

ROTARIANS AGAINST MALARIA



LONG LASTING INSECTICIDAL NET DISTRIBUTION REPORT

CHIMBU PROVINCE Gumine, Sinasina Yonggomugl, Kundiawa Gembogl Districts

Carried Out In Conjunction With The Provincial Government And Church
Health Services Of Chimbu Province

With Support From The Global Fund

23rd April to 20th May 2021



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Executive Summary

Chimbu Province is a highlands province on the mainland of Papua New Guinea (PNG). Most of the people living in Chimbu live at altitude which are generally malaria free except for about six percent of the population that live in Karamui below 1200 metres where malaria is endemic. A further 19%, (mainly in the Waghi Valley) live at altitudes between 1200-1600m which in the past have been susceptible to malaria epidemics.

The family level survey and distribution of Long-Lasting Insecticidal Nets (LLINs) was carried out in Gumine, Kundiawa Gembogl and Sinasina Yonggomugl Districts between 23rd April and 20th May 2021. In Mitnande LLG (Local Level Government) in Kundiawa Gembogl District in which is found Mount Wilhelm (4509m) the highest mountain in PNG, generally the altitude does not go below 2000m, and here malaria is considered completely absent and therefore LLINs are not distributed in this area.

Table One shows the estimated population to be covered by the program together with the actual population found along with the number of LLINs distributed by district. In total, 91,724 LLINs were distributed to a population of 185,453 people. This resulted in distribution of 49.5 nets for every 100 people in the province.

TABLE ONE – Population And Nets Distributed

District	Population from 2000 Census	Population Of Targeted Areas In 2018	Total Estimated Target Population 2021	Population Surveyed 2021	House Holds Surveyed 2021	Nets Issued 2021	Nets Distributed Per 100 People
Kundiawa Gembogl	58,454	66,872	71,174	70,457	12,731	34,645	49.2
Sinasina Yonggomugl	38,015	55,142	58,689	62,975	12,569	31,083	49.4
Gumine	35,976	54,702	58,221	52,021	10,538	25,996	50.0
Totals	132,445	176,716	188,085	185,453	35,838	91,724	49.5

A further 217 LLINs were donated to health centres as nets were surplus to requirement, were no longer in bales and in most cases could not be easily returned to a central location. These nets would be distributed to pregnant mothers and for use over hospital beds where needed.

The overall operational cost of the programme was K213,581.68 Kina (Approximately US\$ K61,023.34) resulting in a cost of about 2.33 Kina or US\$0.67 per net delivered. This was about 7.0% under the anticipated budget. Overall, this is a superb achievement as the cost of delivery per net is one of the lowest achieved in the last ten years which shows that operations were very efficient.

Overall, the distribution went well in Chimbu Province with excellent collaboration from provincial health authorities which resulted in all targeted communities being reached and all household receiving nets.

Feedback from partners and communities suggest they were happy with the methodology used as the process appeared transparent to all concerned. However, as always, there were a few families who complained that they did not receive enough nets but for the most part it is believed that this was a result of families not fully understanding the allocation system used.

Global Fund supplied and donated all the nets for Chimbu Province District as well as the distribution costs for the province. The nets distributed in Chimbu Province are different from those in the past and are known as Yahe LLINs and we hope that these are better quality LLINs than those distributed in the last few years.

The history of LLIN distribution in PNG and Chimbu Province is discussed in Appendix One and the malaria situation and stratification of malaria in Chimbu Province are discussed in Appendix Two and Appendix Three. Historically it can be said that LLINs have had a tremendous impact on malaria in Papua New Guinea but recent distributions in lower lying provinces have not resulted in decreased malaria but we hope they are sufficient to keep malaria at bay in these areas for another three years.



Fig.1 – Initial Planning Meeting In Kundiawa (Left), Microplanning At Koge Health Centre (Right)

Background

Rotarians Against Malaria (RAM) is a nationally based organisation which was formed in 1997 by the Port Moresby Rotary Club in recognition of the tremendous burden that malaria imposes on the people of PNG.

RAM has an organizational mandate to work in malaria control and the distribution of LLINs in Papua New Guinea and has been working for many years with the National Department of Health (NDOH) and other partners including multilateral and bilateral agencies such as UNICEF and WHO (World Health Organisation), NGOs and church groups. (See Appendix One for full history of LLIN Distribution)

Since 2010, RAM has been coordinating the distribution of nets to all districts and provinces on a three-year recurrent cycle. This effectively means that RAM visits every village in PNG every three years. RAM has been funded by the Global Fund since 2009 and since 2017 also from Against Malaria Foundation (AMF) which supplied PNG with the majority of its nets in 2017 and from 2018 onwards to all areas below 1600m only where most of the malaria transmission can be found. During the period 2017 to 2020, the Global Fund resources were therefore mainly used to fund the LLIN distribution costs and other relevant administration costs. However, in 2020, PNG has been lucky to receive a donation of net from the Chinese Government and these were used for all areas between 1600-2000m of altitude. It should also be noted that since 2015, the National Malaria Control Program no longer distributes nets in areas above 2000m as these are now considered too cold for malaria transmission to occur. The situation has changed in 2021. AMF no longer is a donor to PNG and all costs have now reverted to Global Fund. With this change, RAM will have difficulties covering areas from 1600-2000m but we are very fortunate in that the Global Fund allowed saving from 2020 to be used to procure nets for 2021 for this altitude. At present, the situation for this altitude of 1600-2000 remains tenuous for 2022 and 2023.

Generally, LLINs have been distributed to household level throughout the country but when shortage of funds occurred, different strategies of distribution have been used as mentioned above.

PNG can be roughly divided into five epidemiological zones.

- a) Areas which lie above 2000m in altitude which no longer receive LLINs as malaria transmission is not considered likely at these altitudes.
- b) Low lying areas of the country up to 1200m which have stable malaria endemicity and often have poor access to health continue to have household distributions.
- c) Areas from 1200 to 1600m which are generally considered to be of low transmission potential but traditionally have had occasional malaria epidemics due to poor immunity and changing weather conditions. LLIN distribution continue in these settings.
- d) Highlands regions between 1600 to 2000m in altitude such as Mount Hagen which have low malaria endemicity and generally easy access to health services. These are low priority areas and when funding is not available are left out. However, to date, these areas have been covered. From 2015 to 2016, these areas received nets for Under Five children only, and since 2017, to date, RAM has managed to find alternative sources to cover these areas. For example, in 2020, nets for these areas have been sourced from the Chinese Government and in other areas from the Global Fund. Fortunately, there was sufficient funds to cover these areas in 2021.
- e) In urban and peri-urban areas such as Port Moresby which are low lying areas with easy access to health, nets will not be distributed during funding constraints. Nets to these areas will be supplied through the private sector. Similarly, due to funding constraints in 2015, Lae City had Under Five Campaign LLINs only.



Fig.2 – Microplanning At Kundiawa (Left) And Karilmaril (Right)

As a result of this stratification and when funds had been reduced such as at the end of 2014, areas above 2000m no longer received nets and areas from 1600 to 2000m only received under five campaigns in 2015 and 2016. However, fortunately, due to the LLIN donation from the Against Malaria Foundation (AMF) in 2017, all areas are now receiving household distribution of nets except areas above 2000m, and some urban areas such as NCD, Goroka, Mount Hagen and Mendi. After 2018, AMF only donated nets to areas below 1600m but the country has been lucky to find funding to fill this gap of between (1600-2000m) in 2019, 2020 and for 2021 through donations from the Global Fund and the Chinese Government. However, funding for areas between 1600-2000 metres now remains tentative after 2021 as AMF no longer supplies nets to PNG and funds from the Global Fund are not presently enough.

One of the conditions of the AMF donation is that RAM would strengthen the way in which surveys are carried out. These new innovative processes are described in the Methodology Section. These methodologies are now being carried out since the beginning of 2017. The major change to the survey methodology suggested by AMF is that previously a village meeting was called after a survey was carried out where names of family members were read out to

ensure that all households had been surveyed. Instead of this process, a summary of every village surveyed is posted for 24 hours in a public place so that villages can ensure that all their family members have been included in the survey. As a further verification process, members of RAM and local health staff team carry out random house surveys of 6% of households in every village to ensure that the survey process has been carried out correctly.

For household LLIN distributions, regardless of where they are carried out, they must include a survey and a distribution phase though implementation methods may considerably vary depending on specific circumstances. RAM's approach has been to concentrate on programme quality thus RAM develop methodologies that ensure that all recipients in an area actually receive nets and that this can be reported accurately.

The other major change to the original PNG programme of 2004 to 2009 carried out by the NDOH is that nets are allocated to families on a needs basis rather than simply the number of people in the family. Data analysis of National Capital District (NCD) data has shown that this gives a ratio of nets needed to be about 47 for every 100 people. In the previous LLINs distribution of Round-3 in 2006 to 2010, nets were allocated at a rate of one net to every 2.5 people. With the programme only receiving 80% of LLIN needs, and most provinces distributing for example two nets to families of three, in practically every province, nets ran out before the end of the distribution. The RAM programme makes all attempts to assure that this distribution anomaly does not happen by collecting all population information at the beginning of the program and then allocate the nets based on family needs. This strategy is practiced to ensure that all families receive nets throughout any given province. The only scenario where survey and net distribution may be done simultaneously is in very remote locations where it is not practically possible to return a second time to a location. This is particularly the case in remote villages which can only be reached by boat or very long treks and it is costly and impractical to return to the villages for a second time.



Fig.3 – Survey Volunteer Training In Kundiawa Urban (Left) And Karilmaril (Right)

In terms of coordination, RAM officers are allocated to specific LLGs or health centres where they coordinate the programme together with local health staff. In this capacity, RAM officers act as facilitators in terms of technical guidance to district health teams in each LLG as well as acting as financial officers and assuring quality control of activities taking place.

Schedule

Referring to Table Two, it can be seen that the distribution in Chimbu started on the 23rd April and ended 20th May 2021.

TABLE TWO

General Timetable Of Activities In Chimbu Province

District	Survey		Distribution	
	Start	Finish	Start	Finish
Kundiawa Gembogl	29.04.21	06.05.21	11.05.21	20.05.21
Sinasina Yonggomugl	23.04.21	28.04.21	04.05.21	11.05.21
Gumine	23.04.21	30.04.21	01.05.21	12.05.21

The teams started out in Sinasina Yonggomugl and Gumine at the same time on 23 April and as more team members became available from Western Highlands and Jiwaka, they started up in Kundiawa Gembogl as well.

Methodology

Prior to planning and implementation, a master list of all villages of Chimbu Province was drawn up using data from the 2000 Census and the last RAM survey of 2018 in Chimbu Province. Villages in the list were organised by LLG and Ward. In this master list, the estimated population for 2020 for each village was estimated and recorded in two ways. Firstly, the population of each village is estimated using population figures from the 2000 Census and the estimated annual growth rate for Chimbu Province and then secondly, by taking the population surveyed in 2017 and 2018 and applying the annual growth rate to each village.

In all areas, Health Centres form the hub from which distribution takes place to the respective villages in each health centre's catchment area. Therefore, with the planning data at hand, RAM staff work together with the Provincial Health Office to allocate every village to its nearest health centre (government or Church Based) and outlines how each village is reached from each health centre. From this it is possible to create a budget, estimate how many nets are needed to be sent to each health centre and work out any other logistic considerations such as use of airplanes or boats to deliver nets to some remote areas.

Once all logistical needs are calculated and nets delivered to the province or district, a RAM team will travel to the province. Once they are in the province, RAM officers are allocated to work with each health centre which becomes the centre of operations for that area.

With the arrival of RAM officers, each health facility identifies health staff members or non-health community volunteers to be involved with the programme. If local health staff are selected, then they are referred to as District Health Team (DHT) but if a non-health staff is selected then they are termed as a Team Leader. Both DHTs and Team Leaders are responsible for the survey and distribution of nets. Each DHT and Team Leader works only in the area in which the health facility is based.

Before any activities take place, RAM officers are expected to work with health staff and other team leaders to make detailed plans (micro-planning) of their activities for training, survey, verification and distribution of nets. This process involves making maps of the area, deciding how many teams are needed, and then making detailed work plans for each of the team members. This process also involves verifying that no villages have been left out of the census list and that the whole area is covered.

Also prior to field activities in any given LLG or health centre, a social awareness campaign was carried out in all villages informing villagers of the upcoming survey and distribution. This was also used as an opportunity for RAM officers to become familiar with each area. During this process, key malaria messages were also discussed with villagers such as the need to use LLINs every night.

During the social awareness campaign, a daylong training meeting is normally held at each health facility for all DHT members in that area who jointly carry out the micro-planning exercise. These training and micro-planning sessions as well as all other activities associated with the programme are coordinated by RAM project officers together with health counterparts at provincial and district levels. RAM officers also have the responsibility to ensure the LLINs operation is kept in line with the original budget.

Survey

The survey was carried out in the following way.

- 1) When arriving at a village and before starting the census process, a meeting was held with village elders explaining the process.
- 2) If village elders have an up to date list of all village occupants, the team would use this list to compile a census but still visit every household to confirm this information.
- 3) Where a village is small, e.g., less than 30 families, team members may carry out the census by themselves.



Fig.4 Survey Volunteer Training At Goglime (Left) And Wandi (Right)

- 4) Where villages are large, village volunteers were identified with the assistance of the village chiefs, elders, health staff and councillors. One volunteer was chosen for each group of about 50 families with volunteers chosen by natural divisions in the village e.g., clans where one volunteer would make a list of only one clan. These volunteers were trained to carry out the survey by actually surveying houses with the team leaders supervising and assessing the recording. Once the team leader was confident that the volunteers knew the survey methodology, they were left to continue with the household survey with survey teams returning within an agreed period to verify the work of the survey volunteers, collect survey books and also to pay the survey volunteer, provided that the work was carried out correctly. The training of volunteers may occur in groups or individually depending on access to the village and its proximity to other villages.
- 5) For each household surveyed, all family members who normally reside at the household for a minimum of nine months were recorded by Name, Age, Sex and Relationship to head of household. All names and other information were recorded in the survey book with one survey form being used for each household.
- 6) After surveying a household, a white copy of the census form was given to the head of household or most senior person present in the household.
- 7) Where a whole household was absent, information was taken from the neighbours and the white survey form left with them.
- 8) In all cases, after the census/list was finished, all the information about the households and number of household members is entered into a summary sheet. This list is then hung in a public place where all villages can verify that the right number of family members for each household has been recorded and that all families have been included in the survey. After

the list has been in a public place for 24 hours, then the volunteer requests for the RAM officer and or DHT to visit the village.

- 9) RAM officers and DHTs must visit three households randomly from each survey book (6%) and verify that the survey has been carried out correctly. Only when this has been done, then the volunteer can be paid.
- 10) If a village was surveyed by more than one volunteer, then volunteers were asked to work together so that lists can be hung together and the village volunteers can be verified at the same time. This process also ensures that households do not appear on more than one list. After this process, both the volunteers and the village elders sign a form to verify that this was done.
- 11) All village volunteers received a standard payment of 20 kina a day. Experience has shown that volunteers can usually only survey about 25 households a day, so for the most part, they would receive up to two days' allowance to complete a survey book (50 households).
- 12) All volunteers were also given a small training manual. Contained in this training manual are key health education messages about malaria which volunteers are expected to discuss with households. This perhaps is the only project in PNG that is able to reach down to potentially every household in the country.



Fig.5 – Survey Verification In Kundiawa Urban (Left) And Koge (Right)

To aid with the survey, the master plan with names of all census units in all the wards in the district had been printed out and given to all the DHTs and team leaders. This document also provides the projected population per census unit as well as other information which might be useful to the area concerned.

After collecting survey data from each village, the information is immediately compared with the data on the master sheet. Where the surveyed population is very different from the projected population, the project staff make enquiries into the reasons for these discrepancies.

Following the survey, all data was entered into a computer where possible or entered into a master sheet of the area concerned. For each village, nets were allocated to each family on a needs basis and this is also entered into the computer or master sheet. This process ensured that all villages received nets and that there would be no shortfalls.

The needs basis in PNG is based on the assumption that children under the age of six sleep with their parents, after which boys and girls are grouped separately from their parents. Nets are also allocated based on the number of children in the house, their ages, and whether there are other dependents living in the households such as grandparents. A full description of the allocation system can be obtained from RAM officers but suffice to say a family of four could receive between one to four nets depending on the sex and age of family members.

Nets are allocated to each LLG based on assumed populations of each LLG and it was important prior to the distribution to ensure that when allocations had been carried out to families and villages that there were enough nets available to cover each and every family.

Distribution

There was no official launch for the LLINs distribution in Chimbu Province. However, prior to distribution there was a social awareness phase where the project teams informed communities about the arrival of the distribution teams, especially those accessible by road.

The LLINs were then distributed to teams depending on the needs of each village. The LLINs were then distributed by village or wards depending on whether villages were close together. In this latter case, a central location was identified in the ward and then distribution of nets was carried out. In terms of distribution sites, villages were organised in different ways to make the flow of nets easy and effective. However, the actual organisation depended on each team and the structure of the various groups receiving nets.

All net packaging was opened at distribution site with a district code printed on each net e.g., CH21 meaning Chimbu Province 2021. This code is added to identify nets to assist in future monitoring exercises as well as discouraging householders from selling the nets on the open market.

Some examples of the process used to control the crowd includes;

- Arranging the people according to the serial numbers in the survey books e.g., 72001 - 72050 and then calling the names and the serial numbers.
- Call the names of the owners of the households, collect the white copy and give the nets.
- Wait for everyone to come to the distribution site, collect all the white copies and sort the copies with the pink copies. Call the names on the white copies and give the nets.

Some of the following control methods were used.

- Everyone who presented with a white copy was given LLINs at the distribution site with LLINs only given to the owner of the house or a member of the house whose name is written on the back of the survey form.
- Those people who lost the white receipts were left to the end of each distribution, with nets only being issued if the name of the person collecting the nets was found on the back of the pink copies.
- For those families who were absent at the time of distribution, their names were written in a form – MOSQUITO NETS HELD IN TRUST BY VILLAGE CHIEFS FORM and the nets allocated to missing families were given to chiefs or any person entrusted by the community with the forms for these families to collect their LLINs later.
- Householders are now being asked to make a thumb print as proof of delivery of nets to a household. The Global Fund had formally asked that householders should sign for delivery of nets. This was considered problematic as many householders are illiterate and even where householders can write, this process takes a long time in what is often a very chaotic and charged environment where speed is of the essence.

