

# Global Minimum Mosquito Net Distribution in the Malen and Kabonkeh chiefdoms, Sierra Leone: June – August 2010

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The GMin team before a distribution.

Following the distribution of 4,000 long lasting insecticide-treated mosquito nets in the Malen Chiefdom in Sierra Leone in 2009, Global Minimum (GMin) decided to enlarge its scope for the 2010 distribution. During the months of June to August, GMin distributed 10,560 long lasting insecticide-treated nets to complete full coverage of the Malen Chiefdom and 4 sections in the Kpanga Kabonkeh Chiefdom also in the Pujehun District.

The distribution strategy did not change this year. We again visited each village, each home, and provided bed nets for each sleeping space. In each village, we held town meetings, performed malaria education skits, counted each sleeping space in the houses and provided nets to cover all. After we completed Malen, we covered four sections in the neighbouring Kabondeh Chiefdom.

Our partnerships grew in scope over the last year. We were able to get 2,000 bed nets from the London office of PricewaterhouseCoopers, and another 2,500 from the Against Malaria Foundation (AMF). The AMF partnered with Peter Gostelow who through his personal fundraising donated a majority of the LLINs. Peter, through pedaling over 7,000 kms from London and raising funds for nets from family, friends, schools, strangers and others, contributed some 2,500 nets to the GMin distribution (see Peter's website at <http://petergostelow.com/>). He plans to continue cycling all the way to South Africa and we would like to thank him for joining us during this distribution. He is an integral member of the team that carried out the distribution. The rest of the nets were provided by student groups from Harvard, University of New Hampshire, Burr and Burton Academy and many individuals. The AALL Foundation was responsible for a large chunk of the nets, and also for sponsorship of the education component of our campaign- both during and after the distribution.

Results of our distribution are as follows:

#### **Upper Malen Chiefdom + Sahn Village**

<b>Mosquito nets distributed:</b>	<b>5,038</b>
<b>Villages covered:</b>	<b>26</b>
<b>Team Members:</b>	<b>20+</b>
<b>People covered:</b>	<b>9,995</b>
<b>Under-fives covered:</b>	<b>2,408</b>
<b>People per net:</b>	<b>2.28</b>
<b>Average Nets per household:</b>	<b>3.33</b>
<b>Population of largest village:</b>	<b>1,695</b>
<b>Population of smallest village:</b>	<b>28</b>
<b>Years of follow-up:</b>	<b>3</b>

**Kabondeh Chiefdom:**

<b>Mosquito nets distributed:</b>	<b>5,522</b>
<b>Villages covered:</b>	<b>41</b>
<b>Team Members:</b>	<b>20+</b>
<b>People covered:</b>	<b>12,122</b>
<b>Under-fives covered:</b>	<b>2,755</b>
<b>People per net:</b>	<b>2.21</b>
<b>Average Nets per household:</b>	<b>3.90</b>
<b>Population of largest village:</b>	<b>2,626</b>
<b>Population of smallest village:</b>	<b>14</b>
<b>Years of follow-up:</b>	<b>3</b>

## Stage 1: June Freetown to Sahn Malen.

GMin presented our distribution plan to our major partners – the Red Cross (RC), UNICEF, and the National Malaria Control Program (NMCP) in Freetown, during a Roll Back Malaria Consortium meeting that included all other partners helping combat malaria at all stages in Sierra Leone. Like the previous year, our nets were not shipped in time to ensure that we distributed before the end of the summer. Thus, we approached the NMCP again to borrow 10,560 nets, which would be returned once our nets hit the shores of Sierra Leone in August. The nets of the NMCP were replenished in October after a lengthy delay at the national port in Freetown.



Mathias and the GMin team getting on the GMin Poda Poda to Sahn Malen.

The NMCP decided to lend us the nets given our track record and in addition allowed us to use their vehicles to pre-position the bed nets in the major villages in the Malen Chiefdom. This time, we bought fuel for two huge trucks, paid the drivers and the drivers' assistants, and two staff from the NMCP office to supervise the pre-positioning effort. After 10 hours of driving and a brief stopover in Bo Town- second capital city of Sierra Leone, we arrived in Sahn Malen town where half of the nets were stored. The other half were taken to Taninahun, which also has a community health center, but is closer to the rest of the villages in the Upper Malen sections of the Chiefdom.

