified in future program design.

- i. The messages given to people, especially under the universal coverage campaign, differed from one ward/village to the other. In most cases people were given instructions different from the ones they heard from the media:

“Its implementation was not well done; most people who got free bed nets through the catch up program did not get the universal coverage bed nets. It seems they had their goals, they wanted some mosquito nets to remain in their hands so that they could take them somewhere else”: FGD with Men, Ubembeni Street, Kondoa district.

“I would like to start by thanking the government for providing us with free mosquito nets for every household. However, I would also like to say that there are some people who did not get these bed nets; others were given either one or two bed nets while they have many sleeping places. This means there are people who are still not covered” FGD with Men, Kidoka Village, Kondoa district.

- ii. Availability of mosquito nets through agents was identified as a major challenge. Women waste their time going to and from the TNVS agents for redemption of the voucher while the agents frequently reporting that mosquito nets were out of stock. The agents also elevated the prices. Women were of the opinion that the government should consider assigning the role of dispensing the nets to health workers who are at the moment responsible for issuing the vouchers only.
- iii. Because of bad experiences they had, most participants expressed distrust of the distribution mechanism in place and of government officials involved in the distribution of universal coverage LLINs. Alternative distribution mechanism were suggested:

“I suggest the dispensary because for instance, if I go there and see a doctor is selling them I will report it to the executive officer that I went to the dispensary and missed the mosquito net. But if executive officer sells them where would we report it? This will require us to travel to Mpwapwa (at the district headquarter) to report to her/his bosses... this is the reason we want them to be issued at the dispensary because from there it becomes easier for us to monitor”: FGD with

Men, Gulwe village, Mpwapwa district.

- iv. There were some rumors, misconceptions and fears about risks involved in the use of ITNs among community members (Box 3).

Box 3: Misconceptions on the Use of ITNs

“...Since the government issued free mosquito nets there are some youth who raised rumors that if you sleep under such bed nets you will become impotent”: FGD with Men, Lugalla village, Dodoma Municipal

“Personally I have never heard of any of these stories”: FGD with Women, Winza village, Mpwapwa district.

“When we heard the rumors that these mosquito nets reduce men’s sexual strength and children’s life expectancy, we were scared. However, when we asked the health officers and got clarification that fear has subsided”: FGD with Men, Ubembeni Street, Kondoa district.

“We have been told that these mosquito nets should be washed and the water be poured into the pit latrine and that they should not be mismanaged for reason that if a goat or chicken swallow them they will die; now people ask questions that if these nets have such toxic insecticide that can kill goats and chicken, what about the people who sleep under them?”: FGD with Men, Kidoka Village, Kondoa district.

6.0 CONCLUSIONS AND RECOMMENDATIONS

Using the Gender Responsive Assessment Scale (GRAS) framework as the gender lens, we assessed gender aspects of the TNVS and the universal coverage campaigns. We conclude that at the program level, the TNVS approach is *gender-unequal* in the sense that it privileges women over men. Further, TNVS was mentioned to be discriminatory and unequal in the sense that the marginalized and vulnerable groups in the society such as the elderly and disabled people who deserve equal attention were not targeted.

Women enjoyed the benefits of TNVS more than men. At the household level more women slept under mosquito nets compared to men. Nonetheless, some gender balance in the use of the mosquito nets seems to have been maintained at this level as men were content with the fact, and acknowledged that pregnant women and children needed more protection from malaria. There were instances where men exchanged *their new mosquito nets* obtained from the universal coverage campaign with their wives' because the ITNs obtained from TNVS were old and or torn.

The social marketing approaches used in the program could be classified as *gender-blind* in the sense that they ignored gender norms, roles and relations. The communication campaigns on awareness of the importance of pregnant women sleeping under ITNs only targeted women without considering the important role men play in decision making on who actually utilizes the nets in the household, and in redeeming the vouchers (collection of the mosquito nets from the vendor). It also ignored the sleeping patterns in the household by portraying a woman sleeping with a child in a mosquito net while in many instances the father also shared the bed with the mother, sleeping under the same ITN.