It should also be noted that surveys and distributions took place at more or less the same time in some remote places of Chimbu Province. This is particularly true for mountainous villages or small islands which might take several hours or days to reach. In these instances, estimations based on the 2000 Census data and local knowledge used to pre-allocate nets. Teams were then dispatched to these areas with nets. On arrival in these remote places, surveys took place and were immediately followed by a distribution based on the survey results.

Other details

In the case of Chimbu Province, all LLINs were ultimately delivered to Lae by ship from China. These were a new type of nets known as Yahe. All these nets are light blue in colour. All nets arriving in Lae were first stored in the Mapai Transport yard before being sent by road to Mount Hagen. From Mount Hagen the nets were transported by road and stored at Chimbu Hospital from where they were distributed to the district, health facilities and villages.

Results

Table Three shows the estimated population and actual population found in Chimbu by district along with the number of LLINs distributed and Table Four shows the number of nets distributed by LLG. In total, 91,724 LLINs were distributed to a population of 185,453 people. This resulted in distribution of 49.5 nets for every 100 people in the province.

TABLE THREE
Nets Distributed At District Level In Chimbu Province

District	Population from 2000 Census	Population Of Targeted Areas In 2018	Total Estimated Target Population 2021	Population Surveyed 2021	House Holds Surveyed 2021	Nets Issued 2021	Growth Rate Against 2018 Survey	Nets Per 100 People
Kundiawa Gembogl	58,454	66,872	71,174	70,457	12,731	34,645	1.76	49.2
Sinasina Yonggomugl	38,015	55,142	58,689	62,975	12,569	31,083	4.53	49.4
Gumine	35,976	54,702	58,221	52,021	10,538	25,996	-1.66	50.0
Totals	132,445	176,716	188,085	185,453	35,838	91,724	1.62	49.5

TABLE FOUR
Nets Distributed At LLG Level In Chimbu Province

LLG	District	Population from 2000 Census	Population Of Targeted Areas In 2018	Total Estimated Population 2021	Population Surveyed 2021	House Holds Surveyed 2021	Nets Issued 2021	Growth Rate Against 2018 Survey	Nets Per 100 People
Kundiawa Urban	Kundiawa Gembogl	8,087	24,050	25,597	21,877	3,431	11,135	-3.11	50.9
Mitnande Rural	Kundiawa Gembogl	15,122							
Niglkande Rural	Kundiawa Gembogl	12,169	12,184	12,968	13,594	2,505	6,459	3.72	47.5
Waiye Rural	Kundiawa Gembogl	23,076	30,638	32,609	34,986	6,795	17,051	4.52	48.7
Tabare Rural	Sinasina Yonggomugl	10,592	15,389	16,379	18,243	3,459	8,981	5.83	49.2
Suai Rural	Sinasina Yonggomugl	13,505	17,978	19,135	21,153	4,594	10,440	5.57	49.4
Yongomugle Rural	Sinasina Yonggomugl	13,918	21,775	23,176	23,579	4,516	11,662	2.69	49.5
Bomai Gumai Rural	Gumine	7,452	12,302	13,093	11,598	2,238	5,680	-1.95	49.0
Gumine Rural	Gumine	15,019	24,591	26,173	23,464	4,690	11,276	-1.55	48.1
Mt Diggins Rural	Gumine	13,505	17,809	18,955	16,959	3,610	9,040	-1.62	53.3
Totals		132,445	176,716	188,085	185,453	35,838	91,724	1.62	49.5

Referring to Table Three and Table Four, it can be seen that the overall population growth rate in the different districts and LLGs has changed substantially with negative growth rates in Gumine and high growth rates in Sinasina Yonggomugl. As Gumine has been having political upheavals in the last years, it would seem to suggest that some of the population have relocated from one district to another.

Table Five shows that 217 nets were left over at the end of the program and were donated to health centres. In general, these nets were left where the nets were loose and no longer in

bales or the nets were very few or the nets could be difficult to return to a central location. In general, these nets would be used for hospital beds or for antenatal mothers.

TABLE FIVE
Nets Donated To Health Facilities

District	LLG	HC	Donated
Kundiawa Gembogl	Niglkande Rural	Goglme HC	33
Kundiawa Gembogl	Waiye Rural	Pari HC	4
Kundiawa Gembogl	Waiye Rural	Wandi SHC	46
Sinasina Yonggomugl	Yongomugle Rural	Niglguma HC	24
Gumine	Gumine Rural	Gumine HC	41
Gumine	Mt Diggin Rural	Karilmaril HC	69
TOTAL			217

Based on Table Six, it can be seen that the overall operational cost of the programme was K213,581.68 Kina (Approximately US\$ K61,023.34) resulting in a cost of about 2.33 Kina or US\$0.67 per net delivered. This was about 7.0% under the anticipated budget. Overall, this is a superb achievement as the cost of delivery per net is one of the lowest achieved in the last ten years which shows that operations were very efficient.

Table Seven shows the cell and radio coverage in district of Chimbu Province which were surveyed. Overall, the cell and radio coverage is generally very good in these districts. Theoretically, this makes messaging of health information very easy in most places though a lot of villages, particularly in Gumine do not have access to radio stations.

TABLE SIX
Cost Of Programme In Chimbu Province (All Costs in Kina)

Expense Types	Budget	Actual	Variances	% Variance
Human Resources	K79,923.53	K63,180.00	16,743.53	79.1
Fuel Cost	K21,594.00	K24,009.94	-2,415.94	-11.2
Car Hire Cost	K111,300.00	K117,150.00	-5,850.00	-5.3
Stationeries/Supplies	K6,000.00	K6,870.45	-870.45	-14.5
5% Contingency	K10,790.88	K2,371.29	8,419.59	22.0
Total	K229,608.40	K213,581.68	16,026.72	93.0

TABLE SEVEN
Cell and Radio Coverage In Chimbu Province

District	Villages	House Holds Surveyed	Digicel	Bmobile	Houses with Radios	Villages With Radio Networks
Kundiawa Gembogl	173	12,731	165	42	3,256	167
Sinasina Yonggomugl	213	12,569	213	128	3,255	213
Gumine	172	10,538	164	0	3,179	81
Total	558	35,838	542	170	9,690	461

Conclusions

Overall, it can be said that the LLIN distribution in Chimbu Province was generally a huge success both in terms of results and great collaboration between staff from RAM, provincial

and district health authorities, and the Catholic Church Health Services who have a presence in the districts receiving nets. Through this collaboration, the data suggests that all villages and practically all families in those villages received nets despite any local challenges. More importantly the whole program was carried out in record time.

The only major challenge, and one common to all highland provinces, was continuous rain which caused blockage of roads in some circumstances and thus delaying operations in some places.

Other than this, as with other provinces in the country where RAM has operated in over the last ten years, the methodologies used this time, including survey verification processes appeared practical and were openly welcomed by both villagers and implementers, particularly the practice of hanging up the list of names in the middle of the village following a survey. This allowed communities to feel that they were part of a transparent process. This is not to say that perhaps some extra people managed to slip into the books, but in general, it was felt that the system was fair and included practically everyone concerned. The use of the master lists also ensured that all villages were reached and accounted for.

The review of the data prior to the distribution was also important. This ensured that all villages and families received the correct numbers of nets. The 2000 Census Lists were very important to ensure that survey teams reached all villages: without the complete list of villages, it would be very difficult to make a detailed report.



Fig.6 – Distribution Of Nets Gomgale (Left) In Kundiawa Urban (Right)

The greatest complaint still received from communities was the number of nets they received. Even though the team explained the logic of how the allocation of nets is calculated, some families still expect one net per person, others expect it to be based on a fixed allocation based on the number of people in the family, and yet others thought they would be given nets based on the number of nets they stated they already had. This highlights that a better system of explaining the allocation system still needs to be developed. In general, unlike some previous districts covered by RAM and DHTs of Chimbu Province assisted in the allocation of the nets which meant they were in a better position to explain the distribution system on the ground. Nevertheless, despite all the difficulties involved, it would appear that the vast majority of community members accepted the outcome and there were no real problems or complaints encountered.

Acknowledgements

On behalf of the Rotarians Against Malaria household distribution team who worked in Kundiawa Gembogl, Gumine and Sinasina Yonggomugl districts, we would like to sincerely

acknowledge and thank the Chimbu Province Health Authority and the District Health Staff of the three districts for the excellent help and cooperation during the Long Lasting Insecticide Nets (LLINs) distribution programme.

In particular, we would like to thank at provincial level Dr Francis Wandi (Chief Executive Officer), Mr Tonzi Aure (Director Public Health) and Mr Titus Tul (Rural Health Services Coordinator). A special mention also needs to go to Dr Raymond Saulep, Director Curative Health who allowed the RAM program containers to be stored at Kundiawa Hospital.

For the district staff, we would like to sincerely thank all those who tirelessly took part in the programme, and in particular we would like to mention the following people who were instrumental in providing the local expertise and advice from planning to implementation of the programme in the three districts namely:

Kundiawa Gemboql District

Name	Occupation	Institution
Mr. Wamle Yopa	District Health Officer	Kundiawa Gemboql
Mr. Nelson Wampi	Officer in Charge	Wandi Health Centre
Mr. Alois Nandua	Community Health Worker	Wandi Health Centre
Mr. Paul Kuanduma	Community Health Worker	Wandi Health Centre
Mr. Jerry Kaupa	Nursing Officer	Kundiawa Urban Clinic
Mrs. Mary Francis	Community Health Worker	Kundiawa Urban Clinic

Gumine District

Name	Occupation	Institution
Mr. Roger Kopan	District Health Officer	Gumine District
Mr. Drikori Uba	Officer in Charge	Gumine Health Centre
Sr. Serah Kaile	Nursing Officer	Gumine Health Centre
Mr. Alois Gube	Nursing Officer	Gumine Health Centre
Mr. Simon Wakem	Officer in Charge	Gomgale Health Centre
Mr. Biasius Bomai	Officer in Charge	Boromil Aid Post
Mrs. Georgia	Officer in Charge	Goglme Health Centre
Mr. Jack Waitao	Community Health Worker	Karilmaril Health Centre
Mr. Jeffery Gore	Community Health Worker	Karilmaril Health Centre

Sinasina Yonggomugl District

Name	Occupation	Institution
Mr. Mark Olam	District Health Officer	Sinasina Yonggomugl District
Mr. Mark Tul	Officer in Charge	Segima Health Centre
Mr. Joe Kanua	Officer in Charge	Niggluma Health Centre
Mr. Raymond Kin	Officer in Charge	Mai Health Centre
Mrs. Elsie Kin	Community Health Worker	Mai Health Centre
Mr. Joe Gene	Officer in Charge	Koge Health Centre
Mr. Tony Blacky	Community Health Worker	Koge Health Centre

RAM would like to specially acknowledge the support received from established and local service providers for logistical support namely; Mapai for transporting six containers from Lae to Mt Hagen Mapai yard then to Chimbu and stationed at Kundiawa Hospital yard.

RAM also thanks Airport hire car, Pishon hire car, Fly hire car, Manawa hire car and all the local hire car owners for providing their services for this operation. We would not have reached many communities without the dedication of the drivers. RAM would like to also thank 350

Limited Service Station and Puma Energy for supplying bulk fuel for the operation. RAM also thanks all the church run health facilities coordinated under Catholic Church and also to all the Government run facilities for allowing their staff to work with the RAM team.

Last but not the least, RAM would like to extend our acknowledgement and appreciation to all the hard working volunteers and other local community leaders for ensuring all homes were surveyed and assisted in distributing all the nets. RAM thanks you all very much for your hard work, support and local expertise in making the overall program a success.

Appendix One – History Of LLIN Distribution In PNG

The use of Insecticide Treated Nets (ITNs) started in PNG in 1985 when the PNG Institute of Medical Research (IMR) conducted one of the first trials demonstrating the health impact of treating mosquito nets with insecticide. The study, done near Chimbu, showed a reduction of *P. falciparum* incidence and prevalence in children below five years of age sleeping under permethrin-treated nets. The protective effect of insecticide-treated nets (ITNs) was also confirmed in many other trials around the world. As a consequence of such findings, the national malaria control program in PNG started emphasizing the use of ITNs in 1989. However, no regular or large-scale distribution of ITNs was carried out at this time.

In the following years, coverage with mosquito nets and other control interventions remained patchy and low in many parts of PNG. It was during this period that Rotarians Against Malaria (RAM) was created from the Port Moresby Rotary Club in 1997. Using a donation of 150,000 treated nets given to them from the National Department of Health (originally from AusAid), RAM successfully ran a revolving fund of nets in which nets were sold at a price which allowed the proceeds to buy more nets. RAM did this successfully for many years distributing about 45,000 treated nets a year from 2000 to 2004.

Prior to 2004, most treated nets had to be re-treated every six months or a year which requires a lot of work and organisation. In early 2004 everything changed with the introduction of Long-Lasting Insecticidal Nets (LLINs) which would last for 20 heavy duty washes and effectively no longer required to be treated repeatedly. This change in nets also coincided with the introduction of the Global Fund into PNG known as the Global Fund Round 3.

From 2005 to 2009 the malaria programme in PNG received and delivered about 2.3 million nets throughout the country at a rate of one net for every 2.5 people. The delivery of nets to village level was under the provincial health authorities and reached most parts of the country with Rotarians Against Malaria (RAM) being responsible in delivering the containers of nets to the provinces from Port Moresby and Lae where the nets arrived from overseas.

While the programme was very successful in some areas it was not so successful in others. Problems included slow release of funds from central to provincial level, some provinces not following technical guidelines given resulting in some areas not being covered, and technical and financial reporting leaving a lot to be desired in many of the provinces. When further funds became available in what is known as the Global Fund Round Eight, it was decided that Rotarians Against Malaria (RAM) would take over the coordination of the LLIN programme.

This change has resulted in RAM being responsible for the overall coordination of the LLIN distribution of LLINs in the country particularly in the areas of quantification, procurement, reporting and delivery to provincial and district level. However, the actual delivery of nets to village level is a collaboration between RAM, provincial health authorities and district health and health centre staff.

Fig.1 shows the distribution of nets to districts and provinces from 2006 to 2009 while Fig.2 shows the distribution of nets from 2010 to 2014 and Fig.3 shows the distribution from 2015 to 2017 which includes under five distributions in 2016 and 2017. Under Five distributions had been carried out in areas above 1600m and in Port Moresby and Lae City due to lack of funds. This situation changed when support from Against Malaria Foundation was received.

Up until December 2020, a total of 13.0 million LLINs had been distributed to household level under the coordination of RAM. Therefore, with the 2.5 million nets distributed from 2006 to 2009, this means that about 15.5 million nets have been delivered to household level in PNG since 2006. This is more than one net per every person in PNG. RAM has also distributed

about another 1.5 million nets to health centres for distribution to pregnant women and for prisons and boarding schools.

It should also be noted that alongside developments related to treated mosquito nets, the first cases of chloroquine-resistant malaria were reported in 1976. This progressed rapidly to widespread resistance of *P. falciparum*, and to a slightly lesser extent *P. vivax*, to chloroquine, amodiaquine and sulphadoxine-pyrimethamine (SP). In studies conducted between 2003 and 2005, even combination regimens of these drugs faced up to 29% resistance of *P. falciparum*². This situation together with Global Fund Round 8 also saw the introduction of artemether lumefantrine branded as Malawan and IPT (Intermittent Preventative Treatment) for antenatal women using Fansidar (Pyrimethamine Dapsone).