Our first distribution of 1,200 nets was done there in 2007 after GMin's President David Sengeh visited the chiefdom in 2006 and had a long conversation with the Chief, his own relatives, and the locals in the community. Malaria is the biggest health problem in this community surrounded by mostly palm tree plantations and swamps. The chiefdom is highly invested in the distributions and in the many other activities carried out by GMin

there. In 2009, we covered the lower half of the chiefdom with 4,000 bed nets. This was when we forged our partnerships with the Against Malaria Foundation, the Red Cross, the National Malaria Control Program and an infinite number of individual donors and supporters. Our own evaluations have shown that the nets are used; more than 90% of sleeping spaces in the chiefdom were covered one year later, and there has been a dramatic reduction in the number of deaths of children under 5 reported at the health center.

***Stage 2 July: Preparations for Distribution and Training new GMin members in Sahn Malen.***



Pre-positioning of nets by GMin team members

Sahn is the center for the work GMin has been doing in Sierra Leone for the last 3 years. Sahn is about 8-10 hours from Freetown with no electric grid, running water or paved roads. Farming is the main occupation of the people here.

The Kabonkeh chiefdom neighbors Malen. Though bigger in size, Kabonkeh is very similar in topography to Malen. The dominant occupations are farming and fishing. GMin targeted 4 sections of the Kabonkeh section; Sorbeh Griema, Gbondapi, Mandeima and Gibina. For Gbondapi, we covered all the villages that were accessible by road and about half of the sections were only accessible by boat. Though it would have been highly beneficial to target the villages behind the river, we were constrained by the lack of safe transportation across the river for the nets and us. This decision was made in consultation with the Chiefs of the sections across the river, the paramount chiefs of Kabonkeh and Malen as well as the Pujehun District Health Management team. They agreed that this was the best prioritization of our resources.

The most significant change between the distributions this year and the ones previously done was that our team members were recruited from universities in Sierra Leone.

Though we had students from Harvard, Princeton, University of New Hampshire and a high school called Burr and Burton Academy, the majority of the students who led the distribution were from Njala University based in Bo Town, Sierra Leone. The backgrounds of the students were diverse and they ranged from tropical medicine majors to Computer Scientists. The interview process was informal and the vacancy notice was mainly spread by word of mouth.

In Sahn Malen town, we trained each student to interview household heads and ensure that every sleeping space was counted. We spent a lot of energy on education in each household, so that people use the nets properly, and also to create an awareness that this is a community project. For example, we explain that if people hog nets, then they will be taking them away from other people in the chiefdom. An integral part of our method is that we are able to account for each net we receive from donors many months and years after the distribution. So our team members were trained in how to interview, record, compile and collate records from each house. They also learned to perform the malaria educational skit, which we have at town meetings. The students spoke krio and the majority also spoke mende, so they were much more skilled at communicating with the people of the chiefdom than the international volunteers.



GMin members discussing before a distribution

### **Stage 3 July: The Distribution**



GMin members crossing a river to distribute nets

A striking difference between our work last year and this is that our home base was about 9 miles from the nearest village we were distributing in this time round. Some villages were up to 18 miles away from Sahn Malen this year. Thus, it did not make much sense to walk an entire 18 miles each way (a marathon is 26 miles), one way before distribution and then another 18 to get back home. So, we decided to hire a “*poda-poda*” which is a public transportation vehicle that could carry up 30 people (crammed inside and on the roof) and our nets.

We still woke up at 6:00 AM daily, took care of personal hygiene, ate breakfast together - bread and butter and sometimes sardines with mayonnaise. Next, we would assemble sachets of water, stationery, rain gear, cameras and anything else that would be needed for the road. With our packs ready, we then sandwiched into the *poda-poda* much like the sardines we ate at breakfast. A couple brave ones would sit on the roof of the vehicle but even this did not free up space. It just meant more people came on the trip because all the locals were excited to join on.

We would drive for about 9-12 miles to a village that would act as the day’s hub, pick up nets that were already pre-positioned and then walk about 2-5 miles to villages that could not be accessed by a vehicle. Since our team was largely made of trained locals able to

lead their own teams, we usually split into 2-3 groups and went in different directions to cover neighboring villages.

Each group, upon arrival to a new village, would gather at a town meeting hosted by the village elders. The locals would introduce us to the Chief of the villages and then explain the origin of our organization and how its foundations were rooted in David Senghe whose family hails from the chiefdom.

We would emphasize the fact that our activities were non-political and that we did not need money or any sort of payments for the nets. We stressed the importance of using the nets and how that serves as payment from their end before proceeding to have a malaria education skit in front of the whole village.