The approach adopted in distribution of the nets was also *gender-blind* in the sense that it ignored differences in opportunities and resource allocation for women and men. This was evident in the access to TNVS. Women had to use their savings because men did not pay for their ITNs. Further, the approach was also *gender-blind* in the sense that it considered women as homogenous group which is not the case. There are women who could not conceive and those who have passed their reproductive age and thus would never benefit, as well as poor and destitute group of women who couldn't redeem their vouchers. There were old women who thought they had the right to get the mosquito nets given their old age and their vulnerability to diseases due to life cycle changes, but were not eligible nonetheless.

A surprising fact is that the universal coverage campaign was taken by many as a program that came to fill the vacuum left by the TNVS. Men interpreted the universal coverage as their turn which means more men were using the mosquito nets obtained from the universal coverage and more men went to collect the mosquito nets distributed under this

campaign. The universal coverage campaign increased men's space in dealing with mosquito net matters.

Although not by design, the universal coverage campaign could be termed *gender sensitive*. This is in the sense that it tried to promote gender equality by providing mosquito nets to all members of households based on the need. Under the program vulnerable groups such as the disabled and the elderly, who had been bypassed by the TNVS were also eligible to receive bed nets.

Several other gendered perceptions are drawn from the findings:

- Because of intensified social marketing campaigns through different types of media and community meeting, awareness about several mosquito net distribution programs (among men and women) is high.
- The use of celebrities was found to be useful in creating awareness for general public; some respondents especially sports fans could easily recall the message aired by Mrisho Ngassa, a football player.
- Knowledge was high among men and women even on TNVS signifying the discussions at the household level but also the fact that men accompany their wives to the clinic for HIV testing where they also get the messages about ITNs.
- Both men and women were more likely to sleep in mosquito nets than children but women having small children were prioritized by men in terms of using the mosquito nets.
- Where mosquito nets were inadequate, boys and girls (above 12 years but below 18 years) were the least likely to sleep under a net. This is mainly due to the fact that older children (if there are male and female children in the household) cannot sleep together, and so in case of scarcity these groups were more likely to go without mosquito nets.
- ITNs from TNVS are for females while LLIN from the universal coverage were perceived to be for men (heads of households) although in cases where the ITNs from TNVS had become worn out, men exchange the LLIN with their wives.
- At program level, distribution of mosquito net is gender insensitive, but at households level, sharing is common; men exchanging the new mosquito nets obtained from the universal campaign with old ones from their wives but also women do share their ITN with men;

- Discussing with spouse about redemption of ITN doesn't mean directly that the husband will pay the cost of accessing ITNs. As such 60% of the women had to pay from their own savings.
- Management of mosquito nets was considered to be in women's sphere from hanging, washing, re-treating, hanging down and tucking and to make sure that all children sleep under bed nets. However, as far as collection and funding is concerned, women mentioned strongly that men should play a bigger role.

The following are the recommendations from the study:

Accessibility and Use of ITNs

- The TNVS should be continued to take care of the mother and the newborn children. This is because the timing of the next round of universal mosquito nets distribution is unclear, and also because families keep on growing (people are getting married and start new households daily).
- The youth (girls and boys) aged 12-18 years old are lagging behind in using bed net. Coincidentally this is also a group that is not touched by several health interventions. Future programming should be designed in such a way that this group is taken aboard.
- Currently, malaria interventions are mainly donor funded which is not sustainable. Reduction of resources directed to malaria interventions will necessitate involvement of all segments of community in procuring bed nets. Men have a very big space in procuring nets given their decision making role for household resources. Thus, any future campaign should take men aboard.

Place of Distribution and Price

- Because of the problems existing in the current distribution channels, participants recommended that TNVS ITNs should be made available at the health facilities (the dispensaries/RCH clinics) where the vouchers are issued. This recommendation should however be taken with caution given the current shortage of the Human Resource for Health (HRH) which has resulted to extremely high work load for the available health workers.
- ITNs through the TNVS programs should be provided free of charge the logic being that the under-five catch-up and universal coverage campaigns distribute bed nets for free and thus there is no need of punishing pregnant women and infants.