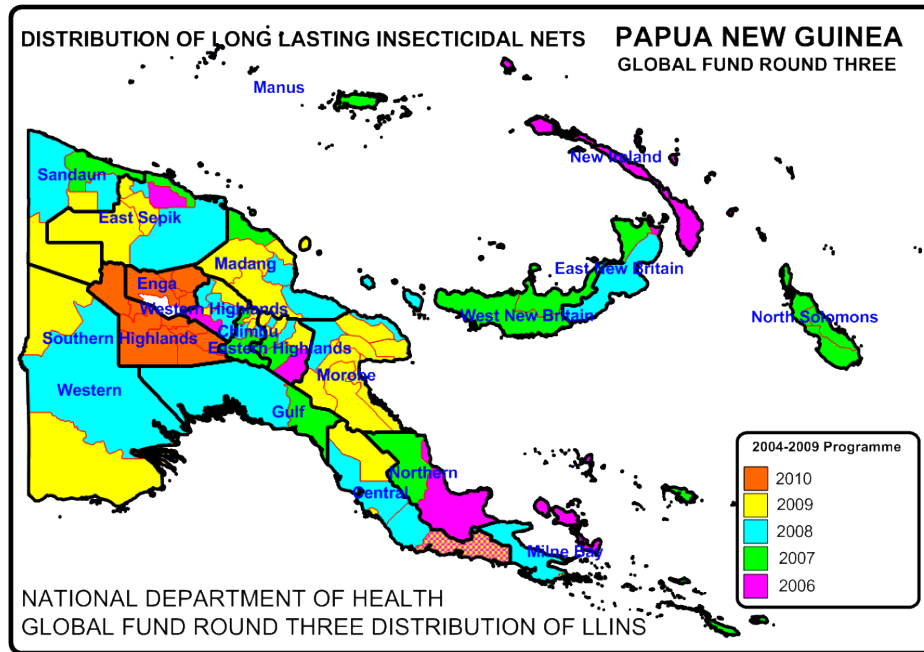


Fig. 1 Distribution Of Nets Under National Department Of Health From 2006 To 2010

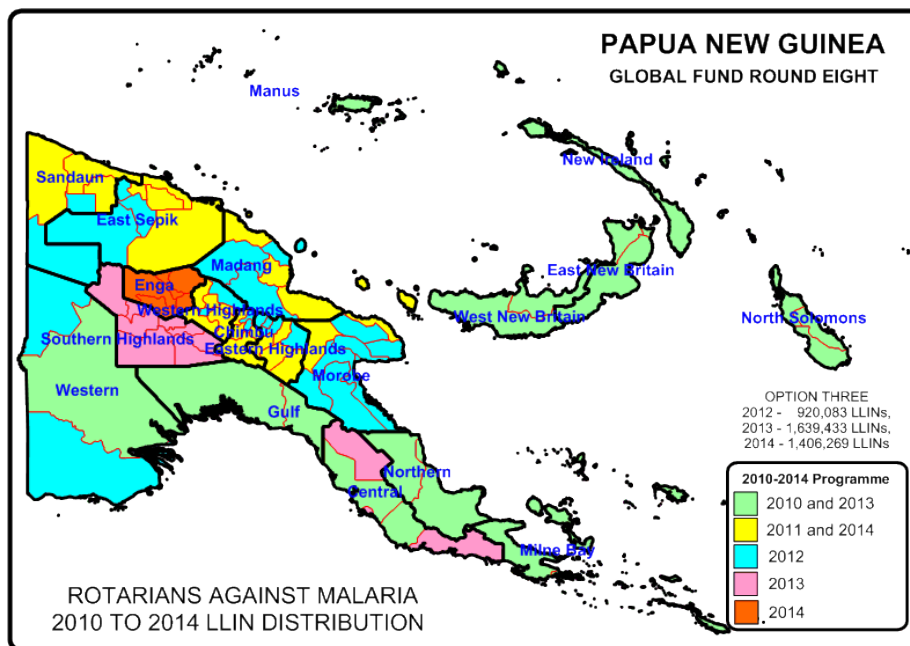


Fig.2 Distribution of LLIN Programme 2010 to 2014

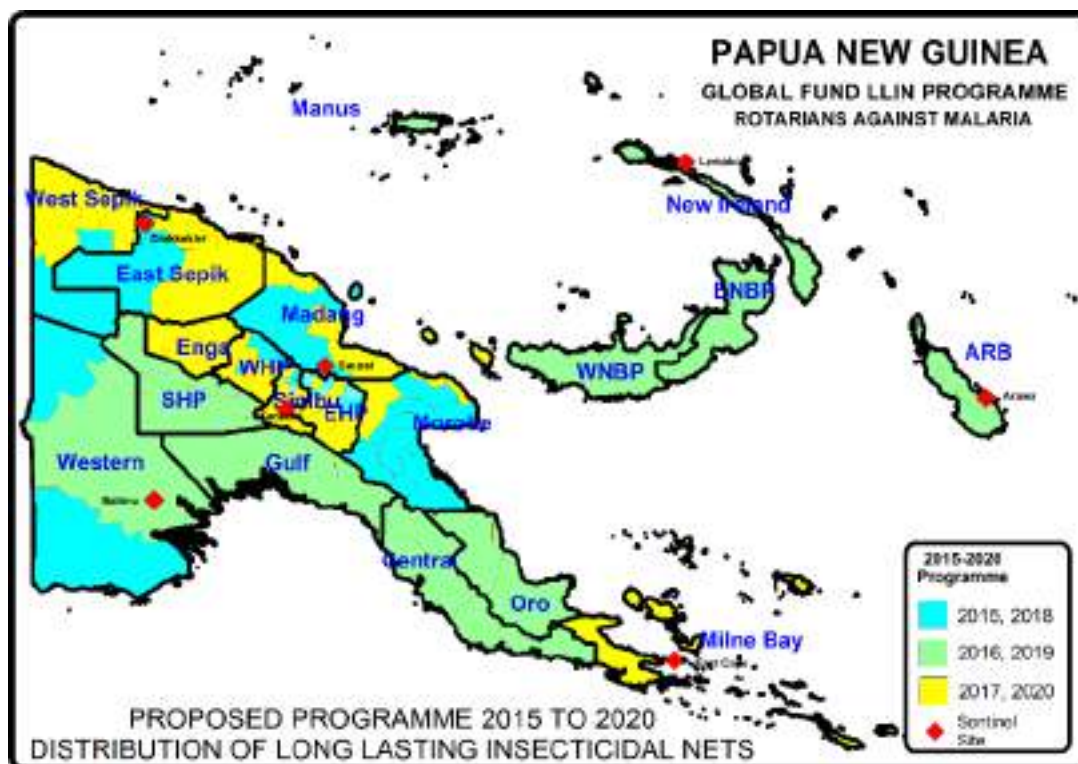


Fig.3 LLIN Distribution Programme 2015 to 2020

TABLE ONE - LLINs Delivered In PNG Under Coordination Of RAM From 2010

Period	Dates	Districts	Provinces	Nets Delivered
Phase One (2010-2011)	Nov 09 - Oct 11	50 Districts	18 Provinces	1,890,448
Year 3 (2012)	Nov 11 - Sep 12	27 Districts	10 Provinces	832,671
Year 4 (2013)	Oct 12 - Sep 13	28 Districts	12 Provinces	1,210,391
Year 5 (2014)	Oct 13 - Sep 14	23 Districts	11 Provinces	1,374,791
Year 5 (2014) No Cost Extension	Oct 14 - Dec 14	Okapa, Lufa, Madang, Angoram, Maprik, Yangoru Saussi, Wewak, Aitape Lumi, Nuku and Vanimo Green	EHP, Madang, East Sepik and Sandaun	454,806
Year 6 (2015)	Jan - Dec 2015	29 Districts	11 Provinces	932,822
Year 7 (2016)	Jan - Dec 2016	27 Districts	13 Provinces	805,597
Year 8 (2017)	Jan - Dec 2017	36 Districts	13 Provinces	1,543,947
Year 9 (2018)	Jan - Dec 2018	27 Districts	11 Provinces	1,211,922
Year 10 (2019)	Jan - Dec 2019	26 Districts	12 Provinces	1,266,525
	Jan - Mar 2020	Pomio, Rabaul, Kokopo, Samurui Murua, Kiriwina Goodenough, Ess'ala, Alotau, Wabag	East New Britain, Milne Bay, Enga	299,265
	Apr - Jun 2020	Mul Bayer, Tambul Nebliyer, North Waghi, Anglimp South Waghi	Enga, Western Highlands, Jiwaka	356,892
	Jul - Sep 2020	Chuave, Kerowagi, Karamui Nomane, Goroka, Henganofi, Lufa, Obura Wonenara, Okapa, Markham	Chimbu, EHP and Morobe	410,982
	Oct - Dec 2020	Bogia, Madang, Rai Coast, Vanimo Green, Aitape and Wewak	Madang, East Sepik and Sandau	428,229
New Funding Model (2015-2020)				7,256,181
Round Eight (2010 - 2014)				5,763,107
Overall Total Phase One and Phase Two And NFM				13,019,288

Appendix Two – Malaria In Chimbu Province Compared With Other Provinces

Fig.1 shows the decrease of malaria from 2007 to 2015 in all provinces, Fig. 2 shows the actual malaria incidence in 2020 compared with other provinces and Fig.3 shows annual malaria trends from 2016 to 2020. In Chimbu, it can be seen from Fig.1 that malaria decreased from 2007 to 2015 by 80% which is one of the highest decreases in the country. In Fig.2, in 2020 it can also be seen that in Chimbu the malaria incidence is 22 per 1000 which is one of the lower incidences of malaria per 1000 population in the highlands which is surprising as this included the large low lying area of Karamui together with imported cases coming from Lae and Madang. Fig. 3 and Fig.4 show that malaria incidence has remained low for the last few years with Fig. 4 showing that malaria incidence dropped sharply after the net distributions in 2011 and 2012 and once again in 2014 and 2015. It is very good to note that malaria in Chimbu has not risen in comparison with coastal areas where malaria continues to rise since 2016.

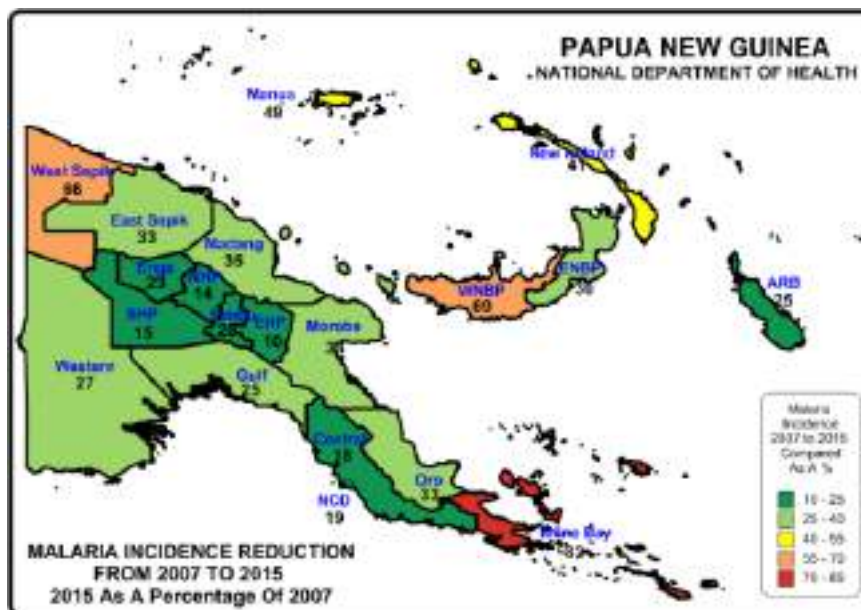


Fig.1 – Relative Reduction Of Malaria In Provinces Of PNG

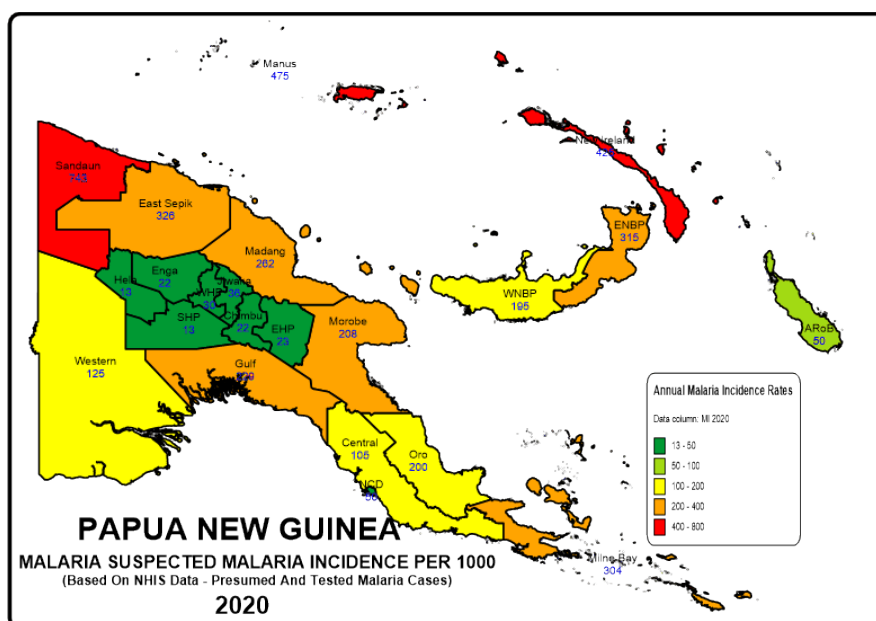


Fig.2 – Reported Malaria Incidence In 2019

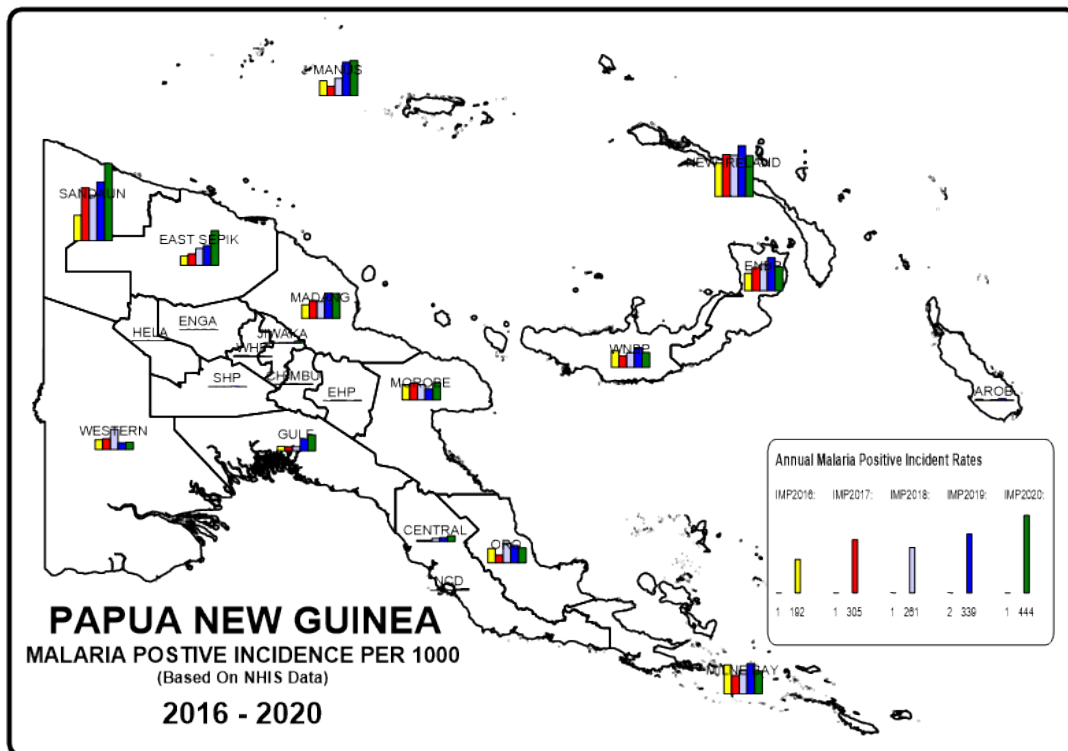


Fig. 3 - Reported Malaria Incidence In PNG From 2016 To 2020

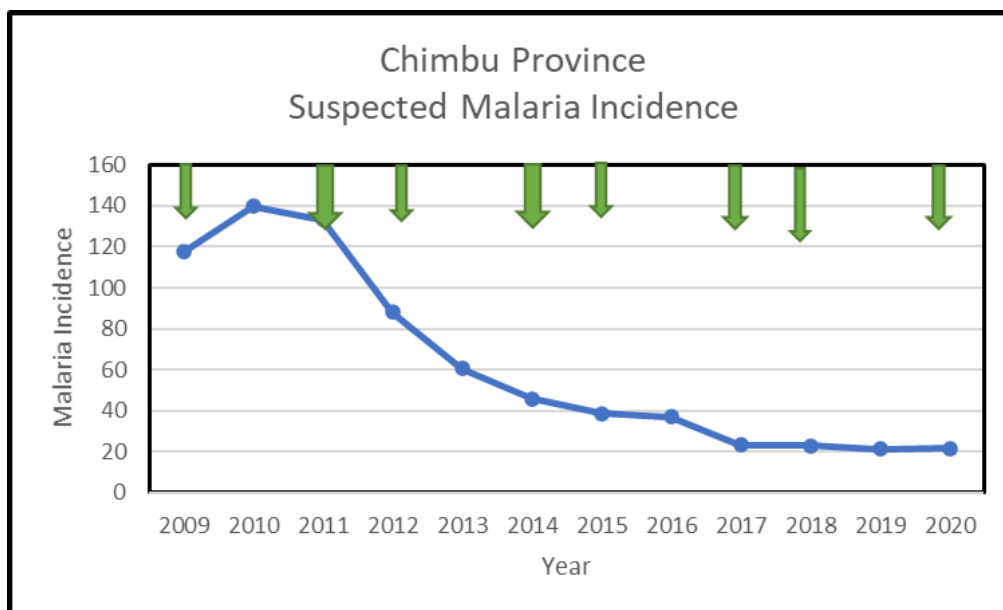


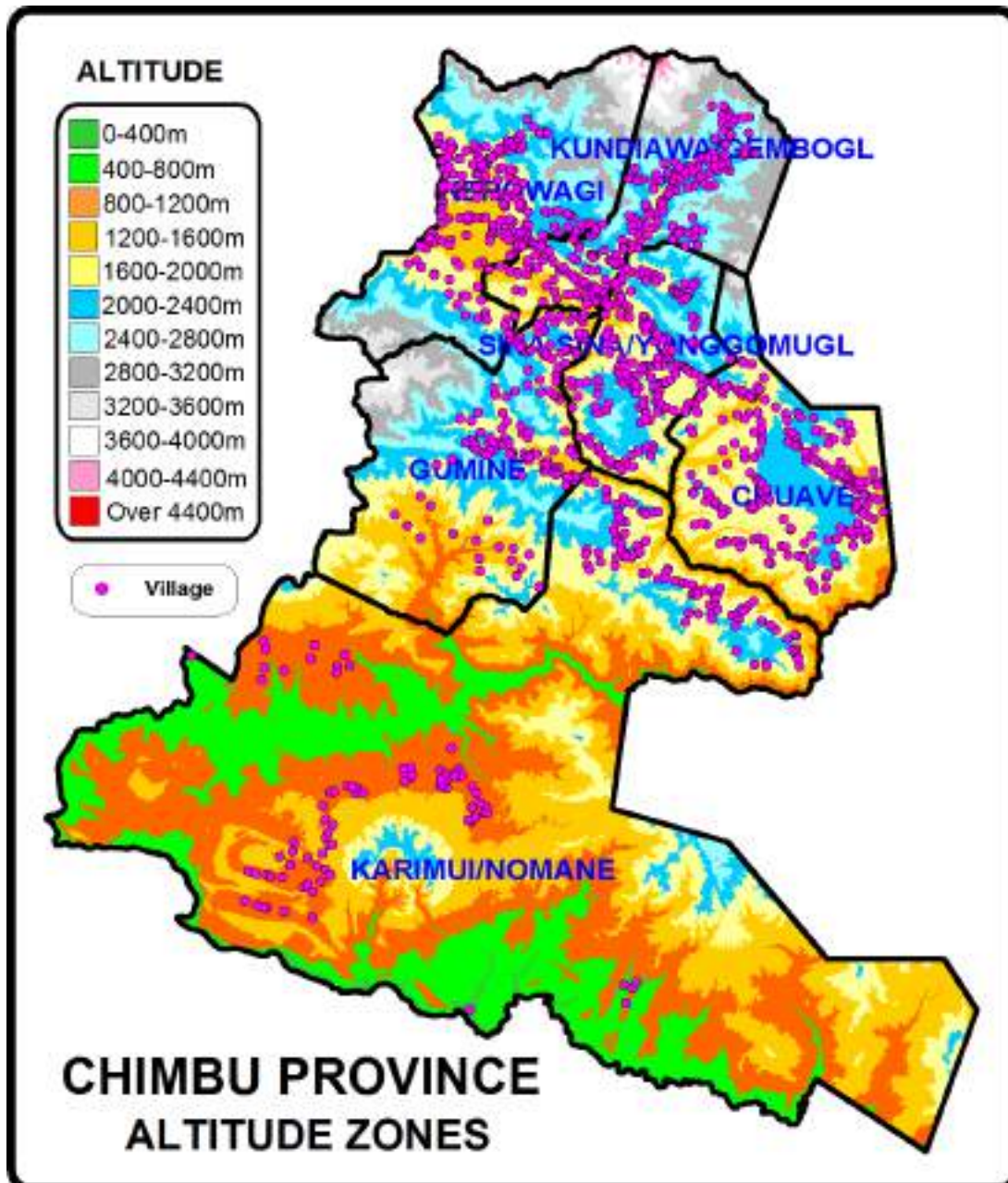
Fig. 4 – Malaria Incidence Versus Distribution Of Nets

Large green arrows represent LLIN distributions done in Chuave, Gumine, Karamui Nomane and Kerowagi in 2011 and 2014, small green arrows represent Kundiawa Gembogl and Sinasana Yonggomugl in 2009, 2012 and 2015, while big thin arrows represent distributions in Chuave, Karamui Nomane and Kerowagi in 2017 and 2020 and the long thin arrow, distributions in Gumine, Kundiawa Gembogl and Sinasana Yonggomugl in 2018.

