

## Background

Supported by the United States' President's Malaria Initiative (PMI), Uganda's National Malaria Control Program (NMCP) is implementing a strategy that promotes commercial net distribution for those that can afford to pay and highly subsidized or free nets to especially vulnerable populations. The ITN market in Uganda is robust, dramatically increasing the availability of insecticide-treated and untreated mosquito nets in the country.

To measure the combined impact of activities to date and provide a reference point for measuring future progress, NetMark, in collaboration with Uganda Chartered HealthNet (UCH) and with funding from the United States Agency for International Development (USAID), conducted a household survey in Uganda in 2000 and 2006.



Respondents were women aged 15-49 who cared for at least one child under five, living in urban and rural areas around Kampala, Masaka, Soroti, Hoima and Mbarara.

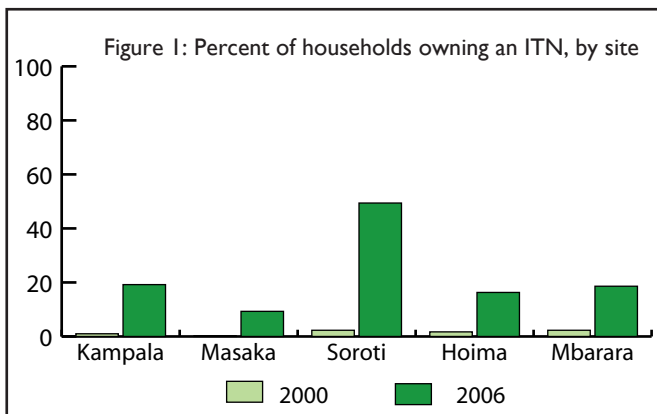
The women answered questions about ownership of mosquito nets and ITNs, use of nets by vulnerable groups, net treatment practices and consumer preferences.

Interviewers used handheld computers (PDAs) to record responses in the 2006 survey, and collected GPS coordinates for each interview. Supervisors downloaded data daily and periodically sent it to an FTP site so NetMark researchers could review the data. This resulted in improved data quality and eliminated the potential for error during data entry of completed paper questionnaires.

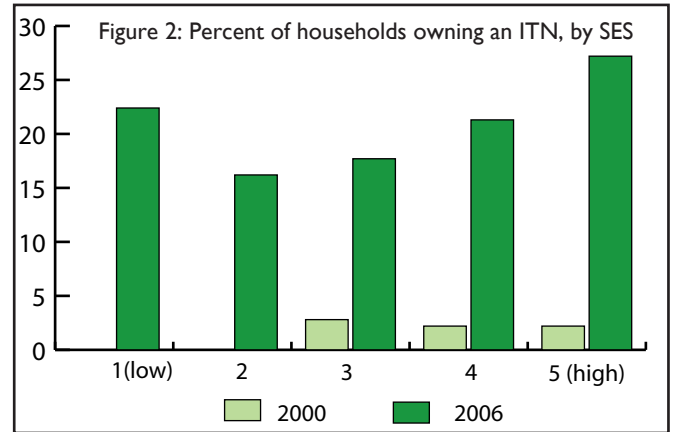
## Findings

### INCREASED OWNERSHIP OF NETS & ITNs

More households owned at least one net in 2006 than in 2000, increasing from 30% to 44% overall. Ownership in urban areas (66%) continues to be higher than in rural areas (39%), but rural areas saw a much greater change, rising from 24% in 2000.