Awareness Campaigns and Communication Messages

- A more gender transformative approach in social marketing programs for mosquito nets is needed. This approach recognizes differences in gender roles, norms and access to resources and actively tries to change these, so as to promote gender equality. For instance, social marketing advert can focus on the access and management of bed nets by wife and husband; from accessing, hanging, washing, treating, and hanging down and tucking the net. Another example is displaying a picture that shows a woman, her husband and her under-five sleeping under one ITN. Messages could also be designed to show increasing male involvement in decision-making on the purchase of nets, and tackling stigmas attached to men redeeming bed nets with the voucher on behalf of their wives. In order to enhance acceptance of these messages and increased exposure, the designed messages should be piloted (e.g. test new messages with women only or men only or mixed group of men and women) in order to ensure a gender sensitive/specific/transformative approach and thus ensure that messages are interpreted as intended in order to avoid misunderstandings.
- Awareness creation on the problems associated with excessive alcohol drinking is also important. Some men do sleep without a mosquito net despite having one because when they come home drunk it doesn't matter whether or not they sleep under nets.
- More efforts are needed to de-mystify the misconceptions about the effects of using ITNs. Social marketing messages could be used to correct this misconception.
- Awareness creation is needed especially for men on the importance of accompanying their wives to clinic.

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ANNEXES

Annex 1: Household Questionnaire

ASSESSMENT OF GENDER DIMENSIONS IN THE DISTRIBUTION AND USE OF MOSQUITO NETS CASE STUDY OF DODOMA REGION

Questionnaire No.: |__|__|__|__|

Name of interviewer: _____ Date: ____/____/2011

Name of Interviewee: _____ (option)

Location of the respondent: village/street _____ ward _____ district _____

Type of area

1. Urban
2. Rural |____|

SECTION A: RESPONDENT'S DEMOGRAPHIC INFORMATION

1. Sex of the respondent
 1. Male
 2. Female |____|
2. Age of the respondent in years |__|__|
3. What is highest level of education you have attained?
 1. Never attended school
 2. Primary incomplete
 3. Completed primary education
 4. Secondary incomplete
 5. Completed secondary education
 6. Vocational
 7. College
 8. University |____|
4. What is your occupation?
 1. Self-employed, agriculture, fishing
 2. Self-employed, trade and commerce (shops)
 3. Self-employed, other (specify) _____
 4. Wage-employee, private sector
 5. Wage employee, Government and parastatal
 6. Wage employee, others (NGO, etc., specify) _____
 7. Student
 8. Unemployed |____|
5. What is your marital status?
 1. Single
 2. Married
 3. Divorced
 4. Separated
 5. Others (Specify) _____ |____|
6. How many children of your own do you have? [provide number] |____|
7. How many children who are not your own children? [provide number] |____|
8. *If s/he has children*, how many of them are under fives? [provide numbers] |____|
9. List the age of every underfives mentioned above (Tick as appropriate)
 1. 0 – 28 days |____|

- 2. 29 days – 1 year
- 3. Above 1 – 5 years

SECTION B: HOUSEHOLD AWARENESS, ACCESS AND OWNERSHIP TO ITNs

- 10. Does this household have a bed-net? Yes= 1, No= 2
- 11. *If answer to question 10 is Yes, how many bed-nets do you have? [Number]*
- 12. Have you ever heard about Insecticide Treated bed-Net (ITN)? Yes= 1, No= 2
- 13. Do you have any ITN in this household? Yes = 1, No = 2
- 14. How many ITNs do you have in this household? (Number)
- 15. How many sleeping places are there in this household? [Number]
- 16. Are the ITNs in this household enough for every sleeping place? Yes= 1, No= 2
- 17. *If answer to question 13 is yes, where did you hear about ITN for the first time?*
 - 1. Radio
 - 2. TV
 - 3. New paper
 - 4. Community meetings
 - 5. Neighbors
 - 6. Posters/Leaflets
 - 7. RCH Clinics
 - 8. Others (specify) _____

18. What is the key message that you remember regarding the ITN?

- 19. Have you ever heard about the Tanzania National Voucher Scheme (TNVS)?
Yes= 1, No= 2

(If the answer is No to question 20 skip to question 25)

