

ROTARIANS AGAINST MALARIA



LONG LASTING INSECTICIDAL NET DISTRIBUTION REPORT

EAST SEPIK PROVINCE Ambunti Drekiier and Wosera Gawi Districts

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

With Support From The Global Fund

16th October to 11th December 2021



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Executive Summary

East Sepik Province is a coastal province on the north coast of mainland of Papua New Guinea (PNG) through which much of the Sepik River flows. Practically the whole of the population lives in areas of permanent malaria transmission below 1200m, with 95.5% living below 400 metres. Only a very few people (0.2%) live higher areas along the border with Enga Province where malaria might be absent but epidemic in nature.

The family level survey and distribution of Long-Lasting Insecticidal Nets (LLINs) was carried out in Ambunti Drekikier and Wosera Gawi Districts between 16th October and 11th December 2021.

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, 97,534 LLINs were distributed to a population of 195,205 people. This resulted in distribution of 50 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	Estimated Target Population 2021	Population Surveyed 2021	House Holds Surveyed 2021	Nets Issued 2021	Nets Distributed Per 100 People
Ambunti Drekikier	55,397	89,825	99,302	102,089	18,659	50,831	50
Wosera Gawi	49,408	87,566	96,805	93,116	20,114	46,703	50
Totals	104,805	177,391	196,107	195,205	38,773	97,534	50

A further 312 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 402,491 Kina (Approximately US\$ 114,910) resulting in a cost of about 4.12 Kina or US\$1.18 per net delivered. This was about 3.5% under the anticipated budget. Most of the savings came in volunteer trekking costs which suggests that some areas are now more accessible than in the past. However, car hire was more than anticipated probably due to the program running late for a number of reasons. However, overall, considering the difficulty of covering Ambunti Drekikir and Wosera Gawi this was done at a good price.

Overall, the distribution went well in East Sepik 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 East Sepik Province as well as the distribution costs. The nets distributed in East Sepik Province are different from those in the past and are known as Yahe LLINs and RAM hopes that these are better quality LLINs than those distributed in the last few years.

The history of LLIN distribution in PNG and East Sepik Province is discussed in Appendix One and the malaria situation and stratification of malaria in East Sepik 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 Micro-Planning Meeting In May River (Left) And Kaugia (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 from 2017 to 2020 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 sources from the Chinese Government and in other areas from the Global Fund. Fortunately, there was sufficient funds to cover these areas in 2021. Sadly, from 2022 there are no funds to cover these areas.
- 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 – Initial Microplanning Meetings In Kunjigini Health Centre (Left) And Mersei Health Centre (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 received 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 (2018-2021) and the Chinese Government (2020). 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 to cover these areas above 1600m.

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.

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.



Fig.3 Survey Volunteer Training At Wombisa (Left) And May River (Right)

Schedule

Referring to Table Two, it can be seen that the main distribution in East Sepik started in mid-October but by mistake, some villages had been surveyed in January 2022 thinking they were in Maprik District which is why it is reflected that start date is 29 January but distribution in these villages occurred during this operation in October. Therefore, the main operations in both Wosera Gawi and Drekiier started together in mid-October with operations in Ambunti only starting in mid-November once staff had completed areas in Drekiier and Wosera Gawi.

TABLE TWO
General Timetable Of Activities In East Sepik Province

District	Survey		Distribution	
	Start	Finish	Start	Finish
Ambunti Drekikier	29.01.21	06.12.21	27.10.21	11.12.21
Wosera Gawi	16.10.21	30.10.21	23.10.21	08.11.21

Methodology

Prior to planning and implementation, a master list of all villages of East Sepik Province was drawn up using data from the 2000 Census and the last RAM survey of 2018 in East Sepik 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 East Sepik 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 – Training Village Survey Volunteers In Kunjigini HC (Left) And Pathfinder HC (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 At Kunjigini HC (Left) And Gawi (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 East Sepik 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., ESP 21 meaning East Sepik 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 East Sepik Province. This is particularly true for mountainous villages or villages at the end of rivers 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 East Sepik Province, all LLINs were ultimately delivered to Lae by ship from China in six containers. 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 sea to Wewak. From Wewak all they were sent by road to the districts. For Drekiakier the

bales were sent loose in open trucks while those for Gawi and Ambunti Drekikier were sent in four containers which were stored at Gawi Health Centre.

Results

Table Three shows the LLIN distribution data by district and Table Four by Local Level Government (LLG). These tables give the actual population surveyed together with the number of LLINs distributed by district. In total, 97,534 LLINs were distributed to a population of 195,205 people in the two districts. This resulted in distribution of 50 nets for every 100 people in the province.

TABLE THREE
Nets Distributed At District Level In East Sepik Province

District	Population from 2000 Census	Population Of Targeted Areas In 2018	Estimated Target Population 2021	Population Surveyed 2021	House Holds Surveyed 2021	Nets Issued 2021	Nets Given Per 100 People	Growth Rate Against 2018 Survey	Growth Rate Against 2000 Census
Ambunti Drekikier	55,397	89,825	99,302	102,089	18,659	50,831	50	4.36	2.95
Wosera Gawi	49,408	87,566	96,805	93,116	20,114	46,703	50	2.07	3.06
Totals	104,805	177,391	196,107	195,205	38,773	97,534	50	3.24	3.01

Referring to Table Three and Table Four, it can be seen that the overall population growth rate has remained fairly steady over the years with the exception of Gwanga Rural in Table Four where the population has grown substantially for reasons unknown. There also appears to have been some population movement between the two LLGs of Ambunti with the population of Ambunti LLG going down while that of Tunap/Hustien LLG has gone up. It is also noted that the population of North Wosera has also only grown slowly which suggests some population movement from this area.

TABLE FOUR
Nets Distributed At LLG Level In East Sepik Province

LLG	District	Population from 2000 Census	Population Of Targeted Areas In 2018	Estimated Target Population 2021	Population Surveyed 2021	House Holds Surveyed 2021	Nets Issued 2021	Growth Rate Against 2018 Survey	Nets Per 100 People
Ambunti Rural	Ambunti Drekikier	16,145	25,340	28,014	26,933	4,859	13,897	2.05	51.6
Drekikier Rural	Ambunti Drekikier	18,909	31,438	34,755	34,972	7,173	17,313	3.61	49.5
Gwanga Rural	Ambunti Drekikier	11,301	17,909	19,799	22,619	3,712	10,980	8.09	48.5
Tunap/Hustien	Ambunti Drekikier	9,042	15,138	16,735	17,565	2,915	8,641	5.08	49.2
Buruni/Kunai Rural	Wosera Gawi	10,028	16,749	18,516	18,525	3,897	9,306	3.42	50.2
Gawi Rural	Wosera Gawi	7,492	13,841	15,301	15,156	2,920	7,392	3.07	48.8
North Wosera Rural	Wosera Gawi	13,282	25,916	28,650	26,424	6,182	13,475	0.65	51.0
South Wosera Rural	Wosera Gawi	18,606	31,060	34,337	33,011	7,115	16,530	2.05	50.1
Totals		104,805	177,391	196,107	195,205	38,773	97,534	3.24	50.0

Table Five shows that 312 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
Ambunti Drekikier	Ambunti Rural	Ambunti HC	163
Ambunti Drekikier	Gwanga Rural	Drekikier HC	47
Ambunti Drekikier	Tunap/Hustein	May River SHC	19
Ambunti Drekikier	Tunap/Hustein	Maposi SHC	28
Wosera Gawi	Buruni/Kunai Rural	Torembi	10
Wosera Gawi	North Wasera Rural	Nungwaia SHC	45
TOTAL			312

Based on Table Six, it can be seen that the overall operational cost of the programme was 402,491 Kina (Approximately US\$ 114,910) resulting in a cost of about 4.12 Kina or US\$1.18 per net delivered. This was about 3.5% under the anticipated budget. Most of the savings came in volunteer trekking costs which suggests that some areas are now more accessible than in the past. However, car hire was more than anticipated probably due to the program running late for a number of reasons. However, overall, considering the difficulty of covering East Sepik Province, this was done at a very good price.

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

Expense Types	Budget	Actual	Variances	% Variance
Human Resources	180,136	100,600	79,535.69	55.8
Fuel Cost	58,660	78,754	-20,094.37	-34.3
Car Hire Cost	105,000	177,865	-72,865.00	-69.4
Boat Hire Cost	51,300	35,870	15,430.00	69.9
Stationeries/Supplies	3,000	3,836	-836.41	-27.9
5% Contingency	18,855	5,365	13,489.91	28.5
Totals	416,950	402,291	14,659.83	96.5

Referring to Table Seven, this shows the radio and cell phone coverage of Ambunti Dekikir and Wosera Gawi. Table Seven, clearly shows that Digicel and radio coverage is very good in Wosera Gawi but only covers about two thirds of the villages in Ambunti Drekikier. This makes health messaging very difficult in Ambunti Drekikier in the remoter parts of the district.

TABLE SEVEN
Cell and Radio Coverage In East Sepik Province

District	Villages	House Holds Surveyed	Digicel	Bmobile	Houses with Radios	Villages With Radio Networks
Ambunti Drekikier	307	18,659	196	1	6,089	202
Wosera Gawi	185	20,114	175	9	5,672	171
Total	492	38,773	371	10	11,761	373

Conclusions

Overall, it can be said that the LLIN distribution in East Sepik 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, Seventh Day Adventist, Sepik Christian

Ministry, South Seas Evangelical Mission 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. It should also be noted, unlike previous years, RAM was able to finish the work before Christmas as the river levels were high enough to reach the remoter areas of the district by boat. In other years the river levels have remained low due to late rainy season and it was not possible complete the work before the Christmas period.

There were some challenges which include:

- Delays in getting fuel in Wewak which delayed the operations by a week as officers could not leave for Ambunti without full requirements of fuel for their long trips up the Sepik River.
- Ethnic clashes in some parts of Ambunti Drekikier that delayed operations. Officers had to wait for these issues to be sorted out within the community themselves before they started distributions.
- Heavy rain causing bad conditions that caused delay in distributions.

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 – Survey Verification In Pathfinder (Left) And Mersei (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 East Sepik 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 Wosera Gawi and Ambunti Drekikier Districts, we would like to sincerely acknowledge and thank the East Sepik Provincial Health Authority and the District Health Staff of the two districts for the excellent help and cooperation during the Long-Lasting Insecticide Nets (LLINs) distribution programme.

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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 two districts namely:

Wosera Gawi District

Name	Occupation	Institution
Mrs. Stanley Masi	District Health Manager	Wosera Gawi District
Mr. Eugene Seblo	Officer in Charge	Kunjigini Health Centre
Mr. Igneous Burr	Health Extension Officer	Kunjigini Health Centre
Mrs. Salome Kalaro	Community Health Worker	Kunjigini Health Centre
Mrs. Silvia Pantu	Officer in Charge	Kaugia Health Centre
Mr. Charlie Pantu	Community Health Worker	Kaugia Health Centre
Ms. Angela Biang	Officer in Charge	Torembi Sub Health Centre
Mr. Charlie Mamba	Community Health Worker	Torembi Sub Health Centre
Mrs. Viana Kaule	Sister in Charge	Gavi Health Centre
Mr. Martin Rodney	Officer in Charge	Wombisa Health Centre
Mr. Johnson Leo	Community Health Worker	Wombisa Health Centre
Mr. Brian Agili	Officer in Charge	Nungwaia Sub Health Centre

Ambunti Drekikier District

Name	Occupation	Institution
Mrs. Dominica Wain	District Health Manager	Ambunti Drekikier District
Mrs. Margret Sause	Officer in Charge	May River Sub Health Centre
Mr. Gerald Waitalo	Community Health Worker	May River Sub Health Centre
Ms. Roselyn Jandu	Officer in Charge	Pathfinder Health Centre
Mr. Yan Suaimbau	Community Health Worker	Pathfinder Health Centre
Mr. Charlie Gasa	Community Health Worker	Pathfinder Health Centre
Mrs. Jennifer Waipeli	Officer in Charge	Ambunti Health Centre
Mr. Ronald Nopra	Community Health Worker	Ambunti Health Centre
Mr. Michael Muri	Health Extension Officer	Drekikier Health Centre
Mr. Godfrid M	Community Health Worker	Drekikier Health Centre
Sr. Benedict	Community Health Worker	Yassip Aid Post
Mr. Kennedy W	Officer in Charge	Yakrumbuk Health Centre
Sr. Ruth	Community Health Worker	Yakrumbuk Health Centre
Mr. Nobert	Officer in Charge	Bongos Community Aid Post
Sr. Christer	Officer in Charge	Brugham Health Centre
Mr. Michael Wantawi	Program Manager	Hauna Health Centre

Mr. Jerry Moutam	Community Health Worker	Hauna Health Centre
Mr. Leon Ibam	Officer in Charge	Mersei Sub Health Centre
Mr. Joseph Jemay	Community Health Worker	Mersei Sub Health Centre
Mrs. Lorna Asabang	Community Health Worker	Mersei Sub Health Centre

RAM would like to specially acknowledge the support received from established and local service providers for logistical support namely: Consort Express Lines for shipping six containers from Lae to Wewak Wharf and were transported by Sepik Coastal Agencies from the wharf to PHA yard. Two containers were stored at PHA yard for Wosera Gawi operations while four were transported by Mali Investment trucking company and stored at Gawi Health Centre yard for Ambunti Drekikier District Operations.