Appendix Three - Malaria By Altitude

Chimbu Province is a highlands province on the mainland of Papua New Guinea (PNG). Most of the people living in Chimbu live at altitude which are generally malaria free except for about six percent that live in Karaumui which is below 1200 metres where malaria is endemic. A further 19%, (mainly in the Waghi Valley in Kerowagi and Kundiawa Gembogl Districts) live at altitudes between 1200-1600m which in the past have been susceptible to malaria epidemics and where nets are most needed.

Fig. 1 Altitude Zones In Chimbu Province



Appendix Four – Other Photographs



Delivering Containers To Chimbu Provincial Hospital In Kundiawa



Moving Bales Of Nets Around In Vehicles



Distributions Of LLINs In Koge (Left) And Pari (Right)

OTHER PICTURES



Distribution In Koge (Left) And Wandu (Right)

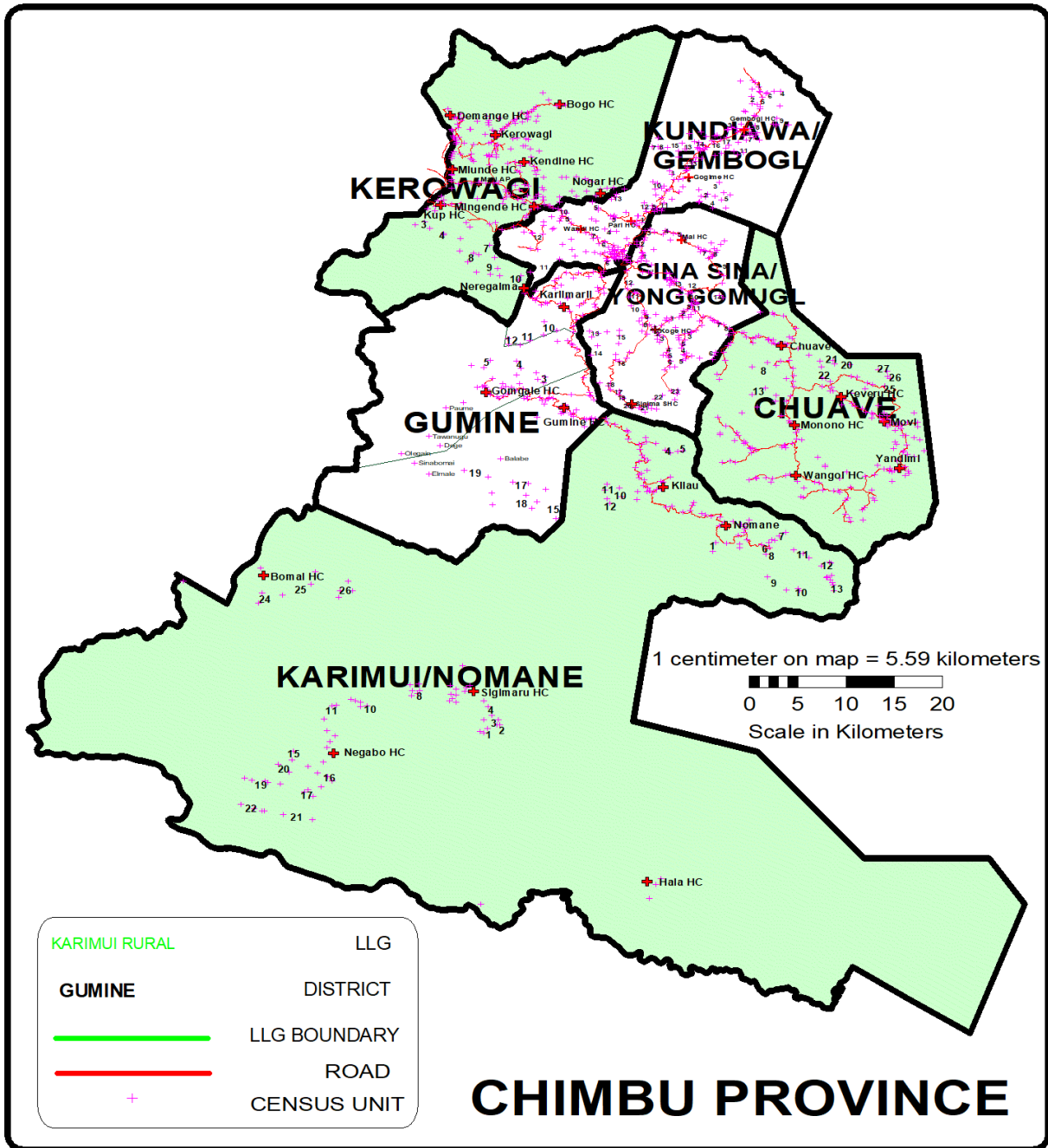


Happy Customers In Karimari



Happy Customers In Gumine

Appendix Five - Map Of Chimbu Province Showing Census Points Of 2000 Census



ANNEX ONE

**CHIMBU PROVINCE
GUMINE DISTRICT POPULATION 2021
LLIN DISTRIBUTION SUMMARY SHEET**

LLG	WARD	VILLAGE	Estimated 2021 Population Based On 2000 Census	Projected Population 2021 Based On 2018 Survey	Health Centre	Population Surveyed	House Holds Surveyed	Nets Issued	Date Of Distribution	Villages	Digicel	Bmobile	Houses With Radios	Radio Networks	Type Of Access Needed
GUMINE			58,221	58,221		52,021	10,538	25,996		172	164	0	3,179	81	
BOMAI \ GUMAI RURAL			12,060	13,093		11,598	2,238	5,680		51	43	0	892	17	
1	ERA 1		1,321	1,110		1,370	266	677		3	3	0	145		
		Duabol	906	661	Gumine HC2	582	116	284	06.05.21	1	1	0	54	NBC	Road
		Moromaule	405	380	Gumine HC2	529	100	263	06.05.21	1	1	0	61	NBC	Road
		Moromaule Community School	10	69	Gumine HC2	259	50	130	06.05.21	1	1	0	30	NBC	Road
2	ERA 2		837	760		476	97	230		3	3	0	56		
		Guma Kul	526	242	Gumine HC2	202	35	97	06.05.21	1	1	0	24	NBC	Road
		Kikerekur	311	274	Gumine HC2	197	48	96	06.05.21	1	1	0	22	NBC	Road
		Kikerekur		245	Gumine HC2	77	14	37	06.05.21	1	1	0	10	NBC	Road
3	ERA \ BULI		1,215	824		1,001	183	489		5	5	0	115		
		Kamkale	469	192	Gumine HC2	133	18	66	06.05.21	1	1	0	13	NBC	Road / 2 hrs Trek
		Kaulmai	316	215	Gumine HC2	213	35	105	06.05.21	1	1	0	33	NBC	Road / 2 hrs Trek
		Buli	235	209	Gumine HC2	231	43	112	06.05.21	1	1	0	31	NBC	Road / 2 hrs Trek
		Singawa		NEW	Gumine HC2	254	50	124	06.05.21	1	1	0	16	NBC	Road
		Ninaiba	196	209	Gumine HC2	170	37	82	06.05.21	1	1	0	22	NBC	Road / 2 hrs Trek
4	OMDARA		825	1,642		1,478	288	730		6	0	0	104		
		Nebarenil	337	303	Gumine HC2	156	33	81	07.05.21	1	0	0	9	NBC	Road
		Kraikoma/Omdara	489	738	Gumine HC2	747	139	361	07.05.21	1	0	0	57	NBC	Road
		Olandin/Molgime		329	Gumine HC2	120	29	64	07.05.21	1	0	0	8	NBC	Road
		Waramon		272	Gumine HC2	304	50	147	07.05.21	1	0	0	11	NBC	Road
		Iri		0	Gumine HC2	101	29	52	07.05.21	1	0	0	11	NBC	Road
		Omdara Primary Sch and Community		0	Gumine HC2	50	8	25	07.05.21	1	0	0	8	NBC	Road
5	KUA		749	1,141		619	144	282		4	0	0	11		
		Diane	558	471	Gomgale HC	318	76	144	09.05.21	1	0	0	5		Road / 3 hr Trek
		Dimila	128	154	Gomgale HC	115	26	57	09.05.21	1	0	0	6		Road / 3 hr Trek
		Yopapai		318	Gomgale HC	116	26	51	09.05.21	1	0	0	0		Road / 3 hr Trek
		Kua	63	197	Gomgale HC	70	16	30	09.05.21	1	0	0	0		Road / 3 hr Trek
6	DIA		691	949		488	93	245		2	1	0	32		
		Dia	299	239	Gomgale HC										Same as Dia Dekawe
		Dia Dekawe		447	Gomgale HC	211	43	106	09.05.21	1	1	0	17		4 Hrs Tracking
		Dekawe (Dekaul)	392	263	Gomgale HC	277	50	139	09.05.21	1	0	0	15		4 Hrs Tracking
7	KOPAN		545	713		613	139	282		3	3	0	49		
		Dirwa Barwa	133	390	Gomgale HC	230	50	103	09.05.21	1	1	0	14		1 Hour tracking
		Diminelin	160	231	Gomgale HC	211	43	100	09.05.21	1	1	0	29		1 Hour tracking
		Blengi	252	93	Gomgale HC	172	46	79	09.05.21	1	1	0	6		1 Hour tracking
8	YURI		651	723		852	136	423		3	3	0	7		
		Gomgale	223	261	Gomgale HC	279	48	138	09.05.21	1	1	0	1		1 hour tracking
		Alan	142	228	Gomgale HC	276	42	134	09.05.21	1	1	0	6		1 hour tracking
		Yoya	285	234	Gomgale HC	297	46	151	09.05.21	1	1	0	0		2 hour tracking
9	DELIKU		1,702	986		934	190	453		4	4	0	61		
		Silegerua	672	447	Gomgale HC	264	66	132	08.05.21	1	1	0	0		1 Hour Tracking
		Ninawana	285	233	Gomgale HC	273	50	132	06.05.21	1	1	0	26		5 Mins Road
		Yoma/Alkua	490	305	Gomgale HC	149	29	69	06.05.21	1	1	0	11		10 Mins Road
		Kanoge	256	0	Gomgale HC	248	45	120	06.05.21	1	1	0	24		5 Min Road
10	AINAKU		683	585		739	141	370		4	13	0	56		
		Mogaran	290	148	Gomgale HC	406	84	204	06.05.21	1	1	0	24		15 Mins Road
		Ulale	233	237	Gomgale HC					1					Included Under Mogaran
		Bayau	71	0	Gomgale HC	231	42	115	06.05.21	1	1	0	25		15 Mins Road
		Keru	89	200	Gomgale HC	102	15	51	06.05.21	1	11	0	7		15 Mins Road
11	KAWALEKU		1,630	2,363		1,884	323	922		7	7	0	165		
		Boromil	172	343	Gomgale HC	239	39	111	06.05.21	1	1	0	17		within the vicinity
		Guna	562	660	Gomgale HC	396	86	195	06.05.21	1	1	0	25		within the vicinity
		Gubanil	193	263	Gomgale HC	165	28	82	06.05.21	1	1	0	20		within the vicinity
		Gulba	209	449	Gomgale HC	224	38	110	06.05.21	1	1	0	24		within the vicinity
		Yuribol	240	283	Gomgale HC	286	43	140	06.05.21	1	1	0	19		10 Mins Road
		Yoma	170	227	Gomgale HC	279	39	137	06.05.21	1	1	0	20		10 Mins Road
		Boromil Community School	86	138	Gomgale HC	295	50	147	09.05.21	1	1	0	40		within the vicinity
12	NEBIKU		1,211	1,297		1,144	238	577		7	1	0	91		
		Paume	356	476	Gomgale HC	337	73	169	07.05.21	1	1	0	38		6 hours Tracking
		Tawanugu	113	109	Gomgale HC	89	18	47	07.05.21	1	0	0	0		8 hours Tracking
		Dege	167	135	Gomgale HC	111	29	57	07.05.21	1	0	0	12		8 hours Tracking
		Olegain	575	191	Gomgale HC	178	31	89	07.05.21	1	0	0	7		one day Tracking
		Bernikon		233	Gomgale HC	138	23	69	07.05.21	1	0	0	7		one day Tracking
		Welteke		0	Gomgale HC	106	22	53	07.05.21	1	0	0	9		6 hours Tracking
		Warama		154	Gomgale HC	185	42	93	07.05.21	1	0	0	18		one day Tracking
GUMINE RURAL			24,305	26,173		23,464	4,690	11,276		62	62	0	141	5	
1	TAGALA		537	552		551	119	265		1	1	0	0		
		Tagala	537	552	Gumine HC	551	119	265	10.05.21	1	1	0	0	NBC Simbu	Road
2	OMKOLAI 1		979	1,568		1,456	260	699		2	2	0	0		
		Kaukau	732	585	Gumine HC	1,014	179	487	10.05.21	1	1	0	0	NBC Simbu	Road
		Omkolai H/S	247	982	Gumine HC	442	81	212	10.05.21	1	1	0	0	NBC Simbu	Road
3	OMKOLAI 2		1,800	1,391		1,490	259	716		2	2	0	0		
		Birekul	725	617	Gumine HC	822	139	395	10.05.21	1	1	0	0	NBC Simbu	Road
		Kewabalme Nulsibawere	1,074	774	Gumine HC	668	120	321	10.05.21	1	1	0	0	NBC Simbu	Road