**The Skit:** This is a demonstration of how the nets would hang over a sleeping space. One person lies down to sleep on two bales of nets, and other people act as mosquitoes who attack him. The sleeping person wakes up, feels sick, and passes out. Then we show him/her going to sleep under a net. The mosquitoes attack again, but are killed by the insecticide-treated net, and the person wakes up healthy. We put emphasis on nets hanging over sleeping spaces that are not beds since most of the under-fives in the community sleep on mats and they are the most vulnerable. One of the Red Cross volunteers ran a quick question and answer session to address the concerns of the community, and then we broke into small groups of 2-3 people and started the house-to-house distribution.



Anthony Lebbie- A Red Cross supervisor leading the malaria education skit during a town meeting



## Distributing the Nets:



After a day of distribution, this is what a village looks like. Lovely and shiny nets hanging in front porches.

Our teams comprised members from the community, the local university students and GMin members from abroad. We also included volunteers from the Red Cross and the Pujehun District Health Management Team when they were available.

In each house, a team member would introduce the rest of the team to the household head and go through all the main information as given at the town meetings. He/she would then survey how many nets the house needed by counting “sleeping spaces”, which is any space, bed, mat or floor that someone sleeps on. He would also collect data on the demographic composition of the household (number of people and ages) and the number of old nets. Prior to the distribution, the Princeton Institutional Review Board approved our survey used and all responses are confidential – we will only use the answers in the aggregate.

Another team member would then rip open the plastic bag containing the long lasting insecticide treated nets and the rest of the team would show how the nets are hung over the beds and sleeping spaces on the floor. The exact quantity of the nets needed are then hung outside in the shade to air out, and the recipients are advised to let them hang outside all day and possibly the next day. In houses where there were nets previously provided by the ministry of health during pregnancy, we would inspect these nets and when they met our standards (looked new, were given within the last year), we would not replace them. This was a small fraction of the old nets, and most of the ones we saw were torn or were several years old so the insecticide had worn off.

## Successes:



The final destination of our insecticide-treated nets - over a bed in the Malen chiefdom

- We covered the entire Malen chiefdom and 4 sections of Kpanga Kabondeh with 10,560 insecticide-treated mosquito nets
- Expenses for vehicles were limited to long travels (> 5 miles) and we walked a significant amount. Our distribution was very economical even when this transportation and stipends for our volunteers was calculated. Distribution costs are less than 75 US cents per net.
- We've bonded with the people of the Malen chiefdom because of our sustained presence, and many people are very proud of GMin. We have achieved a great working relationship with the local schoolteachers, elders, and chiefs.
- Our nets are counted as part of the 2010 Universal Coverage Campaign run by the National Malaria Control Program and the entire Roll Back Malaria Campaign. GMin nets will count in the statistics that determine Sierra Leone's progress towards the Millennium Development Goals.
- We included local university students on our team, thereby anchoring it locally, saving money, and providing useful summertime occupation that will help them pay their school fees.
- We sustained our great relationships with the Red Cross Sierra Leone, UNICEF-SL and the local District Health Medical Team.
- Our evaluations show that the nets are used to a much greater extent than other free distributions.

## Challenges



The sleeping space for most under-fives: the floor

- We found that children normally slept on the floor rather than in beds. We also found that mosquito nets were sometimes used to cover beds only, so a few children were effectively uncovered by a family's mosquito net even though they are the most vulnerable group. Our response was to keep stressing education efforts through local engagement as the key to protecting this vulnerable group.
- Some people tended to exaggerate the number of people in the household, and some increased the number of sleeping spaces by putting out extra mats on the floor. Some also took down old nets prior to our arrival. Our best shot at countering this was to stress that this was a community project initiated by a community member, and that we only had a limited number of nets so that any hoarding would take nets away from others. Our local team members questioned any suspicious household figures and urged people to be honest. This generally worked well.
- We found that, as we distanced ourselves further geographically from the Malen chiefdom, it took longer for the chiefs and members of villages to trust us. They were more wary of our intentions. Our response was to take all the time needed to establish the trust necessary for the effectiveness of our distribution.

## Distribution Data

Kpanga Kabondeh Chiefdom, Pujehun District.