RAM also thanks Riverest Hire Car, Fly Hire Car and all the local hire car owners and boat owners for providing their service for this operation. We would not have reached many communities without the dedication of the drivers and the boat operators. RAM would like to also thank Puma Energy for supplying bulk fuel for the operation.

RAM also thanks all the church run health facilities coordinated under Catholic Church, Seventh Day Adventist Church, Sepik Christian Ministry Church, South Seas Evangelical Mission 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 East Sepik, 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).

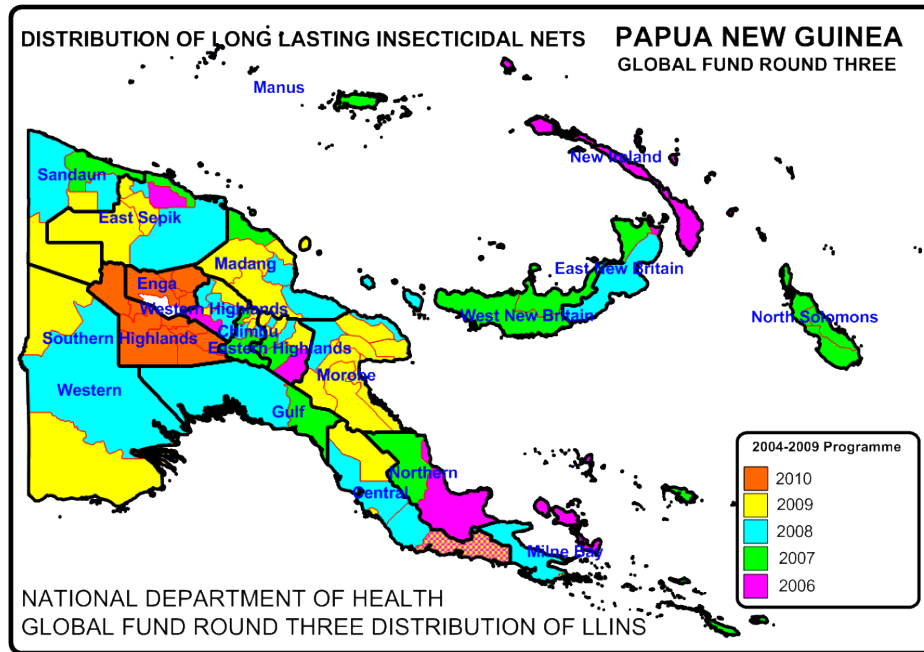


Fig. 1 Distribution Of Nets Under National Department Of Health From 2006 To 2010

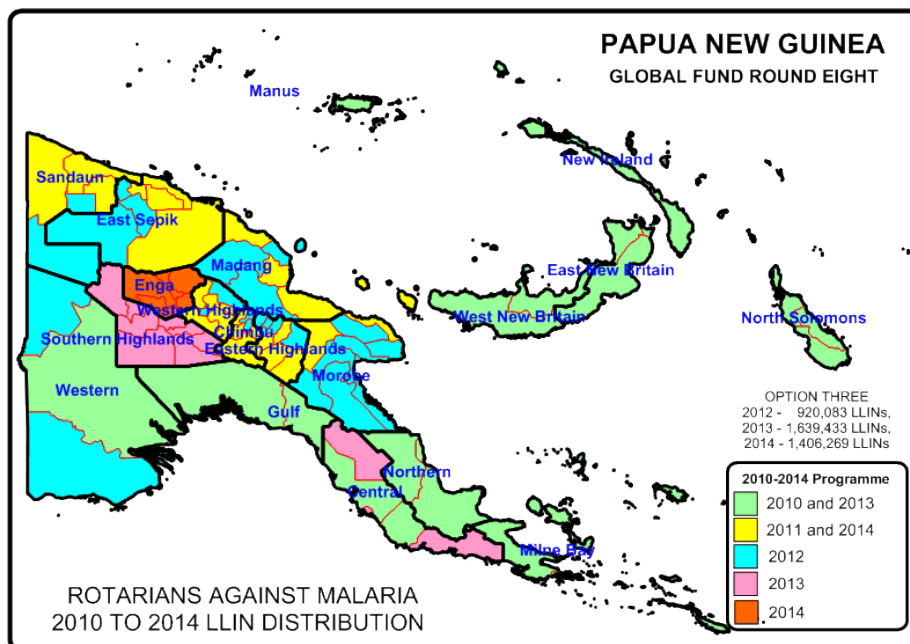


Fig.2 Distribution of LLIN Programme 2010 to 2014

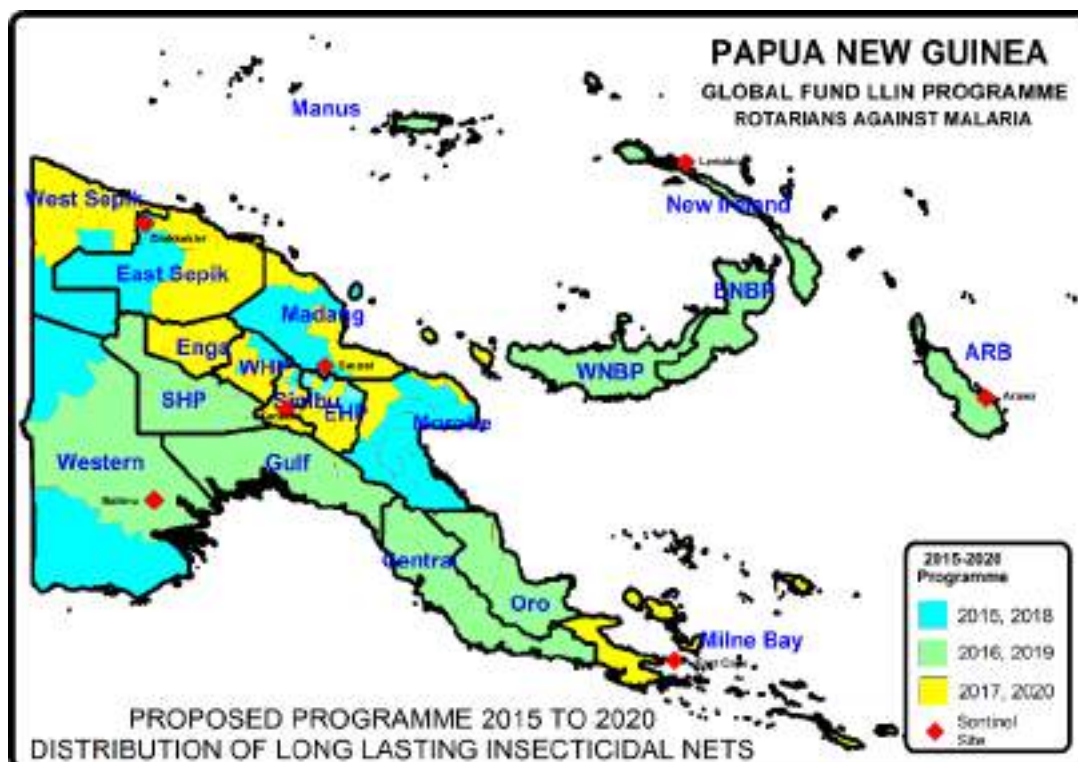


Fig.3 LLIN Distribution Programme 2015 to 2020

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
Year 11 (2020)	Jan - Dec 2020	28 Districts	13 Provinces	1,495,368
	Jan - Mar 2021	Aitape Lumi, Nuku, Yangoru Saussi, Maprik, Angoram, Mount Hagen, Del, Jimi	Sandaun, East Sepik, Western Highlands, Jiwaka,	232,042
	Apr - Jun 2021	Yangoru Saussi, Jimi, Gumine, Kundlaw a Gembogl, Sinasina, Yongomugl, Asaro, Kainantu and Ungai Benna	Jimi, Chimbu, EHP	377,865
	Jul - Sep 2021	Bulolo, Menyamya, Lae, Finschafen, Naw aeb, Huon Gulf, Kabw um, Usino, Bundi, Karkar, Wosera Gaw i	Morobe, Madang, East Sepik	426,413
	Oct - Dec 2021	Middle Ramu, Ambunti Drekkiekier	Madang, East Sepik	265,136
New Funding Model (2015-2021)				8,557,637
Round Eight (2010 - 2014)				5,763,107
Overall Total Phase One and Phase Two And NFM				14,320,744

Appendix Two – Malaria In East Sepik 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 East Sepik, it can be seen from Fig.1 that malaria decreased from 2007 to 2015 by 67% which is similar to most of the coastal areas on the north coast of PNG. In Fig.2, in 2020 it can also be seen that in East Sepik the malaria incidence is 326 per 1000 which is one of the highest incidences of malaria in the coastal provinces of PNG together with West Sepik, Manus and New Ireland. Fig. 3 and Fig.4 show the malaria incidence by year with Fig.4 showing malaria incidence compared with net distributions. It can be noted that before 2016, LLIN distributions caused malaria incidence to go down while after 2015 malaria has continued to increase even after LLIN distributions. This is believed to be because nets distribution after 2013 were not as good as those distributed before 2013 and that nets after 2013 were potentially substandard. However, nets distributed in 2020 appear to have had an impact and these were a brand known as Royal Sentry.