4	YANI	1,584	1,896		1,365	242	647		3	3	0	141		
	Orome	883	747	Gumine HC	592	86	282	06.05.21	1	1	0	70		15 Mins Road
	Yani Gaiparaa		529	Gumine HC	345	72	169	06.05.21	1	1	0	34		20 Mins Road
	Yani	701	619	Gumine HC	428	84	196	06.05.21	1	1	0	37		15 Mins Road
5	MILKINKANE	1,377	962		937	161	452		4	4	0	0		
	Boman Suluma	651	386	Gumine HC	373	62	180	09.05.21	1	1	0	0		Road
	Oleku		258	Gumine HC	194	31	95	09.05.21	1	1	0	0		Road
	Gulkan	334	47	Gumine HC	188	28	90	09.05.21	1	1	0	0		Road
	New Camp	394	271	Gumine HC	182	40	87	09.05.21	1	1	0	0		Road
6	BOMAIGALIN	1,720	2,478		2,161	425	1,038		6	6	0	0		
	Sulama		265	Gumine HC	224	50	108	09.05.21	1	1	0	0		Road
	Kulpama		320	Gumine HC	296	50	142	09.05.21	1	1	0	0		Road
	Kamtai		319	Gumine HC	242	50	116	09.05.21	1	1	0	0		Road
	Brekulame		550	Gumine HC	326	61	156	09.05.21	1	1	0	0		Road
	Mama-Sane	990	0	Gumine HC	91	27	44	09.05.21	1	1	0	0		Road
	Ormekoan	730	1,023	Gumine HC	982	187	472	09.05.21	1	1	0	0		Road
7	KIPAKU	1,361	1,325		1,243	248	611		3	3	0	0		
	Dirima Cath. Mission	47	225	Gumine HC	234	48	112	09.05.21	1	1	0	0		Road
	Sintai	893	638	Gumine HC	532	100	259	09.05.21	1	1	0	0		Road
	Talbakul	421	463	Gumine HC	477	100	240	09.05.21	1	1	0	0		Road
8	ALEKU	1,403	1,477		1,472	276	708		4	4	0	0		
	Maunil		551	Gumine HC	587	100	283	09.05.21	1	1	0	0		Road/30 Min Trek
	Balabe	264	166	Gumine HC	250	50	120	09.05.21	1	1	0	0		Road/30 Min Trek
	Kunkuna	822	484	Gumine HC	368	76	177	09.05.21	1	1	0	0		Road/30 Min Trek
	Warma	317	276	Gumine HC	267	50	128	09.05.21	1	1	0	0		Road/30 Min Trek
9	KALEKU	1,178	1,595		1,331	276	639		2	2	0	0		
	Nimine	678	443	Gumine HC	471	100	226	09.05.21	1	1	0	0		Road
	Minima	500	1,153	Gumine HC	860	176	413	09.05.21	1	1	0	0		Road
10	KOYAKU	1,389	1,628		1,705	350	822		4	4	0	0		
	Kuleka Malemain	583	749	Gumine HC	562	139	273	09.05.21	1	1	0	0		Road
	Talbakaoan	320	0	Gumine HC	323	50	154	09.05.21	1	1	0	0		Road
	Sipakale		172	Gumine HC	184	40	90	09.05.21	1	1	0	0		Road
	Urumil	486	707	Gumine HC	636	121	305	09.05.21	1	1	0	0		Road
11	NIGEMARIME	1,372	1,319		1,309	282	630		4	4	0	0		
	Amia No	184	0	Gumine HC	95	23	46	09.05.21	1	1	0	0		6 Hrs Trek
	Mingon (Sible)	484	484	Gumine HC	276	62	132	09.05.21	1	1	0	0		Road
	Nikimarme (Obil)	261	449	Gumine HC	524	97	253	09.05.21	1	1	0	0		Road
	Yobagaulin (Wigo)	443	385	Gumine HC	414	100	199	09.05.21	1	1	0	0		Road
12	GUMIN STATION	396	410		422	87	200		1	1	0	0		
	Gumine Stn	396	410	Gumine HC	422	87	200	09.05.21	1	1	0	0		Road
13	KUNARKU	2,059	2,045		1,852	415	889		5	5	0	0		
	Birekoan	445	577	Gumine HC	508	96	244	09.05.21	1	1	0	0		Road
	Bokil	466	412	Gumine HC	446	100	214	09.05.21	1	1	0	0		Road
	Bokolma	652	191	Gumine HC	230	50	110	09.05.21	1	1	0	0		Road
	Kawaliden		204	Gumine HC	135	27	65	09.05.21	1	1	0	0		Road
	Polma	495	661	Gumine HC	533	142	256	09.05.21	1	1	0	0		Road
14	MILAKU	1,544	1,440		1,341	311	644		2	2	0	0		
	Baunule	772	686	Gumine HC	417	111	200	09.05.21	1	1	0	0		Road
	Mul R/H	772	754	Gumine HC	924	200	444	09.05.21	1	1	0	0		Road
15	NERAKU	1,324	1,197		1,203	261	575		4	4	0	0		
	Nalbewera (Baune)	231	485	Gumine HC	462	100	221	07.05.21	1	1	0	0		1 Day Trek
	Kaukil	204	295	Gumine HC	226	50	109	07.05.21	1	1	0	0		1 Day Trek
	Kaluweri	536	248	Gumine HC	246	50	116	07.05.21	1	1	0	0		1 Day Trek
	Yoma	353	169	Gumine HC	269	61	129	07.05.21	1	1	0	0		1 Day Trek
16	EGEKU	1,126	821		734	145	352		3	3	0	0		
	Banule	304	229	Gumine HC	205	47	98	09.05.21	1	1	0	0		Road
	Mul/Kone	316	266	Gumine HC	202	48	97	09.05.21	1	1	0	0		Road
	Sua/Mui	507	326	Gumine HC	327	50	157	09.05.21	1	1	0	0		Road
17	SA BUMINGAULIN	641	766		317	77	153		2	2	0	0		
	Amia	442	321	Gumine HC	270	50	130	12.05.21	1	1	0	0		1 Day Trek
	Gilewele	199	445	Gumine HC	47	27	23	12.05.21	1	1	0	0		1 Day Trek
18	SA NIGEKAİN	743	611		811	150	389		3	3	0	0		
	Endian	157	149	Gumine HC	263	50	126	07.05.21	1	1	0	0		1 Day Trek
	Kone	274	199	Gumine HC	270	50	130	07.05.21	1	1	0	0		1 Day Trek
	Yobamorua	312	263	Gumine HC	278	50	133	07.05.21	1	1	0	0		1 Day Trek
19	SA TOBOKU	1,222	738		662	146	318		3	3	0	0		
	Gomba	387	154	Gumine HC	200	46	96	07.05.21	1	1	0	0		1 Day Trek
	Nondri	610	341	Gumine HC	246	50	118	07.05.21	1	1	0	0		1 Day Trek
	Talbakul Kiruwai	225	243	Gumine HC	216	50	104	07.05.21	1	1	0	0		1 Day Trek
20	KUMAINĒ	550	1,049		0	0	0		0	0	0	0		
	Elmale	367	489	Gumine HC										Same in Ward 21
	Sinebomai	183	561	Gumine HC										Same in Ward 21
21	NONDRI		905		1,102	200	529		4	4	0	0		
	Elmale		360	Gumine HC	335	50	161	07.05.21	1	1	0	0		1Day Trek
	Olegein		293	Gumine HC	278	50	133	07.05.21	1	1	0	0		1Day Trek
	Sinebomai		252	Gumine HC	250	50	120	07.05.21	1	1	0	0		1Day Trek
	Toboya		NEW	Gumine HC	239	50	115	07.05.21	1	1	0	0		1Day Trek
			0											
MT DIGGIN RURAL		21,856	18,955		16,959	3,610	9,040		59	59	0	2,146	59	
1	GORMA	513	383		470	93	261		2	2	0	41		
	Gorma	513	383	Karilmaril HC	169	40	87	05.05.21	1	1	0	14	FM	Trekking
	Ekul		NEW	Karilmaril HC	301	53	174	05.05.21	1	1	0	27	FM	Trekking
2	KEL	1,702	1,595		2,019	394	1,093		5	5	0	299		
	Kauka	434	471	Karilmaril HC	451	94	238	11.05.21	1	1	0	69	FM	Road
	Momowa	180	246	Karilmaril HC	301	50	153	10.05.21	1	1	0	49	FM	Road
	Morokaupa	403	625	Karilmaril HC	747	150	423	06.05.21	1	1	0	129	FM	Road
	Tapai	395	253	Karilmaril HC	300	50	156	11.05.21	1	1	0	23	FM	Road
	Waigani	291	0	Karilmaril HC	220	50	123	12.05.21	1	1	0	29	FM	Road

3	KOROKEA	1,638	2,505		2,042	499	1,085		3	3	0	290		
	Kela	570	562	Karimari HC	416	100	225	10.05.21	1	1	0	64	FM	Road
	Korokoa	448	641	Karimari HC	550	150	300	10.05.21	1	1	0	53	FM	Road
	Onule	620	922	Karimari HC	1,076	249	560	10.05.21	1	1	0	173	FM	Road
	Whagi Bridge		381	Karimari HC										Abandoned
4	DIGIBE	856	960		859	169	445		3	3	0	130		
	Anima	345	451	Karimari HC	353	78	186	06.05.21	1	1	0	75	FM	Road
	Towai	228	301	Karimari HC	278	52	148	06.05.21	1	1	0	55	FM	Road
	Yaire	283	208	Karimari HC	228	39	111	06.05.21	1	1	0	0	FM	Road
5	SIPAGUL	2,076	1,897		1,720	382	937		6	6	0	277		
	Kolakui	363	346	Karimari HC	158	39	85	06.05.21	1	1	0	17	FM	Road
	Kumnulo	722	370	Karimari HC	262	60	144	06.05.21	1	1	0	144	FM	Road
	Siultopil Yorua	620	600	Karimari HC	632	129	341	06.05.21	1	1	0	72	FM	Road
	Yopapiau	372	158	Karimari HC	184	43	100	06.05.21	1	1	0	0	FM	Road
	Buwalemaule		192	Karimari HC	233	50	124	06.05.21	1	1	0	28	FM	Road
	Kumkuba/Bari		231	Karimari HC	251	61	143	06.05.21	1	1	0	16	FM	Road
6	GENABONA	2,157	1,407		1,765	322	922		5	5	0	205		
	Birima/Bruma	633	453	Karimari HC	427	95	221	06.05.21	1	1	0	67	FM	Road
	Genabona	537	496	Karimari HC	563	102	298	06.05.21	1	1	0	46	FM	Road
	Morogabil	264	167	Karimari HC	203	46	114	06.05.21	1	1	0	13	FM	Road
	Nildikan	723	160	Karimari HC	218	29	111	06.05.21	1	1	0	30	FM	Road
	Baunewela		131	Karimari HC	354	50	178	06.05.21	1	1	0	49	FM	Road
7	KARILMARIL	3,165	2,839		1,619	364	855		10	10	0	62		
	Dipmine	1,622	1,636	Karimari HC	387	72	197	06.05.21	1	1	0	18	FM	Road
	Galma	163	0	Karimari HC	122	31	64	10.05.21	1	1	0	8	FM	Road
	Gulbope	401	244	Karimari HC	86	24	45	10.05.21	1	1	0	2	FM	Road
	Iraulakule	563	233	Karimari HC	106	25	58	10.05.21	1	1	0	5	FM	Road
	Karimari Stn	86	362	Karimari HC	154	20	87	10.05.21	1	1	0	1	FM	Road
	Siminkoli	330	213	Karimari HC	293	74	155	10.05.21	1	1	0	21	FM	Road
	Waimule		151	Karimari HC	124	34	70	10.05.21	1	1	0	0	FM	Road
	Kola Ba		NEW	Karimari HC	36	5	19	10.05.21	1	1	0	0	FM	Road
	Tauna		NEW	Karimari HC	215	50	112	06.05.21	1	1	0	2	FM	Road
	Erimil		NEW	Karimari HC	96	29	48	10.05.21	1	1	0	5	FM	Road
8	GAIMA	2,737	2,435		2,642	574	1,400		10	10	0	360		
	Baul	274	171	Karimari HC	147	37	76	09.05.21	1	1	0	2	FM	Road
	Gaima	262	448	Karimari HC	411	100	220	09.05.21	1	1	0	52	FM	Road
	Goma	668	667	Karimari HC	233	54	132	08.05.21	1	1	0	54	FM	Road
	Keimakeli	1,314	879	Karimari HC	732	167	385	11.05.21	1	1	0	143	FM	Road
	Sulmaule	218	163	Karimari HC	140	30	76	09.05.21	1	1	0	13	FM	Road
	Kilau		106	Karimari HC	165	35	86	08.05.21	1	1	0	17	FM	Road
	Kidengua		NEW	Karimari HC	216	50	117	08.05.21	1	1	0	28	FM	Road
	Sigola		NEW	Karimari HC	84	20	42	09.05.21	1	1	0	8	FM	Road
	Gikane		NEW	Karimari HC	167	31	88	01.05.21	1	1	0	15	FM	45 mins Trek
	Upakoa		NEW	Karimari HC	347	50	178	09.05.21	1	1	0	28	FM	Road
9	MUNUMA	3,847	2,577		2,048	443	1,090		6	6	0	303		
	Bernal	405	226	Karimari HC	226	50	118	09.05.21	1	1	0	45	FM	Road
	Kolma	730	689	Karimari HC	370	80	197	11.05.21	1	1	0	46	FM	Road
	Milma	1,105	711	Karimari HC	244	50	128	09.05.21	1	1	0	43	FM	Road
	Munuma	1,066	603	Karimari HC	504	100	268	09.05.21	1	1	0	48	FM	Road
	Munuma 2		NEW	Karimari HC	601	135	327	09.05.21	1	1	0	109	FM	Road
	Nawa	541	348	Karimari HC	103	28	52	09.05.21	1	1	0	12	FM	Road
10	OLDALE	1,015	1,019		568	123	320		4	4	0	33		
	Pildimna	594	351	Karimari HC	124	27	70	05.05.21	1	1	0	5	FM	3 hours by road
	Youma	421	547	Karimari HC	212	45	123	05.05.21	1	1	0	17	FM	3 hours by road
	Iremaul		120	Karimari HC	110	27	63	06.05.21	1	1	0	3	FM	3 hours by road
	Sipilpaunan		NEW	Karimari HC	122	24	64	06.05.21	1	1	0	8	FM	3 hours by road
11	OLDALE 1	1,665	1,040		1,037	213	544		3	3	0	123		
	Dinidam	753	615	Karimari HC	453	93	246	05.05.21	1	1	0	35	FM	3 hours 30 mins road
	Komikamale	396	237	Karimari HC	257	44	135	05.05.21	1	1	0	39	FM	3 hours road / 30 mins trek
	Oldale	516	187	Karimari HC	327	76	163	05.05.21	1	1	0	49	FM	3 hours road / 1 hour trek
12	OLDALE 2	484	298		170	34	88		2	2	0	23		
	Malgime	223	199	Karimari HC	123	23	62	05.05.21	1	1	0	16	FM	3 hours road / 1 hour trek
	Yuribol	261	99	Karimari HC	47	11	26	05.05.21	1	1	0	7	FM	3 hours road / 15 mins trek

ANNEX TWO

CHIMBU PROVINCE
KUNDIAWA GEMBOGL POPULATION 2021
LLIN DISTRIBUTION SUMMARY SHEET

	Above 2000m
	Epidemic 1200-1600m

Growth Factor Used **2.974**

LLG	WARD	VILLAGE	Estimated 2021 Population Based On 2000 Census	Estimated 2021 Population Based On 2018	Health Centre	Population Surveyed	House Holds Surveyed	Nets Issued	Date Of Distribution	Villages	Digicel	Bmobile	Houses With Radios	Radio Networks	Comment
KUNDIAWA \ GEMBOGL			173,837	116,145		70,457	12,731	34,645		173	165	42	3,256	167	
KUNDIAWA URBAN			24,050	25,597		21,877	3,431	11,135		34	34	34	0	34	
		KUNDIAWA URBAN	24,050	25,597		21,877	3,431	11,135		34	34	34	0		
		Wara Simbu S'ment	1,023	1,078	PHO	539	89	282	18.05.21	1	1	1	0	FM	Road
		Wara Simbu / Yuwai Mobli Service	550	370	PHO	619	100	315	15.05.21	1	1	1	0	FM	Road
		Old Hospital - Market	865	609	PHO	239	42	123	16.05.21	1	1	1	0	FM	Road
		Gumine Road	633	0	PHO										Non Existant
		Town/Hospital	1,356	0	PHO	333	45	168	18.05.21	1	1	1	0	FM	Road
		Malaria Crest	922	421	PHO										Non Existant
		Gon Hill - Water Board	1,160	519	PHO	854	132	430	12.05.21	1	1	1	0	FM	Road
		Gon Hill Baptist Church	1,118	382	PHO	488	74	249	12.05.21	1	1	1	0	FM	Road
		Papua Street	607	2,018	PHO	843	103	433	13.05.21	1	1	1	0	FM	Road
		Luth. Mission Day High School	1,288	1,160	PHO	1,104	168	556	15.05.21	1	1	1	0	FM	Road
		Gon Community School	803	292	PHO	164	32	88	12.05.21	1	1	1	0	FM	Road
		Wara Simbu Coffee Factory	440	0	PHO										Non Existant
		Dolan Crest- Gon	1,204	0	PHO										Non Existant
		Papua Street	839	0	PHO	161	24	86	14.05.21	1	1	1	0	FM	Road
		Airstrip Edge	589	937	PHO	848	140	449	15.05.21	1	1	1	0	FM	Road
		Preukwa Community School	348	1,086	PHO	439	69	210	18.05.21	1	1	1	0	FM	Road
		Dpi - Forestry	1,320	675	PHO	1,665	234	817	18.05.21	1	1	1	0	FM	Road
		Barclay Hill	782	344	PHO	579	100	298	15.05.21	1	1	1	0	FM	Road
		Gon - Simbu Coffee Factory	1,383	498	PHO	403	83	212	12.05.21	1	1	1	0	FM	Road
		Gon Hill Settlement	610	1,738	PHO	294	43	149	12.05.21	1	1	1	0	FM	Road
		Gumine/Goroka Block	568	643	PHO	723	138	371	15.05.21	1	1	1	0	FM	Road
		Mirane Settlement	1,130	483	PHO										Non Existant
		Wara Simbu Coffee S'ment	497	991	PHO	631	99	315	18.05.21	1	1	1	0	FM	Road
		Yuwai - Swiss Mission	714	2,154	PHO	1,259	199	642	20.05.21	1	1	1	0	FM	Road
		Gon/Dogar Settlement	922	0	PHO	580	100	297	13.05.21	1	1	1	0	FM	Road
		Gon/Market Settlement	827	0	PHO	484	98	244	12.05.21	1	1	1	0	FM	Road
		Lepers/Sewerage S'ment	556	152	PHO	644	103	329	14.05.21	1	1	1	0	FM	Road
		Mirane Settlement	595	0	PHO										Non Existant
		Gon Settlement	401	0	PHO										Non Existant
		Gewa		1,076	PHO										Non Existant
		Wara Simbu - Paragon	428	0	PHO	791	100	386	18.05.21	1	1	1	0	FM	Road
		Hap - Wara		1,085	PHO	971	133	476	16.05.21	1	1	1	0	FM	Road
		Court House		0	PHO	362	44	184	15.05.21	1	1	1	0	FM	Road
		Hospital Gate		1,279	PHO	619	99	321	18.05.21	1	1	1	0	FM	Road
		Haques		508	PHO	601	100	312	17.05.21	1	1	1	0	FM	Road
		Premier Hill		335	PHO	592	100	309	13.05.21	1	1	1	0	FM	Road
		Back Street		1,396	PHO	1,405	220	704	13.05.21	1	1	1	0	FM	Road
		Yellow Corner		682	PHO	481	83	247	12.05.21	1	1	1	0	FM	Road
		White Corner		641	PHO	436	77	227	12.05.21	1	1	1	0	FM	Road
		Malaria-Ware House		599	PHO	583	95	295	15.05.21	1	1	1	0	FM	Road
		Best Buy		503	PHO	786	113	409	13.05.21	1	1	1	0	FM	Road
		Nursing Quarters		514	PHO	357	52	202	13.05.21	1	1	1	0	FM	Road
				0											
MITNANDE RURAL			44,971	17,252		0	0	0		0	0	0	0	0	
1	MAGLAUK \ WANDIGLE		5,960	2,185											
		Bomkane	684	214	Bembogl HC										Road
		Nigluma/Yandena	904	364	Bembogl HC										Road
		Gove/Keatangle	601	220	Bembogl HC										Road
		Kegesuglo/Kegla	1,196	483	Bembogl HC										Road
		Waimambuno/Augl	1,148	360	Bembogl HC										Road
		Southdaka	583	106	Bembogl HC										Road
		Kenyaundo/Aglsingend	550	199	Bembogl HC										Road
		Denglagu C/Msn	113	113	Bembogl HC										Road
		Mt Wihelm H/S	181	126	Bembogl HC										Road
2	MAGLAUK \ KOMKANE 1		2,415	684											
		Puglangil	1,088	431	Bembogl HC										Road
		Kakagl 1	396	0	Bembogl HC										Road
		Goro	592	99	Bembogl HC										Road
		Aglmugl	339	154	Bembogl HC										Road
3	MAGLAUK \ KOMKANE 2		1,915	1,128											
		Auglanige	729	297	Bembogl HC										Road
		Algmugl	503	255	Bembogl HC										Road
		Goro	399	218	Bembogl HC										Road
		Kakagl 2	285	358	Bembogl HC										Road
4	MAGLAUK \ DEGLAKU 1		2,504	1,182											
		Kangri/Bandamabuno	592	182	Bembogl HC										Road
		Mebagl	229	90	Bembogl HC										Road
		Kangi Dust	399	162	Bembogl HC										Road
		Banda	297	239	Bembogl HC										Road
		Morowau	987	509	Bembogl HC										Road
5	MAGLAUK		2,364	1,578											
		Mondia Bris	952	785	Bembogl HC										Road
		Irugl	633	440	Bembogl HC										Road
		Ganbugl	779	353	Bembogl HC										Road
6	MAGLAUK \ DENGLAKU 2		3,054	1,175											
		Energremabuno	907	291	Bembogl HC										Road
		Waimambuno/Gogor	562	198	Bembogl HC										Road