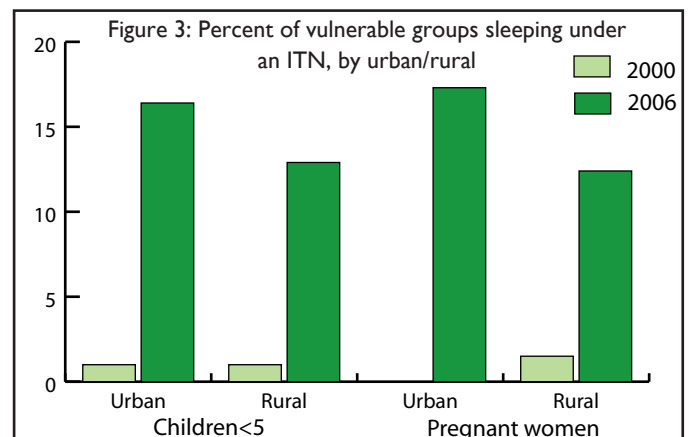


Among the five sites surveyed, Soroti had the highest net ownership (71%), followed by Kampala (52%). Masaka had the lowest ownership both years (29% in 2006). While households in the highest socio-economic groups were more likely to own a net than those in the lowest in both years, the poorer groups made more progress resulting in increased equity in 2006.



### MORE VULNERABLE GROUPS SLEEPING UNDER NETS & ITNs

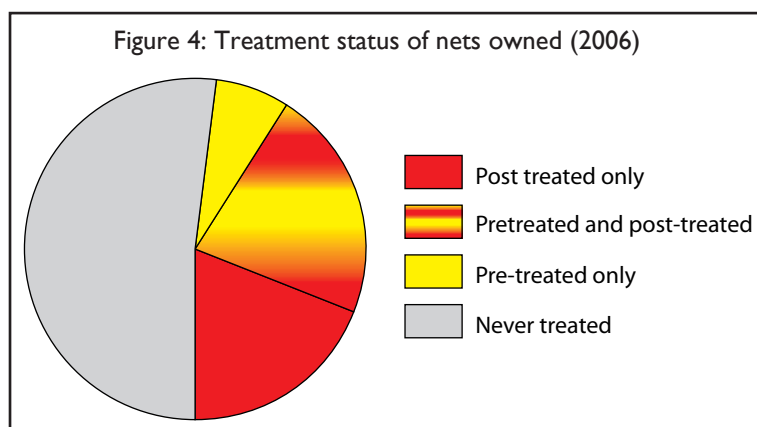
The 2006 survey demonstrated that Uganda has made great progress in the proportion of young children and pregnant women sleeping under nets and ITNs. Very young children and pregnant women were equally likely to have slept under a net the night prior to the 2006 survey. Overall, 30% of under fives and 29% of pregnant women slept under a net the previous night, but rates differed according to urban or rural residence: half of urban pregnant women and young children had slept under a net, compared to one in four in rural areas. ITN use among both groups was lower, at 12-13% in rural areas and overall, and 16-17% in urban areas, but this was an increase from only 1% sleeping under an ITN in 2000.



A common misperception about nets and ITNs is that if a household owns a net, it will be used by an adult male, rather than the more vulnerable children and women, particularly pregnant women. Data from the Uganda survey confirms what has been found in NetMark surveys in other countries: the most vulnerable groups are given preference for sleeping under nets. Adults over 50 and children older than age five, who have acquired some immunity to malaria, were least likely to sleep under a net, followed by adult men.

## DRAMATIC CHANGES IN NET TREATMENT

In 2000, few nets had ever been treated (8%), and even fewer were treated in the previous 12 months, the RBM definition for an ITN. In 2006, approximately half of nets owned had ever been treated, and 40% were currently treated ITNs. Nets were about equally likely to have been acquired pre-treated (29%) and post-treated (27%). Pretreated nets include those treated at the factory level as well as those dipped by health facilities or community groups before nets are sold or distributed, while post-treated nets may have been treated at home with treatment kits packaged with the net or bought separately, or taken to a dipping service at another location.



## COMMERCIAL SECTOR IS MAIN SOURCE OF NETS

In both years, the large majority of nets owned were purchased from commercial outlets. In 2006, 78% of nets were from commercial sources, compared to 95% in 2000.

Nets were most likely to be commercial in urban areas, in Kampala site and in the highest SES quintile (86-87%). The proportion of nets that were commercial increased with SES. General shops were the most common source of nets in urban areas, in Kampala, Masaka and Hoima, and among the highest wealth quintile (31-36%), while markets were more common in rural areas (34%), in Soroti (53%) and Mbarara (27%), and among the lowest wealth quintile (45%).