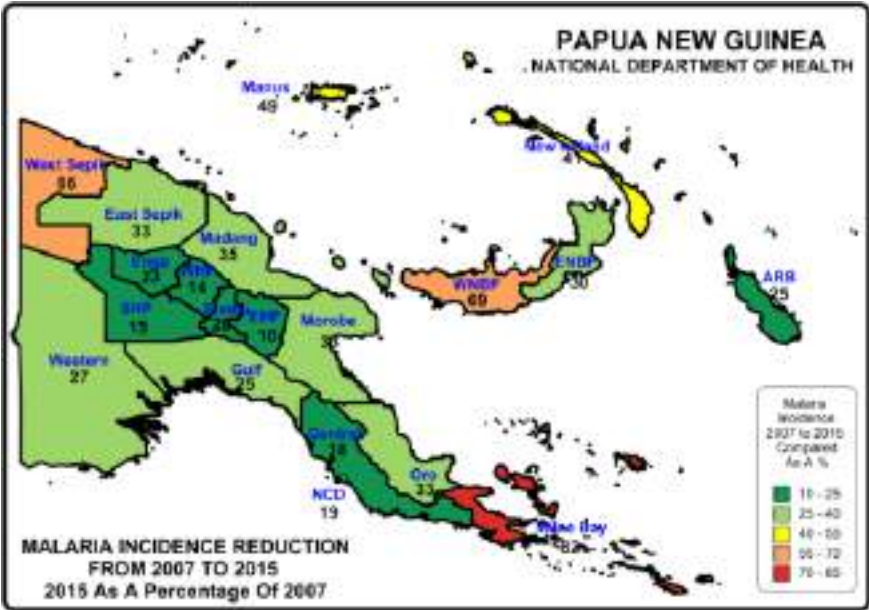


Fig.1 – Relative Reduction Of Malaria In Provinces Of PNG

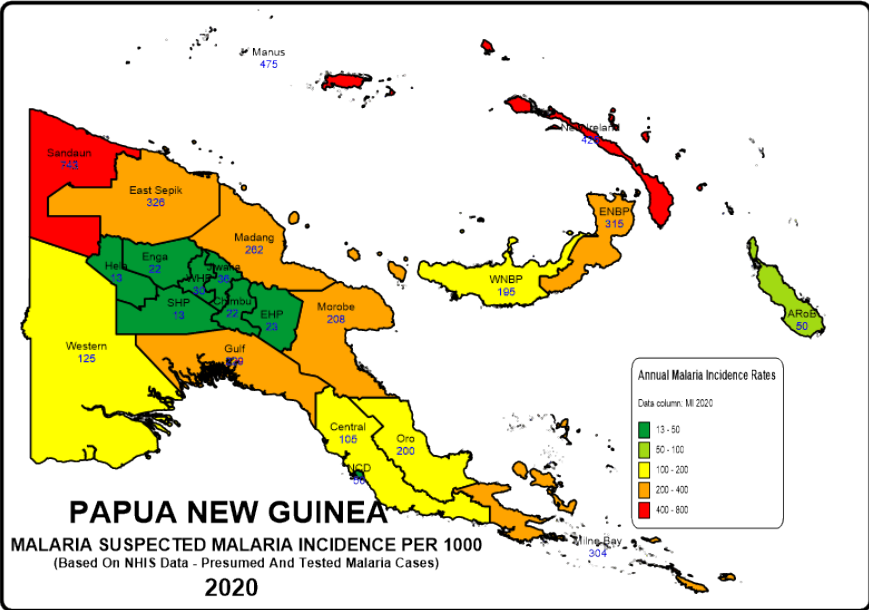


Fig.2 – Reported Malaria Incidence In 2020

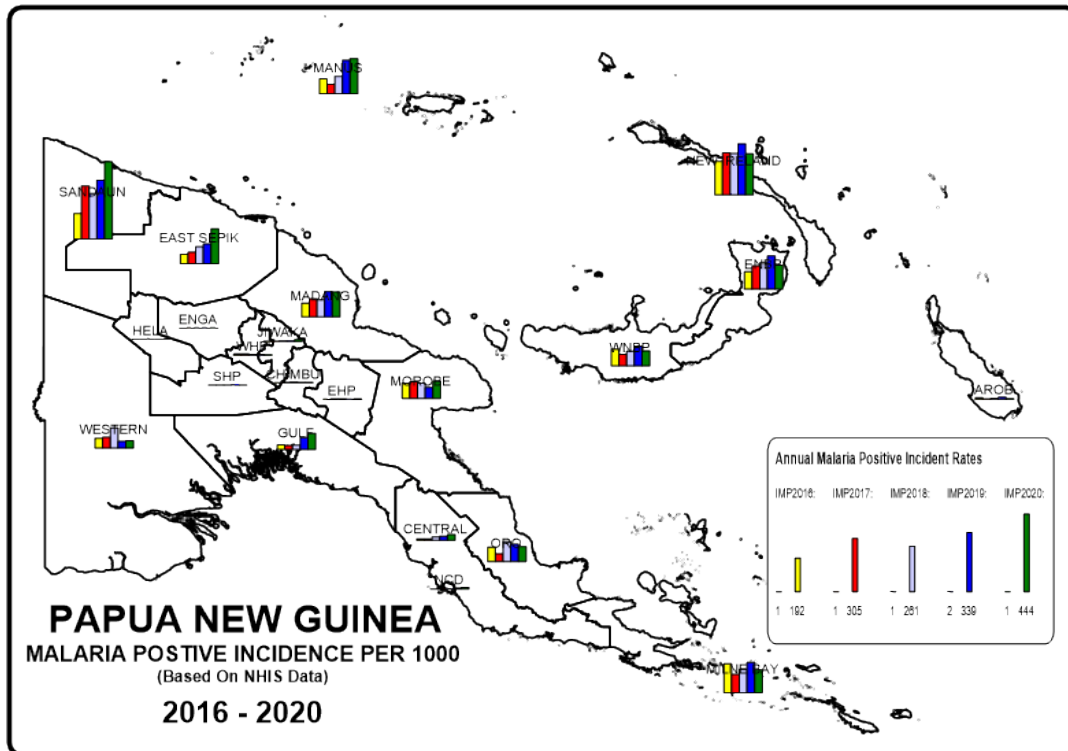


Fig. 3 - Reported Malaria Incidence In PNG From 2016 To 2020

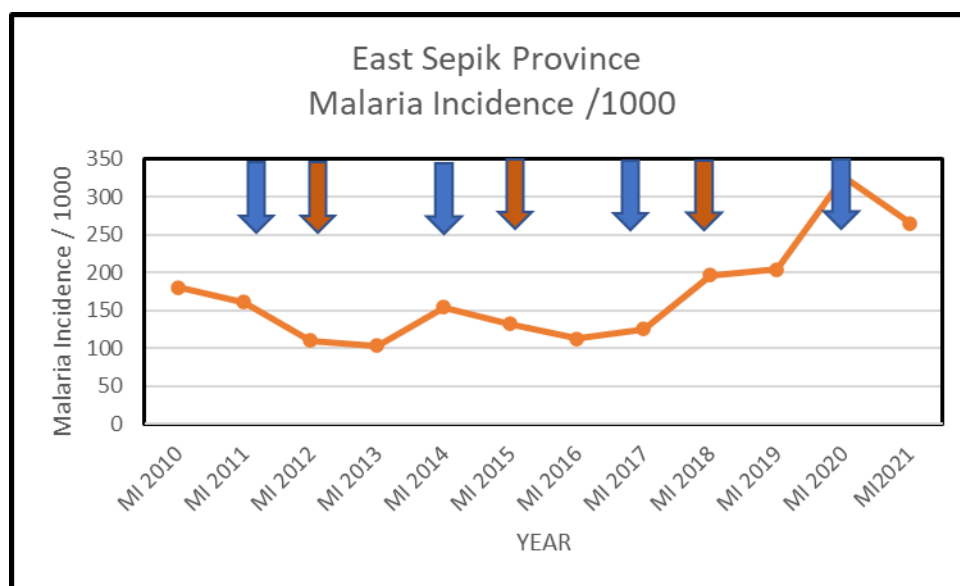


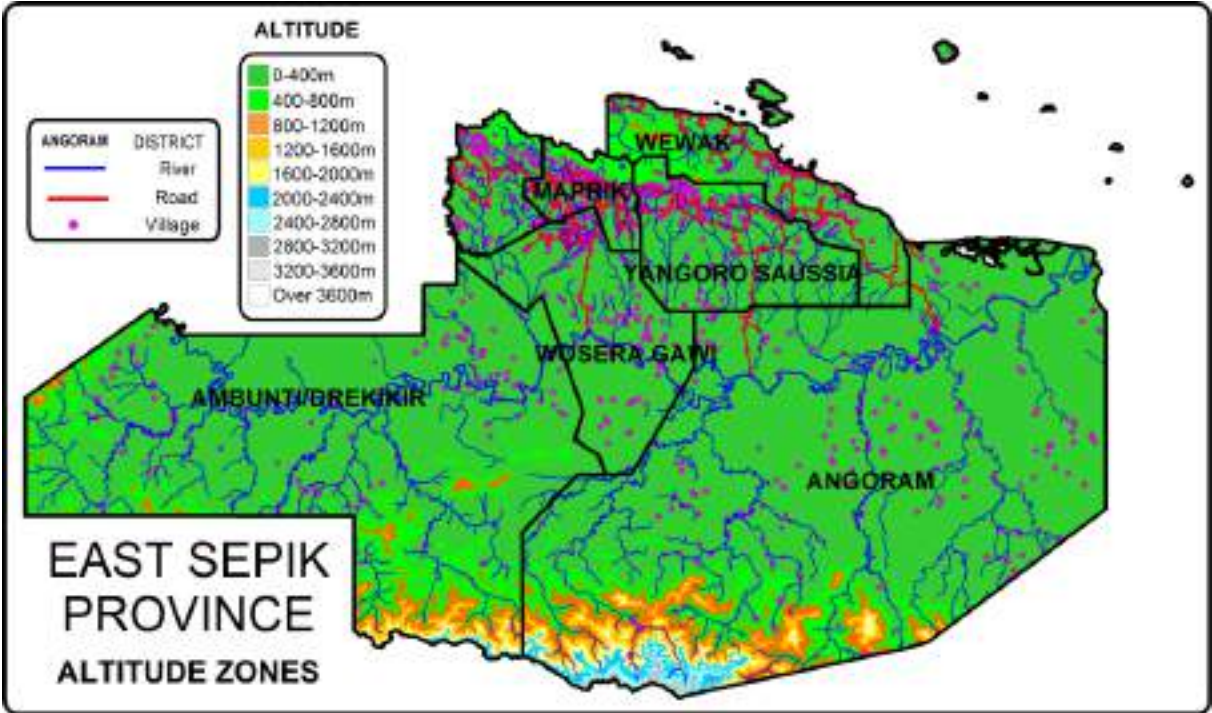
Fig. 4 – Malaria Incidence Versus Distribution Of Nets

Blue arrows represent LLIN distributions done in Angoram, Maprik, Wewak and Yangoru Saussi in 2011 and 2014, 2017 and 2020 and brown arrows represent LLIN distributions in Ambunti Drekiier and Wosera Gawi in 2012, 2015 and 2018

Appendix Three - Malaria By Altitude

East Sepik Province is a coastal province on the north coast of mainland of Papua New Guinea (PNG) through which much of the Sepik River flows. Practically the whole of the population lives in areas of permanent malaria transmission below 1200m, with 95.5% living below 400 metres. Only a very few people (0.2%) live higher areas along the border with Enga Province where malaria might be absent but epidemic in nature.

Fig. 1 Altitude Zones In East Sepik Province



Appendix Four – Other Photographs



Distributions In Pathfinder (Left) And Torembi (Right)



Distributions In Mersei (Left) And Kunjigini (Right)



Distributions Of LLINs In Gawi (Left) And Hauna (Right)



Distributions In Ambunti

OTHER PICTURES



Delivery Of Container To Gawi Health Centre (Left) And Boat Delivery To May River Health Centre (Right)



Loaded Canoe At Ambunti (Left) Moving Through Rivers In Gawi (Right)



Trekkers (Left) And Happy Customers (Right) In Ambunti

Appendix Five - Map Of East Sepik Province Showing Census Points Of 2000 Census



Happy Customers In May River (Left) And Hauna (Right)