LLG	WARD	VILLAGE	Estimated 2021 Population Based On 2000 Census	Estimated 2021 Population Based On 2018	Health Centre	Population Surveyed	House Holds Surveyed	Nets Issued	Date Of Distribution	Villages	Digicel	Bmobile	Houses With Radios	Radio Networks	Comment
		Dinipene	636	235	Bembogl HC										Road
		Tauiadumo	595	270	Bembogl HC										Road
		Almugl(Miuk)	83	53	Bembogl HC										Road
		Irkugl	271	128	Bembogl HC										Road
7	INAUGL 1		1,633	654											
		Gondomakane	482	96	Bembogl HC										Road
		Wirwir	184	194	Bembogl HC										Road
		Garmauglo	711	185	Bembogl HC										Road
		Algmugl	256	179	Bembogl HC										Road
8	INAUGL 2		1,885	685											
		Grunigle/Gagamstnigle	619	145	Bembogl HC										Road
		Boplai	348	154	Bembogl HC										Road
		Minmuglo	595	177	Bembogl HC										Road
		Bembogl Stn	324	210	Bembogl HC										Road
9	INAUGL 3		2,028	714											
		Mangamile	250	113	Bembogl HC										Road
		Pompomeri	675	229	Bembogl HC										Road
		Ginkane	401	175	Bembogl HC										Road
		Manginaugl	675	150	Bembogl HC										Road
		Pompomeri School	27	48	Bembogl HC										Road
10	INAUGL \ KUNAIKU		2,290	1,010											
		Danbagl	672	241	Bembogl HC										Road
		Sitnigle/Kunaiku	404	272	Bembogl HC										Road
		Amage	949	253	Bembogl HC										Road
		Engerel	265	244	Bembogl HC										Road
11	INAUGL 4		2,903	542											
		Yokondmambuno	711	270	Bembogl HC										Road
		Dimbamugl	375	67	Bembogl HC										Road
		Engerel (Gumbulkane)	746	12	Bembogl HC										Road
		Danbagl	410	0	Bembogl HC										Road
		Sitnigle	479	193	Bembogl HC										Road
		Dimainigle	181	0	Bembogl HC										Road
12	KUGLKANE 1		3,703	878											
		Kair	1,380	310	Bembogl HC										Road
		Nukaul	449	166	Bembogl HC										Road
		Galmage	1,874	402	Bembogl HC										Road
13	KUGLKANE 2		3,705	1,316											
		Bongugl Mitna	1,148	272	Bembogl HC										Road
		Bongugl Yokbo	2,558	1,043	Bembogl HC										Road
14	KUGLKANE 3		1,764	977											
		Kurumugl	318	116	Bembogl HC										Road
		Sumburu	125	231	Bembogl HC										Road
		Siongo	113	242	Bembogl HC										Road
		Suglamambuno	446	213	Bembogl HC										Road
		Nuglaug 1	532	176	Bembogl HC										Road
		Sumburu L/Msn	229	0	Bembogl HC										Road
15	KUGLKANE 4		3,164	873											
		Diaglke	1,261	366	Bembogl HC										Road
		Kurumugl	946	196	Bembogl HC										Road
		Nuglaug 2	714	145	Bembogl HC										Road
		Kumunobaka	244	166	Bembogl HC										Road
16	KUGLKANE 5		1,636	764											
		Bendam	321	225	Bembogl HC										Road
		Womsikenem	354	209	Bembogl HC										Road
		Niglimbun	514	180	Bembogl HC										Road
		Womatne	446	151	Bembogl HC										Road
17	KUGLKANE 6		2,049	906											
		Kamamambuno	526	154	Bembogl HC										Road
		Gandigl/Uke	274	205	Bembogl HC										Road
		Peroglo	214	62	Bembogl HC										Road
		Mekenda/Keregle	152	88	Bembogl HC										Road
		Yogo	535	247	Bembogl HC										Road
		Kokunmabuno	348	149	Bembogl HC										Road
				0											
NIGLKADE RURAL			36,189	12,968		13,594	2,505	6,459		58	52	0	1,364	52	
1	KEWANDEIKU \ MAINAGLE		2,168	1,186		898	152	453		4	3	0	96		
		Mainake 1	372	266	Goglime HC					1					Included Under Gugulme
		Armbapene	372	252	Goglime HC	111	22	66	15.05.21	1	1	0	11	FM	Road
		Nolkuma Buno 1	1,038	272	Goglime HC	403	47	186	16.05.21	1	1	0	41	FM	Road
		Gugulme	387	395	Goglime HC	384	83	201	15.05.21	1	1	0	44	FM	Road
2	GIRAITAMBAGLE \ ANGA		1,615	512		640	128	336		5	4	0	101		
		Anganere	404	143	Goglime HC	218	44	114	13.05.21	1	1	0	39	FM	Road
		Dimbinmuno	517	171	Goglime HC	171	37	92	13.05.21	1	1	0	29	FM	Road
		Numbu 1	259	94	Goglime HC	183	34	94	13.05.21	1	1	0	22	FM	Road
		Yalbanedang	217	0	Goglime HC	68	13	36	15.05.21	1	1	0	11	FM	Road
		Kombripene	217	104	Goglime HC					1					Included Under Anganere
3	GIRAI TAMAGLE		5,038	526		586	100	295		1	1	0	64		
		Gere	1,475	526	Goglime HC	586	100	295	15.05.21	1	1	0	64	NBC & FM	Road
4	NUNUIOMANE 1		2,409	1,027		933	165	438		6	5	0	84		
		Gaglimabuno	250	107	Goglime HC	180	35	87	13.05.21	1	1	0	13	NBC & FM	Road
		Gandekoglkuna 1	919	305	Goglime HC	322	50	152	13.05.21	1	1	0	36	FM	Road
		Koguno	455	152	Goglime HC	165	28	76	13.05.21	1	1	0	8	NBC	Road
		Maumabuno	256	185	Goglime HC					1					Included Under Gandekoglkuna
		Numbu 2	464	215	Goglime HC	213	43	100	13.05.21	1	1	0	18	FM	Road
		Gaglimamambuno Community Sch	65	62	Goglime HC	53	9	23	13.05.21	1	1	0	9	FM	Road
5	NUNUIOMANE 2		3,108	514		648	133	315		4	4	0	46		

LLG	WARD	VILLAGE	Estimated 2021 Population Based On 2000 Census	Estimated 2021 Population Based On 2018	Health Centre	Population Surveyed	House Holds Surveyed	Nets Issued	Date Of Distribution	Villages	Digicel	Bmbole	Houses With Radios	Radio Networks	Comment
		Gandekoglkuna 2	984	0	Goglime HC	162	41	83	13.05.21	1	1	0	9	NBC	Road
		Kambiange	735	171	Goglime HC	225	43	104	14.05.21	1	1	0	18	FM	Road
		Niglguma	961	182	Goglime HC	173	36	86	13.05.21	1	1	0	8	NBC	Road
		Kerefun	428	161	Goglime HC	88	13	42	13.05.21	1	1	0	11	NBC	Road
6	KEWANDEKU \	DUGPAGL	2,329	1,488		1,556	281	739		6	6	0	149		
		Dugl Pagl	1,050	322	Goglime HC	295	50	137	12.05.21	1	1	0	28	FM	Road
		Goglime 1	161	342	Goglime HC	206	50	100	16.05.21	1	1	0	25	FM	Road
		Goglime 2	167	191	Goglime HC	353	70	170	17.05.21	1	1	0	40	NBC & FM	Road
		Kombulomongo	351	266	Goglime HC	254	40	124	16.05.21	1	1	0	8	FM	Road
		Megerel	562	268	Goglime HC	293	50	138	12.05.21	1	1	0	29	FM	Road
		Goglime C/Mission	39	99	Goglime HC	155	21	70	17.05.21	1	1	0	19	FM	Road
7	KENGAGLKU \	KALAKU 1	2,418	758		930	146	434		3	3	0	94		
		Numbu	1,065	294	Goglime HC	294	50	134	14.05.21	1	1	0	31	NBC	Road
		Gondomakane	1,309	383	Goglime HC	323	50	146	14.05.21	1	1	0	36	NBC	Road
		Kangir Community School	45	81	Goglime HC	313	46	154	14.05.21	1	1	0	27	NBC	Road
8	KENGAGLKU \	KALAKU 2	4,419	1,087		875	183	419		3	3	0	128		
		Kangir 1	3,054	539	Goglime HC	177	39	82	14.05.21	1	1	0	23	NBC	Road
		Genai	1,353	515	Goglime HC	561	109	268	15.05.21	1	1	0	82	FM	Road
		Kangir H/C	12	33	Goglime HC	137	35	69	14.05.21	1	1	0	23	NBC	Road
9	KOMBRIE 2		2,552	1,098		1,374	219	637		5	4	0	150		
		Baringil 1	848	414	Goglime HC	735	98	334	14.05.21	1	1	0	59	FM	Road
		Inbo	1,139	250	Goglime HC	218	41	102	17.05.21	1	1	0	30	FM	Road
		Mainake 2	449	179	Goglime HC	261	50	123	15.05.21	1	1	0	37	FM	Road
		Binga Kombuglo	89	111	Goglime HC					1					Included Under Brengil 1
		Baringil C/sch & A/P	27	145	Goglime HC	160	30	78	15.05.21	1	1	0	24	FM	Road
10	GANDENKORAGLKU		3,256	1,390		1,669	333	804		7	7	0	131		
		Yomba/Koglai	520	375	Goglime HC	378	77	194	12.05.21	1	1	0	43	NBC & FM	Road
		Minga	523	107	Goglime HC	282	48	129	12.05.21	1	1	0	21	FM	Road
		Gande	550	211	Goglime HC	292	50	138	12.05.21	1	1	0	16	FM	Road
		Goan	598	270	Goglime HC	256	50	119	12.05.21	1	1	0	15	FM	Road
		Kuyame	262	138	Goglime HC	174	50	90	12.05.21	1	1	0	5	FM	Road
		Gunakombuglo	562	205	Goglime HC	252	50	118	15.05.21	1	1	0	31	NBC	Road
		Makankor	241	83	Goglime HC	35	8	16	12.05.21	1	1	0	0	FM	Road
11	KOROMBA BARENGIGL		3,462	1,080		1,257	244	579		6	4	0	124		
		Simbange	601	340	Goglime HC	428	89	195	17.05.21	1	1	0	49	FM	Road
		Gewa	467	0	Goglime HC	312	50	144	11.05.21	1	1	0	46	FM	Road
		Waidorka	330	213	Goglime HC	185	42	87	12.05.21	1	1	0	5	FM	Road
		Inga	696	109	Goglime HC					1					Included Under Brengil 2
		Barengil 2	678	334	Goglime HC	332	63	153	14.05.21	1	1	0	24	FM & NBC	Road
		Gawaglike	690	85	Goglime HC					1					Included Under Brengil 2
12	KENGAGLKU \	KRUGLKU	1,942	1,056		887	152	389		3	3	0	70		
		Ku	672	313	Goglime HC	323	62	145	11.05.21	1	1	0	19	NBC	Road
		Mandime	925	520	Goglime HC	435	67	183	11.05.21	1	1	0	29	FM	Road
		Kimbrel	345	222	Goglime HC	129	23	61	12.05.21	1	1	0	22	NBC	Road
13	GIRAI TAMBAGLE		1,475	1,246		1,341	269	621		5	5	0	127		
		Kalengu	1,710	228	Goglime HC	219	41	100	17.05.21	1	1	0	22	FM	Road
		Bona	981	244	Goglime HC	280	64	131	15.05.21	1	1	0	33	FM	Road
		Angrel	675	335	Goglime HC	382	75	173	17.05.21	1	1	0	33	NBC	Road
		Indaunmuno	1,219	211	Goglime HC	284	50	132	17.05.21	1	1	0	10	FM	Road
		Double Bris	452	229	Goglime HC	176	39	85	17.05.21	1	1	0	29	FM	Road
				0											
WAIYE			68,626	32,609		34,986	6,795	17,051		81	79	8	1,892	81	
1	KUPAU		9,740	1,807		1,882	417	931		5	5	2	226		
		Kupau	2,418	491	Pari HC	436	100	213	14.05.21	1	1	1	29	FM/KBM	Road
		Ombondo	1,576	399	Pari HC	345	89	178	13.05.21	1	1	0	72	FM/KBM	Road
		Urr	2,040	562	Pari HC	645	127	316	14.05.21	1	1	0	78	FM/KBM	Road
		Gandua	1,802	355	Pari HC	366	84	183	14.05.21	1	1	0	32	FM/KBM	Road
		Kupau Community School	1,903	0	Pari HC	90	17	41	14.05.21	1	1	1	15	FM/KBM	Road
2	PARI		5,472	809		3,392	599	1,634		8	8	5	303		
		Pari	514	206	Pari HC	183	36	91	14.05.21	1	1	0	12	FM/KBM	Road
		Sitn	654	291	Pari HC	298	93	159	14.05.21	1	1	0	39	FM/KBM	Road
		Gambagogl	455	312	Pari HC	390	50	183	18.05.21	1	1	1	47	FM/KBM	Road
		Niglgoglsugua	494	0	Pari HC	302	47	145	16.05.21	1	1	1	39	FM/KBM	Road
		Yuai S'mnt	1,716	0	Pari HC	997	127	452	16.05.21	1	1	1	70	FM/KBM	Road
		Gakruakama	693	0	Pari HC	346	48	164	15.05.21	1	1	1	34	FM/KBM	Road
		Kwimbawa	654	0	Pari HC	678	148	341	15.05.21	1	1	1	42	FM/KBM	Road
		Urr/Sitn	291	0	Pari HC	198	50	99	14.05.21	1	1	0	20	FM/KBM	Road
3	KURUMUGL		2,677	1,297		1,745	404	886		5	5	0	265		
		Wagl/Womande	779	660	Pari HC	849	177	424	13.05.21	1	1	0	106	FM/KBM	Road
		Kurumugl	839	148	Pari HC	222	50	117	13.05.21	1	1	0	42	FM/KBM	Road
		Singar	467	278	Pari HC	327	100	175	13.05.21	1	1	0	56	FM/KBM	Road
		Agle	526	212	Pari HC	217	50	108	13.05.21	1	1	0	38	FM/KBM	Road
		Agle Community School	65	0	Pari HC	130	27	62	13.05.21	1	1	0	23	FM/KBM	Road
4	NOGOMA		3,039	1,035		894	198	440		3	3	0	40		Not
		Tambagle	1,041	213	Pari HC	169	50	90	13.05.21	1	1	0	33	FM/KBM	Road
		Gere	470	197	Wandi SHC	142	29	69	16.05.21	1	1	0	7	KBM(90.7)	Road
		Mongoma	1,529	625	Wandi SHC	583	119	281	16.05.21	1	1	0	0	KBM(90.7)	Road
5	KOGLAI		2,103	1,144		836	210	442		4	4	0	213		
		Koglai	1,499	443	Pari HC	369	87	189	13.05.21	1	1	0	49	FM/KBM	Road
		Yombayaundo	232	233	Pari HC	91	25	52	13.05.21	1	1	0	15	FM/KBM	Road
		Baglkagl	333	259	Pari HC	296	78	162	13.05.21	1	1	0	134	FM/KBM	Road
		Koglai A/P	39	210	Pari HC	80	20	39	13.05.21	1	1	0	15	FM/KBM	Road
6	ANIGL		7,836	5,556		6,550	1,170	3,232		11	11	0	325		
		Kuglai	1,401	825	Wandi SHC	710	150	357	15.05.21	1	1	0	22	KBM(90.7)	Road
		Kombugl	663	335	Wandi SHC	449	91	220	15.05.21	1	1	0	1	KBM(90.7)	Road
		Dokor	280	348	Wandi SHC	355	65	175	15.05.21	1	1	0	12	KBM(90.7)	Road