Town	Date	Population			Nets			Demographics			Ratios		
		Househ olds	Pop.	Nets Given	Nets Previous	Sleeping Spaces	Under-fives	Pregnant Women	Nets/ Household	People/ Net	% of HHw/ Pregnant	% of ppl under5	
Sorbeh Griema	7/12/2006	84	744	322	163	329	149	15	3.8	2.3	18%	20%	
Soso	7/12/2006	9	95	44	27	44	21	2	4.9	2.2	22%	22%	
Balleh Pesseh	7/12/2006	22	159	67	50	69	41	3	3.0	2.4	14%	26%	
Kpekendu	7/12/2006	8	49	24	10	25	10	0	3.0	2.0	0%	20%	
Kamala	7/12/2006	6	33	14	10	15	5	1	2.3	2.4	17%	15%	
Gombahun	7/12/2006	40	324	139	60	140	75	10	3.5	2.3	25%	23%	
Mokenge	7/12/2006	28	199	100	40	100	46	7	3.6	2.0	25%	23%	
Taninahun Pess	7/12/2006	25	172	80	51	82	35	19	3.2	2.2	76%	20%	
BlamaPesseh	7/12/2006	23	231	82	4	82	51	3	3.6	2.8	13%	22%	
Gangama	7/12/2006	8	133	53	30	53	32	10	6.6	2.5	125%	24%	
Sembehun	7/13/2006	15	117	47	27	48	32	1	3.1	2.5	7%	27%	
Njaluahun	7/12/2006	3	14	7	1	7	4	0	2.3	2.0	0%	29%	
Ngolahun	7/12/2006	12	95	43	8	43	18	1	3.6	2.2	8%	19%	
Gibina	7/13/2006	56	521	221	70	228	122	13	3.9	2.4	23%	23%	
Lawana	7/13/2006	12	84	39	10	39	15	6	3.3	2.2	50%	18%	
Gedenma	7/13/2006	4	44	19	6	19	14	0	4.8	2.3	0%	32%	
Yikandor	7/13/2006	82	605	267	113	268	120	22	3.3	2.3	27%	20%	
BlamaPuila	7/13/2006	66	471	197	52	195	99	12	3.0	2.4	18%	21%	
Foobu	7/13/2006	14	178	77	24	77	53	13	5.5	2.3	93%	30%	
Sundu	7/13/2006	16	141	67	4	67	39	8	4.2	2.1	50%	28%	
Tinyai	7/13/2006	12	62	30	1	30	10	1	2.5	2.1	8%	16%	
Gbesseh	7/13/2006	5	45	20	1	20	9	1	4.0	2.3	20%	20%	
Senehun Ngieb	7/13/2006	7	39	20	5	20	6	0	2.9	2.0	0%	15%	
Komende	7/13/2006	16	120	59	45	60	43	6	3.7	2.0	38%	36%	
Paatu	7/13/2006	8	51	22			8	1	2.8	2.3	13%	16%	
Senehun Makai	7/13/2006	11	65	33	15	33	11	0	3.0	2.0	0%	17%	
Baoma	7/13/2006	22	101	45	24	46	23	2	2.0	2.2	9%	23%	
Gbondapi	7/15/2006	284	2626	1153	500	1153	562	81	4.1	2.3	29%	21%	
Manjama	7/15/2006	61	512	205	43	205	113	22	3.4	2.5	36%	22%	
Benalleh	7/15/2006	8	62	31	6	31	4	3	3.9	2.0	38%	6%	
Najay	7/15/2006	75	658	284	90	287	155	26	3.8	2.3	35%	24%	
Benga.Inct	7/15/2006	59	470	181	86	179	110	10	3.1	2.6	17%	23%	
Kebawana	7/15/2006	23	225	94	29	94	46	6	4.1	2.4	26%	20%	
Mandeima	7/16/2006	95	816	332	57	333	180	21	3.5	2.5	22%	22%	
Kongohun	7/16/2006	45	354	143	61	143	102	13	3.2	2.5	29%	29%	
Kortuyama	7/16/2006	20	146	62	48	62	60	5	3.1	2.4	25%	41%	
Kpetema	7/16/2006	11	89	39	34	39	28	5	3.5	2.3	45%	31%	
Gangama2	7/16/2006	55	479	188	37	192	131	27	3.4	2.5	49%	27%	
Golawoma	7/16/2006	45	333	139	39	140	95	18	3.1	2.4	40%	29%	
Niagorehun	7/22/2006	18	178	257			25	8	14.3	0.7	44%	14%	
Bandalahun	7/22/2006	34	282	276			53	4	8.1	1.0	12%	19%	
<b>TOTALS</b>		<b>1447</b>	<b>12122</b>	<b>5522</b>	<b>1881</b>	<b>4995</b>	<b>2755</b>	<b>406</b>	<b>3.90</b>	<b>2.21</b>	<b>28%</b>	<b>23%</b>	