Meetings With PHA

ANNEX ONE

EAST SEPIK PROVINCE
AMBUNTI DREKKIER DISTRICT POPULATION 2021
LLIN DISTRIBUTION SUMMARY SHEET

LLG	WARD	VILLAGE	Estimated 2021 Population Based On Census	Estimated 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	Comments
AMBUNTI DREKIKIER			99,302	99,302		102,089	18,659	50,831		307	196	1	6,089	202	
AMBUNTI RURAL			28,941	28,014		26,933	4,859	13,897		80	47	0	1,266	50	
1	ABUNTI URBAN		328	417		483	76	239		2	2	0	59		
		Yakrawai	251	265	Ambunti HC	244	52	121	07.12.21	1	1	0	50		Boat/Foot
		Bokul/Baipya	77	151	Pathfinder HC	239	24	118	02.12.21	1	1	0	9	Karai FM	Boat
2	BANGUS		1,034	944		918	182	471		2	2	0	116		
		Bangus	744	575	Pathfinder HC	559	108	292	29.11.21	1	1	0	38	Karai FM	Boat
		Yelogu	290	369	Ambunti HC	359	74	179	04.12.21	1	1	0	78		1 hr Boat/Trek-10 mins
3	WASKUK		683	576		528	104	278		2	1	0	12		
		Mariwai	332	273	Pathfinder HC	242	47	128	29.11.21	1	0	0	2	Karai FM	Boat
		Waskuk	351	303	Pathfinder HC	286	57	150	29.11.21	1	1	0	10	Karai FM	Boat
4	BAGLAM		1,106	1,213		1,094	208	595		5	1	0	90		
		Baglam	418	390	Mersei HC	373	66	200	08.12.21	1	0	0	41	NBC/FM 95.3	Boat
		Mino	532	544	Mersei HC	518	93	280	08.12.21	1	0	0	47	NBC/FM 95.3	Boat
		Lat	75	69	Mersei HC	51	10	29	08.12.21	1	0	0	0	NBC/FM 95.3	Boat
		Lat 2		144	Pathfinder HC	93	23	50	29.11.21	1	1	0	2	Karai FM	Boat
		Gurka	81	66	Mersei HC	59	16	36	08.12.21	1	0	0	0	NBC/FM 95.3	Boat
5	TONGAJAMB		1,810	1,907		1,864	353	990		8	0	0	108		
		Tongajamb 1	661	515	Mersei HC	512	98	285	04.12.21	1	0	0	9	NBC/FM 95.3	Boat
		Uranbanj	450	423	Mersei HC	431	84	234	04.12.21	1	0	0	28	NBC/FM 95.3	Boat
		Sumbyong 5	39	24	Mersei HC					1					Included Under Amaki 2
		Patektua	72	94	Mersei HC	103	23	52	04.12.21	1	0	0	18	NBC/FM 95.3	Boat/Trek
		Banger	16	48	Mersei HC	90	17	51	04.12.21	1	0	0	1	NBC/FM 95.3	Boat
		Tongajamb 2	276	298	Mersei HC	284	50	145	04.12.21	1	0	0	16	NBC/FM 95.3	Boat
		Tongajamb 3	195	369	Mersei HC	279	54	140	04.12.21	1	0	0	32	NBC/FM 95.3	Boat
		Tongajamb 4	100	135	Mersei HC	165	27	83	04.12.21	1	0	0	4	NBC/FM 95.3	Boat/Trek
6	SINGOIK		995	890		867	170	456		3	0	0	24		
		Kuaka	106	182	Mersei HC	191	35	109	05.12.21	1	0	0	1	NBC/FM 95.3	Trek
		Singiok	640	423	Mersei HC	427	86	227	05.12.21	1	0	0	19	NBC/FM 95.3	Trek
		Haip	249	284	Mersei HC	249	49	120	05.12.21	1	0	0	4	NBC/FM 95.3	Trek
7	AMAKI 1		1,443	1,233		1,213	239	713		4	0	0	29		
		Amaki 1	916	699	Mersei HC	537	98	327	04.12.21	1	0	0	20	NBC/FM 95.3	Boat
		Amaki 2	479	470	Mersei HC	483	98	276	05.12.21	1	0	0	5	NBC/FM 95.3	Boat
		Mersei	48	64	Mersei HC	48	14	30	05.12.21	1	0	0	0	NBC/FM 95.3	Boat - HC Here
		Bispa			Mersei HC	145	29	80	04.12.21	1	0	0	4	NBC/FM 95.3	Boat/Trek
8	ABLATAK		744	753		673	134	398		3	0	0	3		
		Ablatak	523	598	Mersei HC	352	70	220	04.12.21	1	0	0	0	NBC/FM 95.3	Boat/Trek
		Bongiripa	59	64	Mersei HC	120	25	71	04.12.21	1	0	0	1	NBC/FM 95.3	Boat/Trek
		Gautapa	161	91	Mersei HC	201	39	107	04.12.21	1	0	0	2	NBC/FM 95.3	Boat/Trek
9	WAIWOS		1,348	1,316		1,174	192	571		3	0	0	20		
		Waiwos	688	743	Mersei HC	666	112	322	07.12.21	1	0	0	0	NBC/FM 95.3	Trek
		Nagri	522	493	Mersei HC	434	71	213	07.12.21	1	0	0	20	NBC/FM 95.3	Trek
		Sopki	138	80	Mersei HC	74	9	36	07.12.21	1	0	0	0	NBC/FM 95.3	Trek
10	BU -UR		676	855		840	123	399		2	0	0	11		
		Bu-UR	371	437	Mersei HC	426	64	195	07.12.21	1	0	0	2	NBC/FM 95.3	Trek
		Manamei	305	418	Mersei HC	414	59	204	07.12.21	1	0	0	9	NBC/FM 95.3	Trek
11	WARSAI		798	913		861	136	426		1	0	0	33		
		Warsai	798	913	Mersei HC	861	136	426	07.12.21	1	0	0	33	NBC/FM 95.3	Trek
12	AMBUKEN		1,072	1,151		1,006	183	491		3	3	0	33		
		Ambuken	434	496	Ambunti HC	442	84	216	10.12.21	1	1	0	0		Boat/Trek
		Akamau	179	182	Ambunti HC	129	25	64	10.12.21	1	1	0	0		Boat/Trek
		Gumanjui	459	472	Ambunti HC	435	74	211	11.12.21	1	1	0	33		Boat/Trek
13	TAURA		832	912		774	110	384		1	1	0	0		
		Tauri	832	912	Hauna HC	774	110	384	02.12.21	1	1	0	0		Boat
14	OUM 1		936	797		855	136	436		1	1	0	0		
		Oum 1	936	797	Hauna HC	855	136	436	05.12.21	1	1	0	0		Boat
15	OUM 2		751	713		801	121	396		1	1	0	0		
		Oum 2	751	713	Hauna HC	801	121	396	05.12.21	1	1	0	0		Boat
16	SANAPIAN		527	492		510	89	250		2	2	0	79		
		Sanapian	319	307	Hauna HC	317	58	155	03.12.21	1	1	0	51		Boat
		Tukbu	208	185	Hauna HC	193	31	95	03.12.21	1	1	0	28		Boat
17	HAUNA		1,271	1,051		1,021	145	514		1	1	0	0		International Child Mission
		Hauna	1,271	1,051	Hauna HC	1,021	145	514	05.12.21	1	1	0	0		Boat
18	WASKUT		289	317		325	42	159		3	3	0	4		7/8 Hours From Ambunti
		Alakai	127	151	Hauna HC	154	20	74	03.12.21	1	1	0	0		Boat/Trek
		Waskut	77	64	Hauna HC	66	9	32	03.12.21	1	1	0	0		Boat
		Yamenembu	84	102	Hauna HC	105	13	53	03.12.21	1	1	0	4		Boat
19	KUPKIAN		570	494		451	78	217		2	2	0	20		
		Biaga	127	143	Hauna HC	140	22	66	03.12.21	1	1	0	20		Boat
		Kupkian	443	352	Hauna HC	311	56	151	03.12.21	1	1	0	0		Boat
20	SWAGAP 1		710	745		680	123	354		4	3	0	12		
		Kauyambe	212	238	Pathfinder HC	223	37	117	30.11.21	1	1	0	1	Karai FM	Boat
		Swagap 1	255	312	Pathfinder HC	42	8	22	30.11.21	1	1	0	2	Karai FM	Boat
		Swagap 2	65	0	Pathfinder HC	236	46	124	30.11.21	1	1	0	8	Karai FM	Boat/Trek
		Buyau	179	196	Pathfinder HC	179	32	91	30.11.21	1	0	0	1	Karai FM	Boat/Trek
21	BAKU		701	599		621	109	331		2	2	0	8		
		Baku	425	293	Pathfinder HC	345	59	183	30.11.21	1	1	0	3	Karai FM	Boat
		Kumbawe	276	306	Pathfinder HC	276	50	148	30.11.21	1	1	0	5	Karai FM	Boat
22	YESSAN		871	855		810	152	430		2	2	0	24		
		Mayo	281	294	Pathfinder HC	266	49	144	30.11.21	1	1	0	4	KARAI FM	Boat