LLG	WARD	VILLAGE	Estimated 2021 Population Based On 2000 Census	Estimated 2021 Population Based On 2018	Health Centre	Population Surveyed	House Holds Surveyed	Nets Issued	Date Of Distribution	Villages	Digicel	Bmobile	Houses With Radios	Radio Networks	Comment
		Mirane	693	969	Wandi SHC	1,049	187	503	16.05.21	1	1	0	46	KBM(90.7)	Road
		Bindai	622	434	Wandi SHC	816	68	391	16.05.21	1	1	0	3	KBM(90.7)	Road
		Kond	1,127	742	Wandi SHC	917	187	453	15.05.21	1	1	0	124	KBM(90.7)	Road
		Makankor	363	287	Wandi SHC	304	50	149	15.05.21	1	1	0	50	KBM(90.7)	Road
		Koglai (Gon)	1,085	596	Wandi SHC	692	123	340	15.05.21	1	1	0	8	KBM(90.7)	Road
		Gewa	773	269	Wandi SHC	447	100	230	15.05.21	1	1	0	9	KBM(90.7)	Road
		Gonbo	797	535	Wandi SHC	488	99	257	16.05.21	1	1	0	50	KBM(90.7)	Road
		Mirane Community School	33	215	Wandi SHC	323	50	157	16.05.21	1	1	0	0	KBM(90.7)	Road
7	GUO		6,076	3,347		3,408	623	1,639		8	8	0	66		
		Guo	1,475	729	Wandi SHC	738	146	353	15.05.21	1	1	0	1	KBM(90.7)	Road
		Irmugl	517	403	Wandi SHC	589	71	278	15.05.21	1	1	0	60	KBM(90.7)	Road
		Karaugl	1,139	353	Wandi SHC	325	69	153	16.05.21	1	1	0	0	KBM(90.7)	Road
		New Camp	467	224	Wandi SHC	217	40	107	16.05.21	1	1	0	0	KBM(90.7)	Road
		Dirmaundo	690	346	Wandi SHC	319	61	154	15.05.21	1	1	0	0	KBM(90.7)	Road
		Memaugl	663	535	Wandi SHC	571	103	275	16.05.21	1	1	0	0	KBM(90.7)	Road
		Kuikuglo	547	293	Wandi SHC	175	34	80	16.05.21	1	1	0	0	KBM(90.7)	Road
		Anigi Community School	577	464	Wandi SHC	474	99	239	15.05.21	1	1	0	5	KBM(90.7)	Road
8	WANDI		6,088	3,346		2,832	547	1,382		7	7	0	111		
		Wandi	604	652	Wandi SHC	706	120	362	14.05.21	1	1	0	23	KBM(90.7)	Road
		Guiye	1,665	925	Wandi SHC	550	126	246	14.05.21	1	1	0	12	KBM(90.7)	Road
		Bonguglingu	2,257	1,044	Wandi SHC	812	159	391	14.05.21	1	1	0	76	KBM(90.7)	Road
		Mondosumun	1,433	503	Wandi SHC	319	69	172	14.05.21	1	1	0	0	KBM(90.7)	Road
		Wandi H/C	77	76	Wandi SHC	165	25	77	14.05.21	1	1	0	0	KBM(90.7)	Road
		Wandi Community School	51	34	Wandi SHC	280	48	134	14.05.21	1	1	0	0	KBM(90.7)	Road
		Wandi High School		112	Wandi SHC					1	1	0	0	KBM(90.7)	Included Under Wandi HC
9	YUAGLE \ MINDIMA CAMP		4,815	2,344		2,226	456	1,076		5	5	0	52		
		Yuagle	1,222	450	Wandi SHC	435	93	231	13.05.21	1	1	0	0	KBM(90.7)	Road
		Mengagle	1,231	525	Wandi SHC	512	100	238	13.05.21	1	1	0	0	KBM(90.7)	Road
		Ouna	1,356	809	Wandi SHC	843	163	397	13.05.21	1	1	0	3	KBM(90.7)	Road
		Damar	714	361	Wandi SHC	190	50	94	13.05.21	1	1	0	30	KBM(90.7)	Road
		Kekemba	291	199	Wandi SHC	246	50	116	13.05.21	1	1	0	19	KBM(90.7)	Road
10	MINDIMA		8,957	4,462		5,267	977	2,555		8	8	0	28		
		Mindima	1,323	562	Wandi SHC	651	131	336	12.05.21	1	1	0	0	FM 93.1	Road
		Kuglame	919	456	Wandi SHC	834	137	396	12.05.21	1	1	0	4	FM 93.1	Road
		Nende	1,059	839	Wandi SHC	786	136	370	12.05.21	1	1	0	0	FM 93.1	Road
		Gambagle	1,775	550	Wandi SHC	615	112	289	12.05.21	1	1	0	8	FM 93.1	Road
		Keramugl	458	608	Wandi SHC	474	94	226	12.05.21	1	1	0	0	FM 93.1	Road
		Mindima Suna	1,056	843	Wandi SHC	921	200	468	12.05.21	1	1	0	0	FM 93.1	Road
		Konage	1,731	605	Wandi SHC	680	117	326	12.05.21	1	1	0	3	FM 93.1	Road
		Keramugl E/School	636	0	Wandi SHC	306	50	144	12.05.21	1	1	0	13	FM 93.1	Road
11	GOR		5,475	2,605		2,420	482	1,145		7	7	0	78		
		Papnigl	770	735	Wandi SHC	210	33	99	11.05.21	1	1	0	13	FM 93.1	Road
		Siure Nigl		NEW	Wandi SHC	235	49	110	16.05.21	1	1	0	0	FM 93.1	Road
		Morosiu (Yobar)	1,050	401	Wandi SHC	490	100	231	11.05.21	1	1	0	13	FM 93.1	Road
		Gor	1,118	302	Wandi SHC	547	100	258	11.05.21	1	1	0	13	FM 93.1	Road
		Papnigl Community School	21	287	Wandi SHC	183	50	86	11.05.21	1	1	0	13	FM 93.1	Road
		Ningorma	1,826	468	Wandi SHC	526	100	253	11.05.21	1	1	0	13	FM 93.1	Road
		Kurayauro	690	411	Wandi SHC	229	50	108	12.05.21	1	1	0	13	FM 93.1	Road
12	KOROMA		4,672	4,093		2,777	543	1,326		6	6	0	78		
		Koroma	1,972	794	Wandi SHC	392	73	187	11.05.21	1	1	0	13	FM 93.1	Road
		Yombar	702	547	Wandi SHC	375	68	179	11.05.21	1	1	0	13	FM 93.1	Road
		Buaglkap	1,451	1,247	Wandi SHC	771	161	366	11.05.21	1	1	0	13	FM 93.1	Road
		Tene		619	Wandi SHC	305	69	156	11.05.21	1	1	0	13	FM 93.1	Road
		Garamuno		657	Wandi SHC	642	122	299	11.05.21	1	1	0	13	FM 93.1	Road
		Topokuglo	547	229	Wandi SHC	292	50	139	11.05.21	1	1	0	13	FM 93.1	Road
13	NOGAR		1,677	763		757	169	363		4	2	1	107		
		Kuma 1	482	148	Pari HC	139	32	69	13.05.21	1	1	1	16	FM/KBM	Road
		Druakombuglo	407	209	Pari HC	217	41	98	13.05.21	1	1	0	17	FM/KBM	Road
		Kuma 2	482	216	Pari HC	205	50	100	13.05.21	1	0	0	38	KBM	Road
		Gaglaeagli	306	191	Pari HC	196	46	96	13.05.21	1	0	0	36	KBM	Road

ANNEX THREE

**CHIMBU PROVINCE
SINASINA YONGGOMUGL DISTRICT POPULATION 2021
LLIN DISTRIBUTION SUMMARY SHEET**

LLG	WARD	VILLAGE	Estimated 2021 Population Based On 2000 Census	Estimated 2021 Population Based On 2018	Health Centre	Population Surveyed	House Holds Surveyed	Nets Issued	Date Of Distribution	Villages	Digicel	Bmobile	Houses With Radios	Radio Networks	Comments
SINASINA \ YONGGOMUGL			58,689	58,689		62,975	12,569	31,083		213	213	128	3,255	213	
TABARE RURAL			16,352	16,379		18,243	3,459	8,981		68	68	68	1,631	68	
1	BULAGESIBILE		1,704	1,796		2,269	363	1,097		10	10	10	138		
		Yobakogul	230	205	Koge HC	114	26	56	04.05.21	1	1	1	0	NBC	Road
		Mu	99	105	Koge HC	171	25	82	04.05.21	1	1	1	12	NBC	Road
		Nintul	110	277	Koge HC	515	83	244	04.05.21	1	1	1	57	NBC	Road
		Kobilimugumul	244	139	Koge HC	243	37	117	04.05.21	1	1	1	29	NBC	Road
		Mukul	159	119	Koge HC	66	9	33	04.05.21	1	1	1	6	NBC	Road
		Kabil	219	230	Koge HC	139	30	67	04.05.21	1	1	1	1	NBC	Road
		Kararemil	148	182	Koge HC	284	50	136	04.05.21	1	1	1	0	NBC	Road
		Ninal	222	156	Koge HC	103	25	53	04.05.21	1	1	1	12	NBC	Road
		Kamtai Stn	153	176	Koge HC	280	50	140	04.05.21	1	1	1	8	NBC	Road
		Mu Luth Msn	120	205	Koge HC	354	28	169	04.05.21	1	1	1	13	NBC	Road
2	GILMAI	AREBIL	868	781		1,370	319	694		5	5	5	96		
		Golaigolai	216	224	Koge HC	231	50	108	04.05.21	1	1	1	0	NBC	Road
		Kenwai	205	89	Koge HC	224	50	120	04.05.21	1	1	1	2	NBC	Road
		Bemal		NEW	Koge HC	286	70	149	04.05.21	1	1	1	38	NBC	Road
		Algan	198	230	Koge HC	311	69	153	04.05.21	1	1	1	0	NBC	Road
		Korowai	249	238	Koge HC	318	80	164	04.05.21	1	1	1	56	NBC	Road
3	MAIMA		831	515		752	161	363		5	5	5	37		
		Silkobile	117	75	Koge HC	183	27	86	04.05.21	1	1	1	7	NBC	Road
		Mara	68	33	Koge HC	142	24	68	04.05.21	1	1	1	10	NBC	Road
		Yobakama	103	43	Koge HC	151	41	75	04.05.21	1	1	1	12	NBC	Road
		New Block	286	95	Koge HC	115	32	55	04.05.21	1	1	1	6	NBC	Road
		Nilma	208	234	Koge HC	161	37	79	04.05.21	1	1	1	2	NBC	Road
		Gunkua	48	36	Koge HC										Non Existant
4	TEMISNOWAI		580	626		605	122	321		6	6	6	7		
		Maidom	340	213	Koge HC	120	22	61	04.05.21	1	1	1	0	NBC	Road
		Bolen	168	219	Koge HC	230	50	129	04.05.21	1	1	1	0	NBC	Road
		Gunkua	22	69	Koge HC	74	14	34	04.05.21	1	1	1	7	NBC	Road
		Boomgate		NEW	Koge HC	56	12	35	04.05.21	1	1	1	0	NBC	Road
		Yobakure		NEW	Koge HC	76	14	37	04.05.21	1	1	1	0	NBC	Road
		Tulikul	51	125	Koge HC	49	10	25	04.05.21	1	1	1	0	NBC	Road
5	GOLAKU		756	607		666	125	318		6	6	6	50		
		Enimau	208	133	Koge HC	167	23	80	04.05.21	1	1	1	5	NBC	Road
		Agelegune	235	158	Koge HC	69	15	30	04.05.21	1	1	1	9	NBC	Road
		Manikul	66	76	Koge HC	30	8	15	04.05.21	1	1	1	4	NBC	Road
		Gu	83	30	Koge HC	138	26	68	04.05.21	1	1	1	10	NBC	Road
		Pani Block		NEW	Koge HC	118	26	56	04.05.21	1	1	1	20	NBC	Road
		Sil (Kage)	164	211	Koge HC	144	27	69	04.05.21	1	1	1	2	NBC	Road/6 hrs Trek
6	KLAI		1,795	808		1,183	225	578		7	7	7	47		
		Mani	394	233	Koge HC	248	62	122	04.05.21	1	1	1	14	NBC	Road
		Bimapiau	354	220	Koge HC	319	50	155	04.05.21	1	1	1	4	NBC	Road
		Kawali	202	99	Koge HC	174	32	87	04.05.21	1	1	1	22	NBC	Road
		Del	236	65	Koge HC	137	22	66	04.05.21	1	1	1	5	NBC	Road
		Nibal	333	102	Koge HC	218	43	103	04.05.21	1	1	1	0	NBC	Road
		Brenogil	57	34	Koge HC	31	5	15	04.05.21	1	1	1	1	NBC	Road
		Gili	219	54	Koge HC	56	11	30	04.05.21	1	1	1	1	NBC	Road
7	MASUL 1		1,024	1,284		977	197	494		4	4	4	27		
		Masul	596	634	Koge HC	380	78	197	05.05.21	1	1	1	9	NBC	Road
		Dinima	369	494	Koge HC	515	100	257	05.05.21	1	1	1	11	NBC	Road
		Masul Police Stn	22	48	Koge HC	44	9	21	05.05.21	1	1	1	0	NBC	Road
		Dinima C/S	37	107	Koge HC	38	10	19	05.05.21	1	1	1	7	NBC	Road
8	MASUL 2		1,447	1,214		1,522	314	758		3	3	3	170		
		Busrot	455	484	Koge HC	648	133	320	05.05.21	1	1	1	58	NBC	Road
		Alenbona	420	328	Koge HC	518	131	268	05.05.21	1	1	1	92	NBC	Road
		Sala	571	402	Koge HC	356	50	170	05.05.21	1	1	1	20	NBC	Road
9	YALEMESI		1,101	651		842	142	400		2	2	2	36		
		Dumun(Kagma)	596	439	Koge HC	564	100	267	05.05.21	1	1	1	16	NBC	Road
		Obil	505	213	Koge HC	278	42	133	05.05.21	1	1	1	20	NBC	Road
10	YALKOMNO		1,311	1,589		1,863	325	910		5	5	5	287		
		Morima	151	244	Koge HC	476	50	226	06.05.21	1	1	1	47	NBC	Road
		Oginel	307	314	Koge HC	347	53	174	06.05.21	1	1	1	52	NBC	Road
		Saina Town	423	376	Koge HC	345	89	170	06.05.21	1	1	1	63	NBC	Road
		Mauro	381	576	Koge HC	417	83	206	06.05.21	1	1	1	83	NBC	Road
		Dumun C/S	48	80	Koge HC	278	50	134	06.05.21	1	1	1	42	NBC	Road
11	KAPMA (GAREN)		1,286	1,047		1,800	272	877		3	3	3	187		
		Dumun Kul	537	496	Koge HC	670	100	315	06.05.21	1	1	1	61	NBC	Road
		Bil	321	267	Koge HC	348	50	163	06.05.21	1	1	1	46	NBC	Road
		Kuralba	428	284	Koge HC	782	122	399	06.05.21	1	1	1	80	NBC	Road
12	KAPMA (MAK)		1,183	1,590		1,358	285	676		5	5	5	178		
		Mata	457	645	Koge HC	532	91	267	06.05.21	1	1	1	65	NBC	Road
		Whoty(Maunkui)	159	235	Koge HC	172	40	85	07.05.21	1	1	1	28	NBC	Road
		Derem	80	199	Koge HC	119	30	59	07.05.21	1	1	1	13	NBC	Road/ Trek 6hrs
		Gawa	306	203	Koge HC	225	50	112	07.05.21	1	1	1	15	NBC	Road/ Trek 6hrs
		Matakul	181	308	Koge HC	310	74	153	07.05.21	1	1	1	57	NBC	Road
13	WOMA		1,893	3,277		2,563	502	1,254		4	4	4	316		
		Womai	417	1,708	Koge HC	1,286	274	635	07.05.21	1	1	1	178	NBC	Road