**KABONDEH**

## Upper Malen, Pujehun District.

Town	Date	Population			Nets			Demographics			Ratios		
		Househ olds	Pop.	Nets Given	Nets Previous	Sleeping Spaces	Under-fives	Pregnant Women	Nets/ Household	People/ Net	% of HHw/ Pregnant	% of ppl under5	
Tanninahun	7/8/2010	143	999	437	32	169	211	32	3.1	2.3	22%	21%	
Blamawo	7/8/2010	6	28	10	0	5	9	0	1.7	2.8	0%	32%	
Libbie	7/9/2010	68	643	262	20	47	117	20	3.9	2.5	29%	18%	
Bendu Jnct	7/9/2010	17	152	62	1	36	29	1	3.6	2.5	6%	19%	
Bendu	7/9/2010	84	732	318	18	55	188	18	3.8	2.3	21%	26%	
Borbuwo	7/9/2010	7	39	20	1	6	8	1	2.9	2.0	14%	21%	
Borbuwa	7/9/2010	35	297	128	6	30	70	6	3.7	2.3	17%	24%	
Mallay	7/10/2010	60	486	222	12	56	129	12	3.7	2.2	20%	27%	
Sembehun	7/10/2010	20	131	55	4	32	35	4	2.8	2.4	20%	27%	
Gboyama	7/10/2010	87	678	283	15	74	157	15	3.3	2.4	17%	23%	
Sengema	7/10/2010	57	501	222	25	65	124	25	3.9	2.3	44%	25%	
Tissana	7/10/2010	38	256	122	8	22	54	8	3.2	2.1	21%	21%	
Jao	7/8/2010	110	946	414	120	40	211	120	3.8	2.3	109%	22%	
Kpanguma	7/10/2010	53	392	186	23	20	125	23	3.5	2.1	43%	32%	
Bomuvulahun	7/10/2010	21	194	85	10	36	35	10	4.0	2.3	48%	18%	
Ngjema	7/10/2010	20	169	73	6	14	32	6	3.7	2.3	30%	19%	
Sembehun	7/10/2010	20	131	55	4	32	35	4	2.8	2.4	20%	27%	
Jalulahun	7/10/2010	13	85	37	0	19	23	0	2.8	2.3	0%	27%	
Manowo	7/8/2010	32	221	96	6	16	76	6	3.0	2.3	19%	34%	
Senehun	7/10/2010	24	214	95	7	28	45	7	4.0	2.3	29%	21%	
Jolahun	7/10/2010	10	51	30	2	0	11	2	3.0	1.7	20%	22%	
Nyandehun	7/9/2010	114	915	367	33	218	251	33	3.2	2.5	29%	27%	
Fayama	7/9/2010	117	981	425	29	36	241	29	3.6	2.3	25%	25%	
Jama	7/9/2010	76	645	278	11	77	167	11	3.7	2.3	14%	26%	
Talia	7/9/2010	19	109	53	0	39	25	0	2.8	2.1	0%	23%	
Sahn Malen	7/15/2010	161	1695	703	48	383	350	48					
<b>TOTALS</b>		<b>1251</b>	<b>9995</b>	<b>5038</b>	<b>393</b>	<b>1172</b>	<b>2408</b>	<b>393</b>	<b>3.33</b>	<b>2.28</b>	<b>25%</b>	<b>24%</b>	

**UPPER MALEN**

## ***Appreciation***

The Global Minimum Club at University of New Hampshire led by Sarah VanHorn, the Initiative at Burr and Burton Academy led by Luke Dryban and the many clubs from Harvard College!

Our appreciation also extends to the London office of PricewaterhouseCoopers who sponsored 2,000 nets.

No single sponsor was more important than the AALL foundation, who provide the bedrock funding that allows us to pay for a large chunk of the nets, as well as transportation of the nets and follow-up.

We would like to wish Peter Gostelow good luck and thank him for his energy and passion in addition to the nets he provided for us. Peter is riding a bicycle from UK to South Africa (<http://www.thebigafricacycle.com/>) to raise money for the Against Malaria Foundation. Peter was able to join our team during the most intense days of distribution.

And of course, much appreciation to the Against Malaria Foundation who have been our most important partner without whom we wouldn't have raised funds, ordered nets, transported them and coordinated all the many efforts with such ease.

In addition we would like to thank:

Our many donors who funded nets from all over the world;

UNICEF-Sierra Leone for providing advice on how to best distribute nets and for providing extra malaria drugs for the health centers in the Malen Chiefdom;

The Red Cross Sierra Leone for providing volunteers for our distribution;

The National Malaria Control Program of Sierra Leone for lending their truck for the transport of the nets from Freetown to Sahn, for providing the *paracheck* and lots of advice;

And finally, the people of the Malen Chiefdom for warmly hosting us.