LLG	WARD	VILLAGE	Estimated 2021 Population Based On Census	Estimated 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	Comments
		Yessan	590	560	Pathfinder HC	544	103	286	30.11.21	1	1	0	20	KARAI FM	Boat
23	PRUGANAWI		436	528		479	94	232		2	2	0	4		
		Pruganawi	353	440	Pathfinder HC	252	49	122	01.12.21	1	1	0	4	KARAI FM	Boat
		Kamanjau	82	88	Pathfinder HC	227	45	110	01.12.21	1	1	0	0	KARAI FM	Boat
24	YAMBUN		1,015	910		925	177	486		2	2	0	7		
		Yambun	918	910	Pathfinder HC	735	142	388	01.12.21	1	1	0	7	KARAI FM	Boat
		Wanjir	97	0	Pathfinder HC	190	35	98	01.12.21	1	1	0	0	KARAI FM	Boat
25	MALU		1,185	1,099		1,035	227	548		2	2	0	180		
		Malu	678	652	Ambunti HC	600	133	322	07.12.21	1	1	0	150		Boat
		Apan	507	447	Pathfinder HC	435	94	226	02.12.21	1	1	0	30	KARAI FM	Boat
26	YERAKAI		774	839		835	189	418		2	2	0	0		
		Yerakai	688	624	Ambunti HC	590	139	300	08.12.21	1	1	0	0		Boat
		Naulagat	86	216	Ambunti HC	245	50	118	08.12.21	1	1	0	0		Boat
27	GARAMAMBU		1,113	1,466		1,329	295	656		3	1	0	78		
		Nawe	362	482	Ambunti HC	435	95	193	08.12.21	1	1	0	78		Boat
		Walpian	344	451	Ambunti HC	406	81	200	06.12.21	1	0	0	0		Boat
		Banakiot	407	533	Ambunti HC	488	119	263	06.12.21	1	0	0	0		Boat
28	YAUAMBAK		506	308		249	56	146		2	1	0	51		
		Yauambak	464	147	Ambunti HC	249	56	146	09.12.21	1	1	0	51		Boat
		Namatip	41	161	Ambunti HC					1					Included Under Avatip
29	AVATIP		1,714	1,449		1,546	234	789		1	1	0	44		
		Avatip	1,714	1,449	Ambunti HC	1,546	234	789	09.12.21	1	1	0	44		Boat
30	AMBUNTI URBAN		2,705	2,272		2,166	382	1,124		9	9	0	217		
		Ambunti 1	622	230	Ambunti HC	235	48	111	07.12.21	1	1	0	20		Boat
		Ambunti Health Cent	315	0	Ambunti HC	47	7	27	07.12.21	1	1	0	7		Boat
		Barsis Camp	602	329	Ambunti HC	526	108	279	07.12.21	1	1	0	109		Boat
		Old Town	482	220	Pathfinder HC	197	27	102	02.12.21	1	1	0	11	KARAI FM	Boat
		Bangus Settlement	351	177	Pathfinder HC	204	45	110	02.12.21	1	1	0	11	KARAI FM	Boat
		Saksak Compound		303	Pathfinder HC	362	65	193	02.12.21	1	1	0	0	KARAI FM	Boat
		Ambunti Akademi	332	569	Ambunti HC	173	34	92	07.12.21	1	1	0	50		Boat
		High School/Bapiya		280	Pathfinder HC	219	19	106	02.12.21	1	1	0	4	KARAI FM	Boat
		Waskuk Camp		164	Pathfinder HC	203	29	104	02.12.21	1	1	0	5	KARAI FM	Boat
		DREKIKIER RURAL	33,895	34,755		34,972	7,173	17,313		112	106	1	3,433	109	
1	TUMAM		1,386	1,307		1,247	285	648		4	4	0	74		
		Musingwik	410	356	Drekikier HC	355	79	188	26.11.21	1	1	0	60	NBC	Road
		Nyambolei	350	368	Drekikier HC	354	77	184	26.11.21	1	1	0	5	NBC	Road
		Tumam	522	432	Drekikier HC	361	87	187	26.11.21	1	1	0	9	NBC	Road
		Moihur	104	150	Drekikier HC	177	42	89	26.11.21	1	1	0	0	NBC	Road
2	MOIHWAK		981	994		893	192	436		4	4	0	16		
		Moihwak	332	353	Drekikier HC	286	61	136	25.11.21	1	1	0	0	NBC	Road
		Musilo no. 1	131	133	Drekikier HC	242	50	121	25.11.21	1	1	0	8	NBC	Road
		Yermuwain	224	226	Drekikier HC	227	50	111	25.11.21	1	1	0	6	NBC	Road
		Musilo no. 2	294	283	Drekikier HC	138	31	68	25.11.21	1	1	0	2	NBC	Road
3	MUSUNGUA		1,187	1,243		1,243	294	644		3	3	0	29		
		Moilenge	217	237	Drekikier HC	288	66	146	25.11.21	1	1	0	18	NBC	Road
		Musungua	396	350	Drekikier HC	388	69	194	25.11.21	1	1	0	0	NBC	Road
		Nanaha	574	656	Drekikier HC	567	159	304	25.11.21	1	1	0	11	NBC	Road
4	TAIHUNGE		1,196	1,224		1,220	283	618		3	3	0	136		
		Taihunge	337	313	Drekikier HC	336	87	175	25.11.21	1	1	0	27	NBC	Road
		Musiblem	468	492	Drekikier HC	493	115	251	25.11.21	1	1	0	28	NBC	Road
		Drekikier Station	391	419	Drekikier HC	391	81	192	25.11.21	1	1	0	81	NBC	Road
5	MUSINAU		717	803		907	235	490		2	2	0	0		
		Musinau	389	464	Drekikier HC	618	135	331	26.11.21	1	1	0	0	NBC	Road
		Namaisum	328	338	Drekikier HC	289	100	159	26.11.21	1	1	0	0	NBC	Road
6	PROMBIL		816	831		819	153	405		3	3	0	45		
		Prombil	464	357	Drekikier HC	338	65	166	26.11.21	1	1	0	31	NBC	Road/3 Hr Trek
		Moireng	84	193	Drekikier HC	191	38	93	26.11.21	1	1	0	2	NBC	Road/3 Hr Trek
		Nasalem	267	281	Drekikier HC	290	50	146	26.11.21	1	1	0	12	NBC	Road/3 Hr Trek
7	MISSION		916	1,029		1,084	247	551		4	4	0	57		
		Asiling	170	159	Drekikier HC	208	44	104	26.11.21	1	1	0	5	NBC	Road/2 Hr Trek
		Mission	355	314	Drekikier HC	324	78	167	26.11.21	1	1	0	31	NBC	Road/2 Hr Trek
		Somasai	233	292	Drekikier HC	365	81	183	26.11.21	1	1	0	16	NBC	Road/2 Hr Trek
		Nahlemduwai	158	264	Drekikier HC	187	44	97	26.11.21	1	1	0	5	NBC	Road/2 Hr Trek
8	PELNANDU		1,287	1,412		1,556	319	792		3	2	0	61		
		Emul	699	805	Drekikier HC	976	194	508	26.11.21	1	1	0	25	NBC	Road
		Pelhandu	556	563	Drekikier HC	580	125	284	26.11.21	1	1	0	36	NBC	Road
		Mahli School	32	44	Drekikier HC					1					Included Under Pelhandu
9	MUSENDAI		1,425	1,288		1,152	299	583		2	2	0	2,767		
		Musendai 1	791	741	Drekikier HC	661	149	336	08.11.21	1	1	0	2,762	NBC	Road
		Musendai 2	635	547	Drekikier HC	491	150	247	08.11.21	1	1	0	5	NBC	Road
10	BANA		1,167	1,253		1,151	232	560		2	2	0	15		
		Bana	737	641	Drekikier HC	598	126	293	30.11.21	1	1	0	0	NBC	Road
		Wereli	430	611	Drekikier HC	553	106	267	30.11.21	1	1	0	15	NBC	Road
11	HAMBINI		1,361	1,173		1,407	238	684		4	4	0	37		
		Hambini 1	660	552	Drekikier HC	600	89	292	06.12.21	1	1	0	1	NBC	Road/2 Hr Trek
		Hambini 2	434	319	Drekikier HC	372	71	176	06.12.21	1	1	0	21	NBC	Road/2 Hr Trek
		Hambini 3	244	176	Drekikier HC	158	33	79	06.12.21	1	1	0	2	NBC	Road/2 Hr Trek
		Hambini Sch	23	126	Drekikier HC	277	45	137	06.12.21	1	1	0	13	NBC	Road/2 Hr Trek
12	WAINGAME		1,687	1,610		1,660	341	817		3	3	0	50		
		Waringame 2	791	597	Drekikier HC	638	125	306	30.11.21	1	1	0	1	NBC	Road
		Waringame 1	823	849	Drekikier HC	838	193	424	30.11.21	1	1	0	48	NBC	Road
		Aresili Station	73	164	Drekikier HC	184	23	87	30.11.21	1	1	0	1	NBC	Road
13	SELNI		2,130	1,950		2,292	393	1,075		2	2	0	20		
		Selnau	905	971	Drekikier HC	1,146	194	530	01.12.21	1	1	0	0	NBC	Road/3-4 Hr Trek
		Selni	1,224	979	Drekikier HC	1,146	199	545	01.12.21	1	1	0	20	NBC	Road/3-4 Hr Trek

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14	ARESILI		1,300	1,507		1,376	275	667		3	3	0	7		
		Aresili	767	987	Drekikier HC	823	168	406	30.11.21	1	1	0	7	NBC	Road/Trek
		Bengil	229	248	Drekikier HC	283	50	128	30.11.21	1	1	0	0	NBC	Road/Trek
		Tumambe	303	272	Drekikier HC	270	57	133	30.11.21	1	1	0	0	NBC	Road/Trek
15	WHALENG		1,197	1,474		1,394	258	657		4	4	0	51		
		Sahik	289	392	Drekikier HC	346	63	161	08.12.21	1	1	0	2	NBC	Road/4 Hr Trek
		Sumul	344	356	Drekikier HC	434	83	205	08.12.21	1	1	0	39	NBC	Road/4 Hr Trek
		Whaleng	419	501	Drekikier HC	501	94	240	08.12.21	1	1	0	8	NBC	Road/4 Hr Trek
		Yasum	145	224	Drekikier HC	113	18	51	08.12.21	1	1	0	2	NBC	Road/4 Hr Trek
16	YAVATONG		2,117	2,303		2,159	403	1,079		6	6	0	0		
		Albulum	674	732	Drekikier HC	737	138	373	26.11.21	1	1	0	0	NBC	Road
		Kilmangleng	550	577	Drekikier HC	506	100	255	26.11.21	1	1	0	0	NBC	Road
		Wingamon	199	213	Drekikier HC	190	33	95	26.11.21	1	1	0	0	NBC	Road
		Yavatong	500	586	Drekikier HC	508	89	251	26.11.21	1	1	0	0	NBC	Road
		Mangualm	170	119	Drekikier HC	152	31	72	26.11.21	1	1	0	0	NBC	Road
		Yavatong Com.Sch	23	75	Drekikier HC	66	12	33	26.11.21	1	1	0	0	NBC	Road
17	LAINING - WAP		1,518	1,152		1,259	241	633		4	4	0	0		
		Laining-Wap 2	1,124	371	Yakrumbok HC	432	91	215	16.11.21	1	1	0	0	NBC	Road/4 Hr Trek
		Mimbok	215	243	Yakrumbok HC	137	20	69	16.11.21	1	1	0	0	NBC	Road/4 Hr Trek
		Piplangim	179	116	Yakrumbok HC	300	49	150	16.11.21	1	1	0	0	NBC	Road/4 Hr Trek
		Laining-Wap 1		421	Yakrumbok HC	390	81	199	16.11.21	1	1	0	0	NBC	Road/4 Hr Trek
18	KRUNGAM		696	741		809	154	386		2	2	0	5		
		Krungnam	384	401	Yakrumbok HC	344	67	164	23.11.21	1	1	0	5	NBC	Road/3 Hr Trek
		Pineng	312	339	Yakrumbok HC	465	87	222	23.11.21	1	1	0	0	NBC	Road/3 Hr Trek
19	YAKRUMBOK		1,411	1,304		1,293	302	649		4	3	0	0		
		Yakrumbok 1	378	411	Yakrumbok HC	526	131	272	04.12.21	1	1	0	0	NBC	Road
		Yakrumbok 2	644	484	Yakrumbok HC	422	91	203	15.11.21	1	1	0	0	NBC	Road
		Amaring	301	409	Yakrumbok HC	345	80	174	15.11.21	1	1	0	0	NBC	Road
		Yakrumbok c/s&s mi	88	0	Yakrumbok HC					1				NBC	Included Under Yakrumbok 1
20	KING		307	461		548	105	268		2	2	0	0		
		King	269	328	Drekikier HC	468	89	228	27.11.21	1	1	0	0	NBC	Road
		Mup	38	133	Drekikier HC	80	16	40	27.11.21	1	1	0	0	NBC	Road
21	KOFEM		629	624		637	119	307		6	5	1	0		
		Kofem	165	122	Drekikier HC	102	18	51	27.11.21	1	1	1	0	NBC	Road/4 Hr Trek
		Komala	136	168	Drekikier HC	172	33	81	27.11.21	1	1	0	0	NBC	Road/4 Hr Trek
		Yakumbum	104	81	Drekikier HC	90	20	45	27.11.21	1	1	0	0	NBC	Road/4 Hr Trek
		Kulifi	104	106	Drekikier HC	153	26	69	27.11.21	1	1	0	0	NBC	Road/4 Hr Trek
		Dato	109	73	Drekikier HC	120	22	61	27.11.21	1	1	0	0	NBC	Road/4 Hr Trek
		Sembeuip Comm.Sc	11	74	Drekikier HC					1				NBC	Included Under Dato
22	SAKAP		821	828		833	148	424		5	5	0	0		
		Chermel	163	239	Drekikier HC	241	32	118	26.11.21	1	1	0	0	NBC	Road/3 Hr Trek
		Sambo	283	250	Drekikier HC	226	47	127	26.11.21	1	1	0	0	NBC	Road/3 Hr Trek
		Sakap	208	214	Drekikier HC	183	31	87	26.11.21	1	1	0	0	NBC	Road/3 Hr Trek
		Yanienbo	117	77	Drekikier HC	127	29	65	26.11.21	1	1	0	0	NBC	Road/3 Hr Trek
		Ssec Kungur	50	48	Drekikier HC	56	9	27	26.11.21	1	1	0	0	NBC	Road/3 Hr Trek
23	MAKUMAUIP		812	1,016		1,004	182	497		6	6	0	0		
		Nialu	84	164	Drekikier HC	71	17	33	25.11.21	1	1	0	0	NBC	Road/1 Day Trek
		Niumatil	82	128	Drekikier HC	249	39	126	25.11.21	1	1	0	0	NBC	Road/1 Day Trek
		Makumauiip	188	263	Drekikier HC	222	50	113	25.11.21	1	1	0	0	NBC	Road/1 Day Trek
		Sangaen 1&2	176	171	Drekikier HC	187	37	89	25.11.21	1	1	0	0	NBC	Road/1 Day Trek
		Wundawin	145	135	Drekikier HC	122	13	59	25.11.21	1	1	0	0	NBC	Road/1 Day Trek
		Muasam	136	155	Drekikier HC	153	26	77	25.11.21	1	1	0	0	NBC	Road/1 Day Trek
24	TONG		699	724		880	186	421		4	3	0	5		
		Tong	281	328	Drekikier HC	458	100	216	25.11.21	1	1	0	0	NBC	Road/1 Day Trek
		Yetnibum 1	179	30	Drekikier HC	182	35	90	25.11.21	1	1	0	3	NBC	Road/1 Day Trek
		Yetnibum 2	127	366	Drekikier HC	240	51	115	25.11.21	1	1	0	2	NBC	Road/1 Day Trek
		Yasomboriek	111	0	Drekikier HC					1					Included Under Yetnibum
25	KUMBUM		893	976		974	220	466		9	7	0	5		
		Kumbun	38	55	Drekikier HC	96	27	46	26.11.21	1	0	0	0	NBC	Road/1 Day Trek
		Yakio	118	81	Drekikier HC	131	25	63	26.11.21	1	1	0	0	NBC	Road/1 Day Trek
		Yasile	75	145	Drekikier HC	144	31	69	26.11.21	1	1	0	0	NBC	Road/1 Day Trek
		Sapmirek	66	0	Drekikier HC	61	14	30	26.11.21	1	1	0	0	NBC	Road/1 Day Trek
		Kualen	63	53	Drekikier HC					1					Included Under Samirek
		Yasgnu	190	167	Drekikier HC	145	31	69	26.11.21	1	1	0	0	NBC	Road/1 Day Trek
		Yatangoup	113	105	Drekikier HC	109	26	55	26.11.21	1	1	0	5	NBC	Road/1 Day Trek
		Yakulim	208	231	Drekikier HC	195	43	86	26.11.21	1	1	0	0	NBC	Road/1 Day Trek
		Yasip M/Station	22	139	Drekikier HC	93	23	48	26.11.21	1	1	0	0	NBC	Road/1 Day Trek
26	MIRINGI		703	647		690	135	344		5	5	0	8		
		Miringi	195	199	Drekikier HC	200	36	98	25.11.21	1	1	0	7	NBC	Road/4 Hr Trek
		Muyem	163	212	Drekikier HC	109	20	55	25.11.21	1	1	0	0	NBC	Road/4 Hr Trek
		Samak	129	134	Drekikier HC	145	32	73	25.11.21	1	1	0	0	NBC	Road/4 Hr Trek
		Satniam	86	0	Drekikier HC	82	17	44	25.11.21	1	1	0	0	NBC	Road/4 Hr Trek
		Sauwurk	129	102	Drekikier HC	154	30	74	25.11.21	1	1	0	1	NBC	Road/4 Hr Trek
27	YAUWERNG		751	863		782	162	399		4	4	0	0		
		Ben	186	250	Drekikier HC	213	43	112	24.11.21	1	1	0	0	NBC	Road
		Yalangel	125	155	Drekikier HC	152	35	77	24.11.21	1	1	0	0	NBC	Road
		Yaurang	350	307	Drekikier HC	331	64	167	24.11.21	1	1	0	0	NBC	Road
		Sumbuk	90	151	Drekikier HC	86	20	43	24.11.21	1	1	0	0	NBC	Road
28	YAMBES		880	857		879	157	438		1	1	0	38		
		Yambes 1,2 & 3	880	857	Drekikier HC	879	157	438	24.11.21	1	1	0	38	NBC	Road/3 Hr Trek
29	WIAM		500	649		497	103	248		5	5	0	7		
		Ringin	160	137	Yakrumbok HC	131	30	66	24.11.21	1	1	0	1	NBC	Road/3 Hr Trek
		Soaief	86	122	Yakrumbok HC	98	18	49	24.11.21	1	1	0	3	NBC	Road/3 Hr Trek
		Waim	145	166	Yakrumbok HC	165	33	83	24.11.21	1	1	0	1	NBC	Road/3 Hr Trek
		Yassim	47	155	Yakrumbok HC	47	9	22	24.11.21	1	1	0	1	NBC	Road/3 Hr Trek
		Beimbolo	63	70	Yakrumbok HC	56	13	28	24.11.21	1	1	0	1	NBC	Road/3 Hr Trek