- 20. *If answer to question 20 is yes, where did you hear about the TNVS Program?*
 - 1. Radio
 - 2. TV
 - 3. New paper
 - 4. Community meetings
 - 5. Neighbors
 - 6. Posters/Leaflets
 - 7. RCH Clinics
 - 8. Others (specify) _____

21. What do you know about the TNVS Program?

- 22. Who are the beneficiaries of the TNVS program? (Tick as appropriate)
 - 1. All Men
 - 2. All Women
 - 3. Pregnant women
 - 4. Children under the age of five years
 - 5. Household members
 - 6. Others (specify) _____

23. Why TNVS focused on the groups you have mentioned above?

24. Have you ever heard about the national campaign to distribute free ITNs to under fives (under fives catch up program)? Yes= 1, No= 2 |____|

(If the answer is No to question 25 skip to question 29)

25. If answer to question 25 is yes, where did you hear about the catch up program?

1. Radio
2. TV
3. New paper
4. Community meetings
5. Neighbors
6. Posters/Leaflets
7. RCH Clinics
8. Others (specify) _____ |____|

26. What do you know about the under fives catch up campaign?

27. Who are the beneficiaries of the under fives catch up campaign?

1. All Men
2. All Women
3. Pregnant women
4. Children under the age of five years
5. Household members
6. Others (specify) _____ |____|

28. Have you ever heard about the universal coverage program for ITNs? Yes= 1, No=2 |____|

(If the answer is No to question 29 skip to question 33)

29. If answer to question 29 is yes, where did you hear about the universal coverage program?

1. Radio
2. TV
3. New paper
4. Community meetings
5. Neighbors
6. Posters/Leaflets
7. RCH Clinics
8. Others (specify) _____ |____|

30. What do you know about the universal coverage program?

31. Who are the beneficiaries of the universal coverage program?

1. All Men
2. All Women
3. Pregnant women
4. Children under the age of five years
5. Household members
6. Others (specify) _____ |____|

32. How did you get the Insecticide Treated bed-Nets (ITNs) that you own? (Tick as appropriate)

1. Commercial market
 2. Tanzania National Voucher Scheme (TNVS) for pregnant mothers
 3. Under fives "catch up campaign"
 4. Universal coverage campaign
 5. Others (specify) _____ |____|
33. Please indicate the number of bed-nets obtained through each source [mention numbers]:
1. Commercial market |____|
 2. TNVS |____|
 3. Under fives "catch up campaign" |____|
 4. Universal coverage |____|
34. *If respondent obtained the ITN through TNVS, did you go yourself to collect the ITN?*
 Yes= 1, No= 2 |____|
35. Why did you go/not go to collect ITN yourself?

36. How long did you take to obtain ITN since you received the voucher?
1. Less than a week
 2. One week
 3. Two weeks
 4. Three weeks
 5. More than one month |____|
37. If more than one week in question 37 explain why?

38. How much did you pay to obtain ITN through the TNVS? TShs _____
39. How did the same type and size of net costs in a commercial market? TShs _____
40. Did you discuss with your spouse on how to finance TNVS ITNs?
 Yes= 1, No= 2 |____|
41. *If answer to question 41 is no, who decided on the modalities for payment?*
1. Myself
 2. My husband
 3. My wife
 4. Others (Specify) _____ |____|
42. Where did you get the money to pay for the TNVS ITN?
1. Own savings
 2. From my husband
 3. From my wife
 4. Other sources (Specify) _____ |____|
43. How do you think about the amount you have paid?
1. Very high
 2. High
 3. Affordable/reasonable
 4. Low/ cheap |____|
44. How much do you think INTs distributed through TNVS should cost? TShs _____
45. *If respondent obtained ITN through underfive catch up campaign, did you go yourself to collect the ITN?*
 Yes= 1, No=2 |____|
46. Why did you go/not go to collect ITN yourself?