One-fifth of nets came from non-commercial sources, but these sources accounted for twice the proportion in rural areas (26%) as urban (13%). One-third of nets in the poorest quintile came from non-commercial sources, compared to only 13% in the wealthiest quintile. However, the top quintile had 32% of non-commercial nets, since ownership increased with wealth. In every subgroup, nets in 2006 were more likely than nets in 2000 to come from non-commercial sources, which is consistent with the increased presence of net and ITN programs in the last five years.

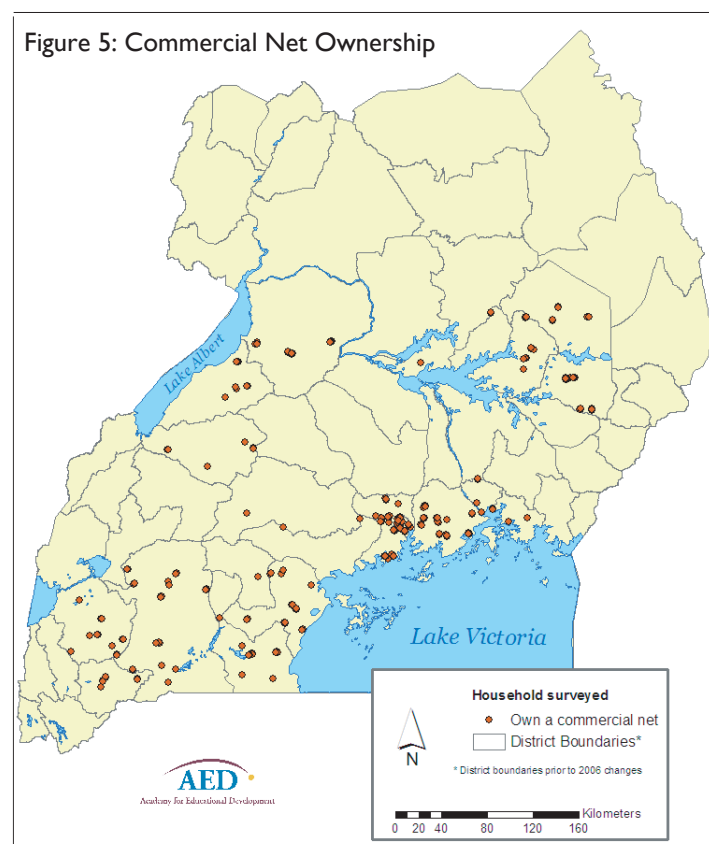
## COST OF NETS IS DECREASING

Most nets in 2006 were paid for; only one in ten nets was reportedly free. Among nets paid for, the median net price was

6,000 shillings (US\$3.25) in urban and rural areas and all sites except Soroti, where it was 5,000 shillings (US\$2.71). The median price rose with socio-economic status, from 5,000 among the lowest 40% to 6,000 among the highest 40%.

The median price of nets has come down considerably since 2000, decreasing from 9,000 shillings (US\$5.61) in 2000 to 6,000 shillings (US\$3.25) in 2006.

Figure 5: Commercial Net Ownership



## Program & Policy Implications

- Increased net ownership and equity suggests that strategies to reach under-served groups have been successful and should be continued until ownership in rural and poorer households reaches the levels of their urban and wealthier counterparts.
- All household members were much more likely to sleep under an ITN in 2006 than in 2000, and differences by urban/rural and socio-economic status are modest. But differences by site are quite dramatic, particularly among pregnant women, and suggest a need for targeted distribution of ITNs and supporting communication messages-for example, through counseling and vouchers at antenatal clinics.
- Untreated nets still far outnumber ITNs. Implementing mass treatment campaigns and making treatment kits more widely available in the commercial sector will help enable people to convert existing nets into ITNs.
- Most nets in Uganda are purchased from commercial sources, even among the poorest groups, indicating that people value nets and are willing to pay for them.