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30	MOSENG		740	682		632	159	310		1	1	0	0		
		Moseng	740	682	Drekikier HC	632	159	310	12.11.21	1	1	0	0	NBC	Road/3 Hr Trek
31	PAGILO		966	1,033		855	164	405		1	1	0	0		
		Pagilo	966	1,033	Drekikier HC	855	164	405	12.11.21	1	1	0	0	NBC	Road/Trek
32	LUAITE		703	800		840	189	412		1	1	0	0		
		Luaité 1&2	703	800	Drekikier HC	840	189	412	27.11.21	1	1	0	0	NBC	Road
				0											
GWANGA RURAL			20,258	19,799		22,619	3,712	10,980		32	30	0	1,152	30	
1	APANGAI		1,215	1,010		1,225	250	580		2	2	0	28		
		Apangai	1,074	757	Drekikier HC2	979	200	469	08.11.21	1	1	0	28	NBC	Surveyed from Brugham in Maprik
		Asakapwa	142	253	Drekikier HC2	246	50	111	08.11.21	1	1	0	0	NBC	Road/4 Hr Trek
2	YUMBANAKOR 1		943	895		864	204	412		3	3	0	147		
		Yumbanako 1	532	780	Drekikier HC2	479	103	230	08.11.21	1	1	0	92	NBC	Road
		Humukwa	385	53	Drekikier HC2	309	80	144	08.11.21	1	1	0	34	NBC	Road
		Yumbanako C/Sch	25	62	Drekikier HC2	76	21	38	08.11.21	1	1	0	21	NBC	Road
3	YUMBANAKOR 2		722	753		722	164	359		2	2	0	40		
		Yumbanako 2	575	552	Drekikier HC2	518	119	259	08.11.21	1	1	0	37	NBC	Road
		Auha	147	201	Drekikier HC2	204	45	100	08.11.21	1	1	0	3	NBC	Road
4	ASANAKOR		896	813		732	168	348		1	1	0	111		
		Asanakor	896	813	Drekikier HC2	732	168	348	08.11.21	1	1	0	111	NBC	Road/2 Hr Trek
5	INAKOR		1,120	1,067		935	206	441		1	1	0	162		
		Inakor	1,120	1,067	Drekikier HC2	935	206	441	08.11.21	1	1	0	162	NBC	Road
6	APOS		730	757		649	152	302		1	1	0	91		
		Apos	730	757	Drekikier HC2	649	152	302	08.11.21	1	1	0	91	NBC	Road/3 Hr Trek
7	DAINA		601	439		554	142	263		1	1	0	18		
		Daina	601	439	Drekikier HC2	554	142	263	26.10.21	1	1	0	18	NBC	Road/1 Day Trek
8	MASALAGA		1,092	941		969	232	473		3	1	0	67		
		Abegu	398	316	Drekikier HC2					1					Road/1 Day Trek
		Masalagar	661	553	Drekikier HC2	969	232	473	27.10.21	1	1	0	67	NBC	3.5 hours Road
		Gawana Base Camp	32	72	Drekikier HC2					1					Road/1 Day Trek
9	WASAMBU		654	735		852	111	419		1	1	0	40		
		Wasambu	654	735	Drekikier HC2	852	111	419	29.11.21	1	1	0	40	NBC	Road/1 Day Trek
10	BONGOMASI		1,015	868		1,673	122	793		1	1	0	0		
		Bongomasi	1,015	868	Yakrumbok HC2	1,673	122	793	28.11.21	1	1	0	0	NBC	3 Day Trek
11	WAHAUKIA		1,145	1,003		992	126	493		1	1	0	0		
		Wahaukia	1,145	1,003	Drekikier HC2	992	126	493	29.11.21	1	1	0		NBC	Road/3 Hr Trek
12	BONGOS		1,662	1,728		1,847	176	893		1	1	0	325		
		Bongos	1,662	1,728	Drekikier HC2	1,847	176	893	28.11.21	1	1	0	325	NBC	Road/2 Day Trek
13	KUYOR		807	1,087		963	200	495		2	2	0	23		
		Kuyo	559	807	Drekikier HC2	750	150	378	28.11.21	1	1	0	22	NBC	Road/2 Day Trek
		Werso	247	280	Drekikier HC2	213	50	117	28.11.21	1	1	0	1	NBC	Road/3 Day Trek
14	KUATENGISI		1,384	1,017		1,563	200	777		1	1	0	0		
		Kuatengisi	1,384	1,017	Drekikier HC2	1,563	200	777	28.11.21	1	1	0	0	NBC	Road/1 Day Trek
15	MAMSI		1,418	1,799		1,357	100	651		1	1	0	13		
		Mamsi	1,418	1,799	Drekikier HC2	1,357	100	651	28.11.21	1	1	0	13	NBC	1 Day Trek
16	KUBRIWAT 1		1,178	1,266		1,221	231	584		1	1	0	3		
		Kubriwat 1	1,178	1,266	Yakrumbok HC2	1,221	231	584	06.12.21	1	1	0	3	NBC	Road/Trek
17	KUBRIWAT 2		798	711		698	139	348		1	1	0	11		
		Kubriwat 2	798	711	Yakrumbok HC2	698	139	348	05.12.21	1	1	0	11	NBC	Trek
18	TAU 1		920	888		891	167	441		1	1	0	0		
		Tau 1	920	888	Drekikier HC2	891	167	441	05.12.21	1	1	0	0	NBC	Road
19	TAU 2		1,153	1,143		1,304	245	629		2	2	0	39		
		Tau 2	1,088	1,029	Drekikier HC2	1,037	196	501	06.12.21	1	1	0	20	NBC	Road
		Drekikier High Sch	65	114	Drekikier HC2	267	49	128	06.12.21	1	1	0	19	NBC	Road
20	WAMENOKOR		807	880		924	177	455		3	3	0	33		
		Ombubu	140	133	Drekikier HC2	119	29	62	05.12.21	1	1	0	0	NBC	Road
		Sumbutenge	226	227	Drekikier HC2	261	59	123	08.11.21	1	1	0	33	NBC	
		Wamenokor	441	521	Drekikier HC2	544	89	270	05.12.21	1	1	0	0	NBC	Road
21	UJELESAUKE					1,153	150	563		1	1	0	0		
		Ujulesauke	NEW	NEW	Drekikier HC2	1,153	150	563	28.11.21	1	1	0	0	NBC	Trek
22	SERMBROMBO					531	50	261		1	1	0	1		
		Sermbrombo	NEW	NEW	Drekikier HC2	531	50	261	28.11.21	1	1	0	1	NBC	Trek
				0											
TUNAP \ HUSTEIN			16,208	16,735		17,565	2,915	8,641	0	83	13	0	238	13	
1	HOTMIN		532	565		508	79	250		2	0	0	0		
		Usalimin	109	227	May River SHC	210	31	107	29.11.21	1	0	0	0		Boat
		Hotmin	423	338	May River SHC	298	48	143	29.11.21	1	0	0	0		Boat
2	BURMAI		353	523		428	57	208		3	0	0	0		
		Burmai	140	0	May River SHC					1					Included Under 2Wayap
		Yuatri	185	220	May River SHC	154	13	74	29.11.21	1	0	0	0		Boat
		Burmai 2/Wayap	29	303	May River SHC	274	44	134	29.11.21	1	0	0	0		Boat
3	ARAI		520	712		728	111	359		2	0	0	0		
		Arai	262	408	May River SHC	414	63	208	29.11.21	1	0	0	0		Boat
		Mami	258	304	May River SHC	314	48	151	29.11.21	1	0	0	0		Boat
4	NIMO		755	766		908	171	440		6	0	0	0		
		Sari	106	129	May River SHC	197	45	95	05.12.21	1	0	0	0		Boat
		Drupas	145	188	May River SHC	227	38	110	05.12.21	1	0	0	0		Boat
		Nakui	228	170	May River SHC	224	38	109	05.12.21	1	0	0	0		Boat
		Nimo	90	104	May River SHC	118	20	57	03.12.21	1	0	0	0		Boat
		Wasuai	134	153	May River SHC	142	30	69	05.12.21	1	0	0	0		Boat
		Pisuru	52	22	May River SHC					1					Included Under Drupas
5	ITELINU		255	143		204	40	104		1	0	0	0		
		Itelinu	255	143	May River SHC	204	40	104	05.12.21	1	0	0	0		Boat
6	SAMO		423	500		520	81	260		2	0	0	0		
		Oromo	25	0	May River SHC										Non Existant
		Inagri	120	178	May River SHC	156	32	78	01.12.21	1	0	0	0		Boat