47. How long did you take to obtain the ITN since you received the voucher?

1. Less than a week
2. One week
3. Two weeks
4. Three weeks
5. More than one month

|____|

48. If more than one week in question 52 explain why?

49. *If respondent obtained ITN through universal coverage, did you go yourself to collect the ITN?*

Yes= 1, No=2

|____|

50. Why did you go/not go to collect ITN yourself?

51. How long did you take to obtain the ITN since you received the voucher?

1. Less than a week
2. One week
3. Two weeks
4. Three weeks
5. More than one month

|____|

52. If more than one week in question 60 explain why?

53. *If your household received ITN through TNVS/ Under-fives catch up campaign/Universal coverage campaign, what did you do to nets you owned previously and why?*

SECTION C: THE USE AND MANAGEMENT OF ITNs AT THE HOUSEHOLD LEVEL

54. Who slept under bed-net last night?

- | | | |
|--|---------------|------|
| 1. Father | Yes= 1, No= 2 | ____ |
| 2. Mother | Yes= 1, No= 2 | ____ |
| 3. Boys (12-18 years) | Yes= 1, No= 2 | ____ |
| 4. Girls (12-18 years) | Yes= 1, No= 2 | ____ |
| 5. Young male child(ren) above five | Yes= 1, No= 2 | ____ |
| 6. Young female child(ren) above five | Yes= 1, No= 2 | ____ |
| 7. Young male child(ren) under five | Yes= 1, No= 2 | ____ |
| 8. Young female child(ren) under five | Yes= 1, No= 2 | ____ |
| 9. Other members of the household please specify _____ | | ____ |

55. *If there are unusual patterns, ask why?*

56. For how long have you had ITNs in your household? _____

57. When did you start to use ITNs in your household? _____

58. Where did you obtain the first ITNs you have been using?

1. Commercial market
2. TNVS
3. Under fives "catch up campaign"
4. Others (specify) _____ |____|

59. Do you personally sleep under ITNs? Yes= 1, No= 2 |____|

60. If no, why are you not using ITNs?

1. I am not bothered by mosquitoes
2. ITNs are too expensive
3. I don't know where to buy ITNs
4. ITNs are not available in this area
5. Others (specify) _____ |____|

61. How often do you impregnate your bed-nets with insecticides?

1. Every three months
2. Every six months
3. Every 12 months
4. Every 5 years
5. Others (Please specify) _____ |____|

62. *If nets are not re-impregnated regularly, why?*

SECTION D: ECONOMIC STATUS OF THE HOUSEHOLD

63. Is this a rented house? Yes= 1, No= 2 |____|
64. How many bed-rooms exist in the main house of this household? [Number] |____|
65. What is the type of wall materials?
1. Cement bricks
 2. Mud bricks
 3. Burned bricks
 4. Mud
 5. Thatched
 6. Others specify _____ |____|
66. What is the type of roof materials?
1. Tiles/concrete/
 2. Iron sheet/ asbestos
 3. Thatched/Mud/cow dung/plastic/tins
 4. Others specify _____ |____|
67. What is the types of floor materials
1. Sand
 2. Wood
 3. Tiles
 4. Cemented
 5. Others specify _____ |____|
68. In this household is there anyone who own:
1. Bicycle [even if not-functional] Yes= 1, No= 2 |____|
 2. Radio [even if not-functional] Yes= 1, No= 2 |____|
 3. Mobile phone [even if not-functional] Yes= 1, No= 2 |____|
 4. Television [even if not-functional] Yes= 1, No= 2 |____|
 5. Motorcycle [even if not-functional] Yes= 1, No= 2 |____|
 6. Car [even if not-functional] Yes= 1, No= 2 |____|
 7. Milling machine [even if not-functional] Yes= 1, No= 2 |____|
 8. Sofa set Yes= 1, No= 2 |____|
 9. Iron (*pasi*) Yes= 1, No= 2 |____|
 10. Sewing machine (*cherehani*) Yes= 1, No= 2 |____|
 11. Others specify Yes= 1, No= 2 |____|
69. Does this household own land Yes= 1, No= 2 |____|
- If answer to question 91 is yes, then:
1. How many acres of surveyed land does this household have? |____|
 2. How many acres of un-surveyed land does this household have? |____|
70. Does this household own any cropping equipment Yes= 1, No= 2 |____|
- If answer to question 92 is yes, then:
1. How many ploughs does this household have? [numbers] |____|
 2. How many harrows does this household have? [numbers] |____|
 3. How many planters does this household have? [numbers] |____|
 4. How many tractors does this household have? [numbers] |____|
 5. Others specify _____ [numbers] |____|
71. Does this household own livestock? Yes= 1, No= 2 |____|
- If answer to question 93 is yes, then:
1. How many cattle does this household have? [numbers] |____|
 2. How many goats does this household have? [numbers] |____|