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		Gera	434	512	Koge HC	445	69	216	07.05.21	1	1	1	65	NBC	Road
		Gerakul	188	543	Koge HC	388	78	190	07.05.21	1	1	1	42	NBC	Road
		Tunakaranas	854	514	Koge HC	444	81	213	07.05.21	1	1	1	31	NBC	Road
14	KAUTABANDI		574	594		473	107	241		3	3	3	55		
		Kumokoko	120	221	Koge HC	216	47	114	08.05.21	1	1	1	31	NBC	Road
		Besanil	230	128	Koge HC	95	21	47	08.05.21	1	1	1	7	NBC	Road
		Pene	224	245	Koge HC	162	39	80	08.05.21	1	1	1	17	NBC	Road
				0											
	SUAI RURAL		20,850	19,135		21,153	4,594	10,440		80	80	33	377	80	
1	DUGUL		1,030	1,064		1,398	324	680		4	4	2	13		
		Kenama	216	213	Koge HC2	170	40	82	08.05.21	1	1	0	2	NBC Simbu	Road
		Kugruma	392	278	Koge HC2	247	61	120	08.05.21	1	1	1	11	NBC Simbu	Road
		Koge	380	469	Koge HC2	853	189	416	08.05.21	1	1	0	0	NBC Simbu	Road
		Koge H/C	42	104	Koge HC2	128	34	62	08.05.21	1	1	1	0	NBC Simbu	Road
2	OGLEWAULA		690	821		748	179	362		4	4	3	8		
		Kogesuna	318	216	Koge HC2	145	37	69	08.05.21	1	1	1	2	NBC Simbu	Road
		Igai	76	235	Koge HC2	171	42	83	08.05.21	1	1	1	1	NBC Simbu	Road
		Paraul	221	172	Koge HC2	185	50	90	08.05.21	1	1	0	0	NBC Simbu	Road
		Muaina H/S	76	197	Koge HC2	247	50	120	08.05.21	1	1	1	5	NBC Simbu	Road
3	BOMAIKU		1,295	1,091		1,516	342	746		5	5	2	30		
		Perenime	693	311	Koge HC2	405	81	196	08.05.21	1	1	1	5	NBC Simbu	Road
		Malgana	119	54	Koge HC2	305	96	160	08.05.21	1	1	0	23	NBC Simbu	Road
		Peramara	145	292	Koge HC2	251	50	121	08.05.21	1	1	1	2	NBC Simbu	Road
		Yoba Aulabol	269	218	Koge HC2	165	33	80	08.05.21	1	1	0	0	NBC Simbu	Road
		Koge Cath Msn	69	216	Koge HC2	390	82	189	08.05.21	1	1	0	0	NBC Simbu	Road
4	DU 1		718	561		614	127	297		3	3	1	0		
		Du	276	88	Koge HC2	213	44	103	07.05.21	1	1	1	0	NBC Simbu	Road
		Aulabol	154	265	Koge HC2	224	43	108	07.05.21	1	1	0	0	NBC Simbu	Road
		Kilbaga	287	208	Koge HC2	177	40	86	07.05.21	1	1	0	0	NBC Simbu	Road
5	DU 2		977	648		827	181	406		3	3	1	1		
		Du Maule	283	101	Koge HC2	182	48	90	07.05.21	1	1	0	0	NBC Simbu	Road
		Silma	400	303	Koge HC2	436	83	210	07.05.21	1	1	0	1	NBC Simbu	Road
		Gilgebe	295	244	Koge HC2	209	50	106	07.05.21	1	1	1	0	NBC Simbu	Road
6	DU 3		454	444		487	107	236		2	2	0	14		
		Mondia	346	361	Koge HC2	328	72	159	07.05.21	1	1	0	3	NBC Simbu	Road
		Abma	108	83	Koge HC2	159	35	77	07.05.21	1	1	0	11	NBC Simbu	Road
7	KIRIYU \ SIPA		710	814		964	173	472		3	3	1	13		
		Gabakure	414	319	Koge HC2	312	50	152	07.05.21	1	1	1	0	NBC Simbu	Road
		Aina	227	122	Koge HC2	323	68	161	07.05.21	1	1	0	0	NBC Simbu	Road
		Nonua	69	373	Koge HC2	329	55	159	06.05.21	1	1	0	13	NBC Simbu	Road
8	ANIMU		639	656		723	147	350		3	3	1	0		
		Bogimikua	228	158	Koge HC2	242	49	117	06.05.21	1	1	0	0	NBC Simbu	Road
		Elama	182	233	Koge HC2	219	49	107	06.05.21	1	1	0	0	NBC Simbu	Road
		Giu	228	265	Koge HC2	262	49	126	06.05.21	1	1	1	0	NBC Simbu	Road
9	KIRKU \ KORUL		1,410	1,883		1,779	409	867		6	6	5	24		
		Emai	326	368	Koge HC2	405	82	196	06.05.21	1	1	1	5	NBC Simbu	Road
		Hula	69	496	Koge HC2	169	50	88	06.05.21	1	1	1	4	NBC Simbu	2hrs trek
		Emau Nili	179	199	Koge HC2	211	50	102	06.05.21	1	1	1	6	NBC Simbu	2hrs trek
		Dorolkau		143	Koge HC2	220	50	107	06.05.21	1	1	1	6	NBC Simbu	Road
		Simau	488	264	Koge HC2	215	50	104	06.05.21	1	1	1	2	NBC Simbu	Road
		Gon	347	413	Koge HC2	559	127	270	06.05.21	1	1	0	1	NBC Simbu	Road
10	NINIKU		851	617		622	143	309		2	2	1	4		
		Maunkui	259	220	Koge HC2	213	50	105	06.05.21	1	1	0	3	NBC Simbu	Road
		Bognil	591	397	Koge HC2	409	93	204	06.05.21	1	1	1	1	NBC Simbu	Road
11	PIGA		1,337	1,676		1,342	274	658		4	4	4	10		
		Konoma	290	403	Koge HC2	174	31	84	06.05.21	1	1	1	5	NBC Simbu	Road
		Himi	455	643	Koge HC2	312	77	151	06.05.21	1	1	1	5	NBC Simbu	2hrs trek
		Mogmagaba	188	293	Koge HC2	506	71	249	06.05.21	1	1	1	0	NBC Simbu	2hrs trek
		Aregol	403	337	Koge HC2	350	95	174	06.05.21	1	1	1	0	NBC Simbu	2hrs trek
12	KAGLE		1,207	1,018		1,919	350	928		3	3	2	39		
		Kolagol	479	470	Koge HC2	543	100	262	05.05.21	1	1	1	9	NBC Simbu	Road
		Ninamol (Niglmol)	295	361	Koge HC2	806	150	388	05.05.21	1	1	0	9	NBC Simbu	Road
		Kimbri/WSimbu)	434	186	Koge HC2	570	100	278	05.05.21	1	1	1	21	NBC Simbu	Road
13	DIGAKANE		574	412		548	122	264		3	3	3	21		
		Minkauli	313	125	Koge HC2	157	32	76	05.05.21	1	1	1	0	NBC Simbu	Road
		New Camp	54	287	Koge HC2	208	46	100	05.05.21	1	1	1	21	NBC Simbu	Road
		Megin	207	0	Koge HC2	183	44	88	05.05.21	1	1	1	0	NBC Simbu	Road
14	KUMANEKANE		1,687	468		541	107	265		3	3	2	5		
		Kagul	303	208	Koge HC2	271	50	131	05.05.21	1	1	1	5	NBC Simbu	Road
		Kinyure	505	10	Koge HC2	109	22	51	05.05.21	1	1	1	0	NBC Simbu	Road
		Gumepebai	880	251	Koge HC2	161	35	83	05.05.21	1	1	0	0	NBC Simbu	Road
15	AU \ EREKANE		392	390		744	150	359		3	3	2	0		
		Kopkul	162	186	Koge HC2	249	50	120	04.05.21	1	1	1	0	NBC Simbu	Road
		Kinyure	230	203	Koge HC2	265	50	128	04.05.21	1	1	1	0	NBC Simbu	Road
		Hama		NEW	Koge HC2	230	50	111	04.05.21	1	1	0	0	NBC Simbu	Road
16	KAGUGL		2,407	1,146		1,120	270	541		6	6	3	8		
		Kwima	113	185	Koge HC2	137	26	66	04.05.21	1	1	0	0	NBC Simbu	Road
		Yobamorua	434	120	Koge HC2	173	37	84	04.05.21	1	1	0	0	NBC Simbu	Road
		Miril	191	219	Koge HC2	133	25	64	04.05.21	1	1	0	0	NBC Simbu	Road
		Bema	465	117	Koge HC2	149	50	72	04.05.21	1	1	1	7	NBC Simbu	Road
		Huben	181	319	Koge HC2	138	32	67	04.05.21	1	1	1	0	NBC Simbu	Road
		Nebare	1,024	185	Koge HC2	390	100	188	04.05.21	1	1	1	1	NBC Simbu	Road
17	YORUAKU		587	579		519	134	263		2	2	0	1		
		Segima	360	454	Sigma SHC	316	72	155	07.05.21	1	1	0	1	FM/NBC	Road

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		Onimogma/Aiba	227	125	Sigma SHC	203	62	108	07.05.21	1	1	0	0	FM/NBC	Road
18	SEGIMA		567	496		628	159	321		2	2	0	22		
		Aiba-Aiwa	340	344	Sigma SHC	374	82	190	06.05.21	1	1	0	22	FM/NBC	Road
		Gii	227	152	Sigma SHC	254	77	131	06.05.21	1	1	0	0	FM/NBC	Road
19	KUIAM		823	909		574	132	291		3	3	0	13		
		Koa	208	243	Sigma SHC	118	25	60	06.05.21	1	1	0	3	FM/NBC	Road
		Bilgine	360	329	Sigma SHC	272	59	136	07.05.21	1	1	0	4	FM/NBC	Road
		Segima	255	337	Sigma SHC	184	48	95	06.05.21	1	1	0	6	FM/NBC	Road
20	MARIBEBI - KIU		1,027	845		979	227	510		4	4	0	39		
		Dire	185	293	Sigma SHC	302	66	164	06.05.21	1	1	0	13	FM/NBC	Road
		Gabakinin	329	172	Sigma SHC	252	50	128	06.05.21	1	1	0	18	FM/NBC	Road
		Igidi	496	325	Sigma SHC	378	97	191	06.05.21	1	1	0	8	FM/NBC	Road
		Segima (sub-h/C)	17	55	Sigma SHC	47	14	27	06.05.21	1	1	0	0	FM/NBC	Road
21	KEBIL 1		304	456		529	113	269		3	3	0	9		
		Kebil	93	228	Sigma SHC	266	59	135	05.05.21	1	1	0	9	FM/NBC	Road
		Mogoma	212	90	Sigma SHC	97	21	51	05.05.21	1	1	0	0	FM/NBC	Road
		Obi		137	Sigma SHC	166	33	83	05.05.21	1	1	0	0	FM/NBC	Road
22	KEBIL 2		730	1,206		1,400	280	702		6	6	0	55		
		Guguruma	94	294	Sigma SHC	180	48	92	05.05.21	1	1	0	10	FM/NBC	Road
		Goma	245	210	Sigma SHC	332	64	165	05.05.21	1	1	0	18	FM/NBC	Road
		Daun Base	208	398	Sigma SHC	290	50	145	05.05.21	1	1	0	16	FM/NBC	Road/1Hr 30Mins
		Yobaplawa	83	118	Sigma SHC	231	41	114	04.05.21	1	1	0	0	FM/NBC	Road/Trek 1Day
		Kia	29	95	Sigma SHC	193	41	97	05.05.21	1	1	0	5	FM/NBC	Road/Trek 1Day
		Emigul	69	92	Sigma SHC	174	36	89	05.05.21	1	1	0	6	FM/NBC	Road/Trek 1Day
23	KAEPAI		434	936		632	144	344		3	3	0	48		
		Ubandiawa	147	252	Sigma SHC	174	36	91	04.05.21	1	1	0	14	FM/NBC	Road/Trek 1Day
		Kage	157	365	Sigma SHC	246	49	130	04.05.21	1	1	0	26	FM/NBC	Road/Trek 1Day
		Las Kage	130	318	Sigma SHC	212	59	123	04.05.21	1	1	0	8	FM/NBC	Road/Trek 1Day
				0											
YONGOMUGLE RURAL			21,487	23,176		23,579	4,516	11,662		65	65	27	1,247	65	
1	MOGL		3,080	3,969		3,764	681	1,882		11	11	11	183		
		Mogl	312	695	PHO	497	106	249	08.05.21	1	1	1	13	94	Road
		Umbanemambuno	377	370	PHO	228	50	119	08.05.21	1	1	1	23	94	Road/Trek
		Gagamambuno	212	534	PHO	336	51	162	09.05.21	1	1	1	21	94	Road/Trek
		Kurumbambuno	247	315	PHO	149	30	76	09.05.21	1	1	1	1	94	Road/Trek
		Bagle	293	198	PHO	207	40	103	08.05.21	1	1	1	2	94	Road
		Andekaurunga	213	276	PHO	246	44	123	08.05.21	1	1	1	2	94	Road/Trek
		Mundumembi	304	262	PHO	139	31	72	08.05.21	1	1	1	25	94	Road
		Barme Koa	621	137	PHO	402	98	205	08.05.21	1	1	1	4	94	Road
		Kauglan	459	618	PHO	726	97	361	09.05.21	1	1	1	0	94	Road
		Mogl Community School	43	101	PHO	132	21	67	08.05.21	1	1	1	5	94	Road
		Molg - Gerex		462	PHO	702	113	345	10.05.21	1	1	1	87	94	Road
2	KAGAI		2,700	3,352		2,900	624	1,491		6	6	6	255		
		Kagai-Koglo	420	1,196	PHO	611	148	319	10.05.21	1	1	1	39	94	Road
		Kagai-Kanma	550	659	PHO	507	99	249	10.05.21	1	1	1	14	94	Road
		Kundar/Kagikugo	648	533	PHO	847	175	432	05.05.21	1	1	1	119	94	Road
		Kogomaugo	275	528	PHO	426	92	225	05.05.21	1	1	1	63	94	Road
		Sungal	474	435	PHO	329	67	168	10.05.21	1	1	1	10	94	Road/Trek
		Gonmakane		NEW	PHO	180	43	98	10.05.21	1	1	1	10	94	New village
		Medai Gogi	333	0	PHO										Non Existent
3	GURUMA 1		2,804	1,656		2,534	469	1,216		4	4	0	214		
		Guruma	764	496	Mai HC	839	150	408	11.05.21	1	1	0	34	90.7 FM	Road/Trek
		Konopa	448	224	Mai HC	657	100	301	10.05.21	1	1	0	69	90.7 FM	Road/Trek
		Gawagle	848	402	Mai HC	519	100	253		1	1	0	46	90.7 FM	Road
		Bogogewa	744	534	Mai HC	519	119	254	10.05.21	1	1	0	65	90.7 FM	Road/Trek
4	GURUMA 2		786	1,316		1,814	278	863		3	3	0	171		
		Kanigkwa	386	777	Mai HC	1,013	150	491	10.05.21	1	1	0	120	90.7 FM	Road
		Bugapu	400	149	Mai HC	260	50	128	11.05.21	1	1	0	45	90.7 FM	Road
		Minwagle		390	Mai HC	541	78	244	10.05.21	1	1	0	6	90.7 FM	Road
5	MUASUGO		1,206	1,283		1,404	287	682		5	5	0	108		
		Muasugo	494	304	Mai HC	399	83	191	08.05.21	1	1	0	13	90.7 FM	Road
		Diawo	244	215	Mai HC	223	43	110	09.05.21	1	1	0	29	90.7 FM	Road/Trek
		Yokondwak	253	90	Mai HC	77	15	36	07.05.21	1	1	0	12	90.7 FM	Road
		Kokongigi	215	396	Mai HC	301	66	154	07.05.21	1	1	0	54	90.7 FM	Road/Trek
		Minwagle		277	Mai HC	404	80	191	07.05.21	1	1	0	0	90.7 FM	Road/Trek
6	MAI		3,325	2,987		2,909	627	1,439		11	11	0	113		
		Mai	591	469	Mai HC	483	96	241	06.05.21	1	1	0	4	90.7 FM	Road
		Mikrima/Tokma	622	524	Mai HC	408	87	194	10.05.21	1	1	0	7	90.7 FM	Road/Trek
		Stuga	273	211	Mai HC	160	39	78	06.05.21	1	1	0	3	90.7 FM	Road/Trek
		Mai C/sch & H/C	15	102	Mai HC	166	28	84	06.05.21	1	1	0	1	90.7 FM	Road
		Terebona	488	397	Mai HC	504	92	243	06.05.21	1	1	0	21	90.7 FM	Road
		Gandipodi	162	206	Mai HC	180	46	91	07.05.21	1	1	0	21	90.7 FM	Road
		Kerangumul	628	263	Mai HC	196	52	99	06.05.21	1	1	0	11	90.7 FM	Road/Trek
		Ongogolomambuno	216	143	Mai HC	214	50	105	08.05.21	1	1	0	12	90.7 FM	Road
		Gor	329	227	Mai HC	195	43	104	06.05.21	1	1	0	11	90.7 FM	Road/Trek
		Duau		210	Mai HC	225	46	108	06.05.21	1	1	0	21	90.7 FM	Road/Trek
		Bibagleng		235	Mai HC	178	48	92	11.05.21	1	1	0	1	90.7 FM	Road/Trek
7	NIGLGUMA 1		653	986		1,056	235	545		5	5	0	12		
		Ombunakru	182	281	Nigiguma HC	215	44	112	05.05.21	1	1	0	0	90.7 FM	Road
		Gogo	207	83	Nigiguma HC	124	31	70	05.05.21	1	1	0	3	90.7 FM	Road
		Niiguma	264	88	Nigiguma HC	166	43	84	05.05.21	1	1	0	2	90.7 FM	Road
		Kangolwale		309	Nigiguma HC	333	71	169	05.05.21	1	1	0	5	90.7 FM	Road
		Koriro		225	Nigiguma HC	218	46	110	06.05.21	1	1	0	2	90.7 FM	Road/Trek(5hrs)
8	NIGLGUMA 2		1,119	843		541	123	269		4	4	0	6		

LLG	WARD	VILLAGE	Estimated 2021 Population Based On 2000 Census	Estimated 2021 Population Based On 2018	Health Centre	Population Surveyed	House Holds Surveyed	Nets Issued	Date Of Distribution	Villages	Digicel	Emobile	Houses With Radios	Radio Networks	Comments
		Kalumnige	191	173	Nigiguma HC	107	24	52	06.05.21	1	1	0	0	90.7 FM	Road
		Buangiur	236	172	Nigiguma HC	237	40	111	06.05.21	1	1	0	1	90.7FM	Road/Trek(2hrs)
		Obongi	338	314	Nigiguma HC	110	35	56	06.05.21	1	1	0	0	90.7FM	Road
		Duapene	354	183	Nigiguma HC	87	24	50	07.05.21	1	1	0	5	90.7FM	Road/Trek(2hrs)
9	NIGLGUMA 3		1,121	1,175		1,006	212	498		6	6	0	15		
		Kumuru	241	100	Nigiguma HC	169	32	84	05.05.21	1	1	0	2	90.7FM	Road/Trek(2hrs)
		Kilemabuno	142	343	Nigiguma HC	204	37	100	05.05.21	1	1	0	0	90.7FM	Road
		Dumuna	316	161	Nigiguma HC	230	50	113	05.05.21	1	1	0	1	KBM	Road
		Parua	415	258	Nigiguma HC	162	42	81	05.05.21	1	1	0	10	KBM	Road
		Parua Community School	6	228	Nigiguma HC	161	33	78	05.05.21	1	1	0	0	KBM	Road
		Muroi		86	Nigiguma HC	80	18	42	05.05.21	1	1	0	2	KBM	Road
10	KU 1		2,467	2,292		3,331	560	1,612		5	5	5	89		
		Dumai	573	632	PHO	717	127	337	04.05.21	1	1	1	16	94	Road
		Papnil	309	597	PHO	239	50	127	04.05.21	1	1	1	10	94	Road
		Gogomande	395	199	PHO	425	45	200	09.05.21	1	1	1	9	94	Road
		Numunma	621	305	PHO	740	138	354	07.05.21	1	1	1	14	94	Road
		Kimbire	570	558	PHO	1,210	200	594	09.05.21	1	1	1	40	94	Road
11	KU 2		2,226	3,320		2,320	420	1,165		5	5	5	81		
		Ku	335	1,566	PHO	1,070	191	537	04.05.21	1	1	1	42	94	Road
		Perumyaundo	352	518	PHO	336	62	169	04.05.21	1	1	1	7	94	Road/Trek
		Duglmande	727	0	PHO										Non Existent
		Kalwile	320	255	PHO	248	50	122	09.05.21	1	1	1	9	94	Road
		Okaimaul	431	866	PHO	502	86	252	04.05.21	1	1	1	10	94	Road
		Ku Primary School	62	114	PHO	164	31	85	04.05.21	1	1	1	13	94	Road