LLG	WARD	VILLAGE	Estimated 2021 Population Based On Census	Estimated 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	Comments
		Samo	278	322	May River SHC	364	49	182	01.12.21	1	0	0	0		Boat
7	PAINUM		694	698		679	97	329		3	0	0	0		
		Auni	197	250	May River SHC	269	42	130	29.11.21	1	0	0	0		Boat
		Yapram	308	214	May River SHC	212	33	104	30.11.21	1	0	0	0		Boat
		Painum	188	233	May River SHC	198	22	95	30.11.21	1	0	0	0		Boat
8	WANIUM		618	551		560	80	273		3	0	0	0		
		Aham	97	144	May River SHC	150	27	76	01.12.21	1	0	0	0		Boat
		Owiyo	30	0	May River SHC										Non Existant
		Wanium	319	305	May River SHC	301	34	145	03.12.21	1	0	0	0		Boat
		Iyie	172	102	May River SHC	109	19	52	01.12.21	1	0	0	0		Boat
9	AUMI		753	706		828	124	402		4	0	0	0		
		Aumi 2	127	0	May River SHC					1					Included Under Aumi 1
		Aumi	351	469	May River SHC	595	84	287	05.12.21	1	0	0	0		Boat
		Ibu 1	186	123	May River SHC	147	28	74	03.12.21	1	0	0	0		Boat
		Meni	70	0	May River SHC										Non Existant
		Ibu 2	18	115	May River SHC	86	12	41	03.12.21	1	0	0	0		Boat
10	PEKWEI		611	527		577	102	288		3	0	0	0		
		Abagaisu	262	232	May River SHC	275	50	138	06.12.21	1	0	0	0		Boat
		Pekwei	308	291	May River SHC	284	48	141	06.12.21	1	0	0	0		Boat
		May River Station	41	4	May River SHC	18	4	9	06.12.21	1	0	0	0		Boat
11	WANAMOI		188	197		190	32	97		1	0	0	0		
		Wanamoi	188	197	May River SHC	190	32	97	01.12.21	1	0	0	0		Boat
12	WANIAP		572	555		557	101	278		3	0	0	0		
		Waniap	382	314	May River SHC	274	50	135	05.12.21	1	0	0	0		Boat
		Imtape	133	56	May River SHC	54	12	27	05.12.21	1	0	0	0		Boat
		Tuam	57	185	May River SHC	229	39	116	05.12.21	1	0	0	0		Boat
13	KAVIA		328	306		549	64	268		2	0	0	0		
		Agramei	120	72	May River SHC	314	18	151	08.12.21	1	0	0	0		Boat
		Kavia	208	234	May River SHC	235	46	117	04.12.21	1	0	0	0		Boat
14	AMA		240	443		405	83	213		2	0	0	0		
		Woburu 1&2	75	133	May River SHC	111	40	66	04.12.21	1	0	0	0		Boat/Trek/Road
		Ama	165	311	May River SHC	294	43	147	04.12.21	1	0	0	0		Boat/Trek/Road
15	YENUAI		310	329		609	60	293		3	0	0	0		
		Tigi	30	54	May River SHC	66	11	33	05.12.21	1	0	0	0		Boat/Trek
		Uwau	109	76	May River SHC	144	19	68	08.12.21	1	0	0	0		Boat/Trek
		Yenuai	170	199	May River SHC	399	30	192	08.12.21	1	0	0	0		Boat/Trek
16	PANUAI		256	494		532	70	259		2	2	0	6		
		Panuai 1	136	263	May River SHC	274	38	132	29.11.21	1	1	0	5		Boat/Trek/Road
		Panuai 2	120	231	May River SHC	258	32	127	29.11.21	1	1	0	1		Boat/Trek/Road
17	IMOMBI		710	705		697	98	351		1	0	0	0		
		Imombi	710	705	May River SHC	697	98	351	29.11.21	1	0	0	0		Boat
18	MOWI		758	730		599	148	305		1	0	0	0		
		Mowi	758	730	May River SHC	599	148	305	29.11.21	1	0	0	0		Boat
19	INIOK		552	514		477	67	234		2	2	0	0		
		Iniok	454	474	Hauna HC2	452	63	221	02.12.21	1	1	0	0		Boat
		Nenowa	99	40	Hauna HC2	25	4	13	02.12.21	1	1	0	0		Boat
20	PAUPE		212	180		325	46	165		1	1	0	23		
		Paupe	212	180	Hauna HC2	325	46	165	03.12.21	1	1	0	23		Boat
21	OUM 3		226	227		220	32	106		1	1	0	0		
		Oum 3	226	227	Hauna HC2	220	32	106	02.12.21	1	1	0	0		Boat
22	WALIO		237	355		359	54	173		2	2	0	54		
		Pei	39	168	Hauna HC2	176	29	85	30.11.21	1	1	0	29		Boat
		Walio	197	187	Hauna HC2	183	25	88	30.11.21	1	1	0	25		Boat
23	NEIN		210	224		211	37	103		2	1	0	21		
		Nein	149	118	Hauna HC2	127	22	61	30.11.21	1	1	0	16		Boat
		Sinen	61	106	Hauna HC2	84	15	42	30.11.21	1	0	0	5		Boat
24	NEKIEI		52	132		125	28	67		2	2	0	8		
		Wusok	52	42	Hauna HC2	33	8	21	30.11.21	1	1	0	3		Boat
		Nekei		90	Hauna HC2	92	20	46	29.11.21	1	1	0	8		Boat
25	WASUWARE		45	81		86	14	42		1	0	0	0		
		Wasumai	11	0	Hauna HC2										Non Existant
		Wasuware	34	81	Hauna HC2	86	14	42	29.11.21	1	0	0	0		Boat
26	SIO		359	368		340	62	177		2	0	0	26		
		Sio	296	281	Maposi SHC	250	47	132	29.11.21	1	0	0	18		Boat
		Paru	63	87	Maposi SHC	90	15	45	24.11.21	1	0	0	8		Boat
27	HANASI		298	396		337	71	177		3	0	0	25		
		Anasi	131	188	Maposi SHC	143	27	74	28.11.21	1	0	0	11		Boat
		Saurinapi	97	157	Maposi SHC	136	34	74	28.11.21	1	0	0	6		Boat
		Patanapi	70	51	Maposi SHC	58	10	29	28.11.21	1	0	0	8		Boat
28	MOROPOTEI		534	566		502	95	251		2	0	0	24		
		Moropotei	357	426	Maposi SHC	347	64	173	28.11.21	1	0	0	16		Boat/Trek
		Mapuwe	177	140	Maposi SHC	155	31	78	28.11.21	1	0	0	8		Boat/Trek
29	MAPOSI		360	256		279	54	165		1	0	0	5		
		Maposi	360	256	Maposi SHC	279	54	165	30.11.21	1	0	0	5		Boat
30	LARIASO		118	114		81	13	41		1	0	0	0		
		Lariaso	118	114	Maposi SHC	81	13	41	25.11.21	1	0	0	0		Boat
31	YABATAUWE		258	324		311	53	188		3	0	0	21		
		Meiwini	61	70	Maposi SHC					1					Coverd Under Wakiawei
		Yabatauwe	93	149	Maposi SHC	156	27	96	30.11.21	1	0	0	12		Boat
		Wakiawei	104	105	Maposi SHC	155	26	92	30.11.21	1	0	0	9		Boat
32	SOWANO		452	164		142	22	71		2	0	0	0		
		Sowano	161	52	Maposi SHC	58	12	29	25.11.21	1	0	0	0		Boat
		Arapi	163	112	Maposi SHC	84	10	42	25.11.21	1	0	0	0		Boat
		Simowe	127	0	Maposi SHC										Non Existant
33	BITARA		344	316		382	72	191		2	0	0	16		
		Bitara	246	178	Maposi SHC	204	38	102	29.11.21	1	0	0	16		Boat/Trek

LLG	WARD	VILLAGE	Estimated 2021 Population Based On Census	Estimated 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	Comments
		Bitara 2	99	138	April River SHC	178	34	89	03.12.21	1	0	0	0	NBC	Previously under Maposi
34	KAGIRU		289	350		329	63	159		2	0	0	0		
		Kagiru	247	298	April River SHC	223	43	109	01.12.21	1	0	0	0	NBC	Boat
		Kagiru 2	41	52	April River SHC	106	20	50	01.12.21	1	0	0	0	NBC	Boat
35	BUKABUKI		321	492		309	59	144		1	0	0	0		
		Bitara		202	April River SHC										Non Existant
		Bukabuki	321	290	April River SHC	309	59	144	30.11.21	1	0	0	0	NBC	Boat
36	WAGU		774	794		812	137	413		3	2	0	9		
		Wagu	423	419	Pathfinder HC2	417	70	213	29.11.21	1	1	0	4	KARAI FM	Boat
		Ikai	285	375	Pathfinder HC2	352	61	178	01.12.21	1	1	0	5	KARAI FM	Boat
		Nakau	66	0	Pathfinder HC2	43	6	22	29.11.21	1	0	0	0	KARAI FM	Boat
37	NIKSEK \ PAKA		877	1,071		929	158	418		3	0	0	0		
		Bigaru	84	106	April River SHC	94	16	47	30.11.21	1	0	0	0	NBC	Boat/Trek
		Niksef	633	671	April River SHC	557	95	238	28.11.21	1	0	0	0	NBC	Boat
		Sife	160	294	April River SHC	278	47	133	28.11.21	1	0	0	0	NBC	Boat
38	SUMWARI		816	362		931	180	379		3	0	0	0		
		Sumwari	575	0	April River SHC	441	94	199	30.11.21	1	0	0	0	NBC	Boat
		Gahom/Moli	240	362	April River SHC	343	62	132	30.11.21	1	0	0	0	NBC	Boat/Trek
		Tomwari	534	0	April River SHC	147	24	48	30.11.21	1	0	0	0	NBC	Boat/Trek