- | | | |
|----|---|------|
| 3. | How many sheep does this household have? [numbers] | ____ |
| 4. | How many chicken does this household have [numbers] | ____ |
| 5. | How many donkeys does this household have [numbers] | ____ |
| 6. | How many camels does this household have [numbers] | ____ |
| 7. | Others specify _____ [numbers] | ____ |
72. What is the source of energy for this household (tick as appropriate)
- | | | |
|----|----------------------|------|
| 1. | Electricity | ____ |
| 2. | Gas | ____ |
| 3. | Kerosene | ____ |
| 4. | Charcoal | ____ |
| 5. | Firewood | ____ |
| 6. | Dung | ____ |
| 7. | Others specify _____ | ____ |

THANK YOU FOR TAKING TIME TO PARTICIPATE IN THIS SURVEY

Annex 2 Interview Guide for Key Informant Interviews

(Key Informants (KI) includes health providers, retail shop keepers, TNVS agents, district malaria/IMCI focal persons and ward/village officers)

Name of Stakeholder:

Title/position of Stakeholder:

Organization:

Name of Interviewer:

Date of Interview:

Time of Interview:

1. Please describe INTs campaigns that have been implemented in your area
2. Did your organization participate in any ITNs campaigns? If YES, please describe how your organization participated in the ITNs campaigns? (designing, implementation or monitoring)
3. How is the community been involved in the TNVS campaigns?
4. What communication strategies were used to disseminate/in delivering information to the community members during TNVS campaigns?
5. Do you think the communication means employed were appropriate to target population? How useful were the communication strategies to the target population?
6. What is your opinion on the distribution mechanisms of ITNs through TNVS?
7. What is the communities' perception towards the TNVS approach (on the target group, distribution mechanism, size of the nets, color etc)
8. What can you say on the implementation of TNVs especially in increasing accessibility and use of ITNs in the households?
9. Apart from TNVS, what are the other ITN use campaigns that have been or are implemented in this area? How were or are they implemented? (If not mentioned ask question number 10 below)
10. Have you ever heard about under-fives catch up and universal coverage of ITNs campaigns?
11. What approaches did those campaigns use in terms of communication and distribution mechanisms? How are they different from what TNVS used?
12. In your opinion which approach is better in ITNs campaigns in your community and why?
13. In your opinion, how have the TNVS been affected by the current campaigns such as under fives free nets and universal coverage?
14. What is the men's perception on the different approaches mentioned?
15. What is the involvement of men in these campaigns?
16. In your opinion what are the lessons learnt or challenges identified in all these approaches for ITNs use campaigns? Are there gender related specific challenges?

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Annex 3 Interview Guide for Focus Group Discussions

1. What are your opinions on the use of mosquito nets in this community?
2. What are the cultural norms, beliefs and values guiding the use of mosquito nets in this community? (for women, men and children)
3. How are the ITNs obtained in this community? (if not mentioned probe on the TNVS, under-five catch up campaign, and universal coverage)
4. What are your views towards TNVS approach? (distribution, target groups, size of the nets, color)
5. What are your views regarding the free bed-nets to under-fives (the under five “catch up campaign”)? (distribution, target groups, size of the nets, color)
6. What are your views regarding the universal coverage approach? (distribution, target groups, size of the nets, color)
7. Given the fact that some households were already using other types of bed-nets, do you think these approaches are appropriate?
8. How decisions for ANC attendance are made in this community? (pregnant women and under-fives)
9. How decisions for ITN voucher redemption are made in this community? (probe for both under-fives catch up campaign and pregnant women on who are involved and why?, who goes for redemption and why)
10. What are the challenges in the process of redeeming the ITN vouchers? (probe for both under-fives catch up campaign and pregnant women)
11. What is the men’s/women’s perception on the different approaches mentioned?
12. What is the involvement of men/women in these campaigns?
13. In your opinion what are the lessons learnt or challenges identified in all these approaches for ITNs use campaigns? Are there gender related specific challenges?

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