ANNEX TWO

**EAST SEPIK PROVINCE
WOSERA GAWI DISTRICT POPULATION 2021
LLIN DISTRIBUTION SUMMARY SHEET**

LLG	WARD	VILLAGE	Estimated 2021 Population Based On Census	Estimated 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	Comments
WOSERA GAWI			96,805	96,805		93,116	20,114	46,703		185	175	9	5,672	171	
BURUI \ KUNAI RURAL			19,648	18,516		18,525	3,897	9,306		40	39	0	1,314	39	
1	MOWI	Mowi	519	568	Gawi HC	573	100	273	25.10.21	1	1	0	22	95.3 FM	Road/Trek
2	BANWIGIE \ MANJA	Maingugu	637	314	Gawi HC	592	112	297	25.10.21	1	1	0	63	95.3 FM	Road
		Manje	511	771	Gawi HC	483	100	241	25.10.21	1	1	0	18	95.3 FM	Road
3	JAMA NO 1	Jama no.1	664	700	Gawi HC	660	119	316	28.10.21	1	1	0	82	95.3 FM	Road
4	JAMA NO 2	Kajangli	746	861	Gawi HC	816	168	405	28.10.21	1	1	0	125	95.3 FM	Road
5	SENGO	Sengo	1,023	954	Gawi HC	924	200	472	28.10.21	1	1	0	110	95.3 FM	Road
6	BURUI	Burui	839	840	Gawi HC	827	257	439	29.10.21	1	1	0	206	95.3 FM	Road
7	MEEWI	Meewi	650	624	Gawi HC	656	123	321	26.10.21	1	1	0	117	95.3 FM	Road
8	BENJIN	Benjin	745	813	Gawi HC	809	267	422	29.10.21	2	2	0	85	95.3 FM	Road
		Kambumbu	409	478	Torembi SHC	447	182	243	31.10.21	1	1	0	58	C Central S	Previously Under Gawi HC
9	KWIMBA	Kwimba	882	840	Torembi SHC	834	187	423	28.10.21	2	2	0	33	C Central S	2 Hr Trek
		Nangulimbit	511	446	Torembi SHC	413	87	203	28.10.21	1	1	0	23	C Central S	2 Hr Trek
			370	395	Torembi SHC	421	100	220	28.10.21	1	1	0	10	C Central S	2 Hr Trek
10	KOSEMBI	Kosembi	874	732	Torembi SHC	782	120	383	29.10.21	1	1	0	9	C Central S	Trek
11	AURIMBIT	Aurimbit	954	822	Torembi SHC	815	163	412	29.10.21	1	1	0	21	C Central S	Trek
12	WERMAN	Werman	668	491	Gawi HC	381	82	183	30.10.21	1	1	0	45	95.3 FM	Boat
13	YANGIT	Yangit	453	364	Torembi SHC	399	83	204	26.10.21	1	1	0	3	C Central S	Boat/Trek
14	VAGIPUT	Vagiput	919	981	Gawi HC	862	149	441	30.10.21	2	2	0	41	95.3 FM	Boat
		Numbakua	451	459	Torembi SHC	403	68	201	26.10.21	1	1	0	14	C Central S	2 Hr Trek
15	TOREMBI NO 1	Torembi 1	623	496	Torembi SHC	437	81	220	25.10.21	1	1	0	5	C Central S	30 Min Trek
16	TOREMBI NO 3	Torembi 2	870	753	Torembi SHC	746	156	385	25.10.21	3	3	0	43	C Central S	30 Min Trek
		Torembi 3	331	308	Torembi SHC	327	64	164	25.10.21	1	1	0	7	C Central S	30 Min Trek
		Torembi Stn	455	368	Torembi SHC	344	73	179	25.10.21	1	1	0	28	C Central S	30 Min Trek
			84	76	Torembi SHC	75	19	42	25.10.21	1	1	0	8	C Central S	30 Min Trek
17	NUMANGUA 2	Numangua 2	927	766	Torembi SHC	735	133	353	26.10.21	2	2	0	6	C Central S	30 Min Trek
		Numangua	449	413	Torembi SHC	468	85	224	26.10.21	1	1	0	3	C Central S	Non Existant
		Numangua 1	231	0	Torembi SHC	267	48	129	26.10.21	1	1	0	3	C Central S	30 Min Trek
		Numangua 3	212	353	Torembi SHC	267	48	129	26.10.21	1	1	0	3	C Central S	Non Existant
			35	0	Torembi SHC										
18	SLAI	Slai 1	635	457	Torembi SHC	431	87	217	26.10.21	2	2	0	11		2 Hr Trek
		Slai 2	411	240	Torembi SHC	241	50	121	26.10.21	1	1	0	7		4 Hr Trek
			223	217	Torembi SHC	190	37	96	26.10.21	1	1	0	4	C Central S	
19	MIAMBE	Miambe	964	879	Torembi SHC	909	228	457	31.10.21	3	3	0	29		3 Hr Trek
		Sarum	284	345	Torembi SHC	274	68	135	30.10.21	1	1	0	9	C Central S	3 Hr Trek
		Yakiap	382	259	Torembi SHC	319	69	150	30.10.21	1	1	0	1	C Central S	3 Hr Trek
			298	275	Torembi SHC	316	91	172	31.10.21	1	1	0	19	C Central S	3 Hr Trek
20	WORIMBI	Paliambun	989	1,049	Torembi SHC	1,353	299	694		4	3	0	63		Non Existant
		Lenga	368	0	Torembi SHC				01.11.21	1	1	0	37	C Central S	3 Hr Trek
		Suwingu	298	346	Torembi SHC	529	100	258	01.11.21	1	1	0	7	C Central S	3 Hr Trek
		Worimbu Com.Sch	296	254	Torembi SHC	243	50	122	01.11.21	1	1	0	17	C Central S	3 Hr Trek
		Kitkombi	27	449	Torembi SHC	412	100	218	01.11.21	1	0	0	2	C Central S	2 Hr Trek
21	KEMBIAM	Kembiam	NEW	NEW	Torembi SHC	169	49	96	01.11.21	3	3	0	44		3 Hr Trek
		Waniko	829	994	Torembi SHC	1,096	202	545	01.11.21	1	1	0	11	C Central S	3 Hr Trek
		Waniko 3	404	422	Torembi SHC	487	100	243	01.11.21	1	1	0	13	C Central S	3 Hr Trek
			225	249	Torembi SHC	308	50	148	01.11.21	1	1	0	20	C Central S	3 Hr Trek
22	MARAP 1	Marap 1	200	323	Torembi SHC	301	52	154	01.11.21	1	1	0	9		Boat/Trek
23	MARAP 2	Marap 2	460	518	Torembi SHC	493	100	248	30.10.21	1	1	0	9	C Central S	Boat/Trek
24	NANGUSAP	Nangusap	486	459	Torembi SHC	519	110	258	30.10.21	1	1	0	28	C Central S	1 Hr Trek from Marap
25	GAIKOROBI	Gaikorobi	682	478	Torembi SHC	404	82	207	30.10.21	1	1	0	27	C Central S	2 Hr Trek from Marap
			882	994	Torembi SHC	989	189	490	30.10.21	1	1	0	69	C Central S	
			1,099	994	Torembi SHC	989	189	490	30.10.21	1	1	0	69	C Central S	
			0												
GAWI RURAL			14,679	15,301		15,156	2,920	7,392		41	38	0	1,846	41	
1	SAPANDAI	Sapandai	502	559	Gawi HC2	551	91	267	01.11.21	1	1	0	69	95.0 fm	Boat
2	YAMANUMBU	Yamanumbu	554	556	Gawi HC2	577	68	276	31.10.21	2	2	0	66	95.0 fm	Boat
		Yambibaran	435	374	Gawi HC2	428	52	205	31.10.21	1	1	0	52	95.0 fm	Boat
3	PAGWI	Pagwi Stn	120	182	Gawi HC2	149	16	71	31.10.21	1	1	0	53	95.0 fm	Road
4	SAPANAUT	Sapanaut	384	367	Gawi HC2	392	72	193	31.10.21	1	1	0	53	95.0 fm	Boat
			635	703	Gawi HC2	745	135	361	30.10.21	2	2	0	124	95.0 fm	Boat
			366	375	Gawi HC2	357	71	178	30.10.21	1	1	0	62	95.0 fm	Boat

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		Savage	268	328	Gawi HC2	388	64	183	30.10.21	1	1	0	62	95.0 fm	Boat
5	YENJIMANGUA		413	440		407	76	197		1	1	0	31		
		Yenjimangua	413	440	Gawi HC2	407	76	197	01.11.21	1	1	0	31	95.0 fm	Boat
6	NIAUGANGE		437	502		340	63	176		1	1	0	49		
		Niaugange	437	502	Gawi HC2	340	63	176	01.11.21	1	1	0	49	95.0 fm	Boat
7	KANDINGEI		1,454	1,841		1,751	350	845		1	1	0	301		
		Kangangai	1,454	1,841	Gawi HC2	1,751	350	845	01.11.21	1	1	0	301	95.0 fm	Boat
8	KOROGU		1,289	1,111		956	233	487		4	3	0	233		
		Korogo	1,021	565	Gawi HC2	397	100	199	01.11.21	1	0	0	100	95.0 fm	Boat
		Kambitmeri	88	85	Gawi HC2	214	50	106	01.11.21	1	1	0	50	95.0 fm	Boat
		Manjigai	67	231	Gawi HC2	116	33	64	01.11.21	1	1	0	33	95.0 fm	Boat
		Palingawi	114	230	Gawi HC2	229	50	118	01.11.21	1	1	0	50	95.0 fm	Boat
9	SUAPMERI		611	461		465	95	226		1	1	0	74		
		Suapmeri	611	461	Gawi HC2	465	95	226	02.11.21	1	1	0	74	95.0 fm	Boat
10	INDAPU		427	378		350	69	167		2	2	0	67		
		Indabu	121	144	Gawi HC2	117	23	56	02.11.21	1	1	0	23	95.0 fm	Boat
		Kambiufu	306	234	Gawi HC2	233	46	111	02.11.21	1	1	0	44	95.0 fm	Boat
11	YENJAN		286	297		306	65	145		2	2	0	39		
		Yenjan	274	0	Gawi HC2	235	50	111	02.11.21	1	1	0	29	95.0 fm	Boat
		Saay	12	297	Gawi HC2	71	15	34	02.11.21	1	1	0	10	95.0 fm	Boat
12	KANGANAMUN		468	513		403	86	199		1	1	0	62		
		kanganamun	468	513	Gawi HC2	403	86	199	02.11.21	1	1	0	62	95.0 fm	Boat
13	TIGOWI		155	128		142	34	68		1	1	0	8		
		Tigowi	155	128	Gawi HC2	142	34	68	02.11.21	1	1	0	8	95.0 fm	Boat
14	PARIMBE		835	633		598	113	285		4	4	0	77		
		Avisatge	182	271	Gawi HC2	170	30	82	01.11.21	1	1	0	24	95.0 fm	Boat
		Kurupmul	67	0	Gawi HC2	50	11	25	01.11.21	1	1	0	7	95.0 fm	Boat
		Payambit	159	0	Gawi HC2	117	22	55	01.11.21	1	1	0	9	95.0 fm	Boat
		Nambaraman	427	363	Gawi HC2	261	50	123	01.11.21	1	1	0	37	95.0 fm	Boat
15	MARINGEI		525	430		429	76	202		1	1	0	13		
		Maringei	525	430	Gawi HC2	429	76	202	06.11.21	1	1	0	13	95.0 fm	Boat
16	AIBOM		993	1,060		888	198	444		2	2	0	14		
		Aibom	925	825	Gawi HC2	639	149	326	06.11.21	1	1	0	0	95.0 fm	Boat
		Malinjawa	69	235	Gawi HC2	249	49	118	06.11.21	1	1	0	14	95.0 fm	Boat
17	WOMBUN		729	704		629	150	316		2	2	0	52		
		Wombun	668	593	Gawi HC2	436	100	220	03.11.21	1	1	0	16	95.0 fm	Boat
		Banpir	61	112	Gawi HC2	193	50	96	03.11.21	1	1	0	36	95.0 fm	Boat
18	INDINGAI		306	556		245	64	135		1	1	0	26		
		Indingai	306	556	Gawi HC2	245	64	135	03.11.21	1	1	0	26	95.0 fm	Boat
19	KIRIMBIT		770	446		697	100	326		1	1	0	36		
		Kirimbit	770	446	Gawi HC2	697	100	326	03.11.21	1	1	0	36	95.0 fm	Boat
20	LULUK		229	437		390	78	199		2	2	0	30		
		Luluk	217	213	Gawi HC2	168	33	85	29.10.21	1	1	0	17	95.0 fm	Boat
		Arinjourn	12	223	Gawi HC2	222	45	114	29.10.21	1	1	0	13	95.0 fm	Boat
21	TIBUNMERI		778	1,059		1,031	190	494		3	3	0	149		
		Tibunmeri	537	635	Gawi HC2	612	113	295	04.11.21	1	1	0	93	95.0 fm	Boat
		Wangiomba	190	337	Gawi HC2	330	58	157	04.11.21	1	1	0	43	95.0 fm	Boat
		Kolovio	51	87	Gawi HC2	89	19	42	04.11.21	1	1	0	13	95.0 fm	Boat
22	CHANGRIMAN		408	509		386	74	191		1	1	0	42		
		Changriman	408	509	Gawi HC2	386	74	191	04.11.21	1	1	0	42	95.0 fm	Boat
23	MARI		319	542		465	83	223		2	0	0	81		
		Mari	149	244	Gawi HC2	195	35	94	04.11.21	1	0	0	33	95.0 fm	Boat/Trek
		Milae	170	297	Gawi HC2	270	48	129	04.11.21	1	0	0	48	95.0 fm	Boat/Trek
24	YEMBIYEMBI		457	0		1,093	199	534		1	1	0	49		
		Yembiyembi	457	0	Gawi HC2	1,093	199	534	08.11.21	1	1	0	49	95.0 fm	Boat/Trek
25	PALIAGUI		715	1,069		920	158	436		1	1	0	101		
		Paliagui	715	1,069	Gawi HC2	920	158	436	29.10.21	1	1	0	101	95.0 fm	Boat
NORTH WASERA RURAL			26,023	28,650		26,424	6,182	13,475		42	41	1	1,459	34	
1	KUMUNIKUM 1		684	1,601		1,764	518	959		3	3	0	315		
		kuminikum 1	239	543	Kaugia SHC	542	198	309	04.11.21	1	1	0	73	NBC	Road/1 Hr Trek
		Wosera Stn	445	98	Kaugia SHC	181	36	92	04.11.21	1	1	0	27	NBC	Road/1 Hr Trek
		Sirakin		960	Kaugia SHC	1,041	284	558	05.11.21	1	1	0	215	NBC	Road/1 Hr Trek
2	KUMUNIKUM 2		455	552		581	199	324		1	1	0	95		
		Kuminikum 2	455	552	Kaugia SHC	581	199	324	04.11.21	1	1	0	95	NBC	Road
3	KUMUNIKUM 3		194	492		469	130	241		1	1	0	79		
		kuminikum 3	194	492	Kaugia SHC	469	130	241	04.11.21	1	1	0	79	NBC	Road
4	TATEMBA		625	2,435		536	117	270		2	1	0	64		
		Tatamba	625	523	Kaugia SHC	536	117	270	04.11.21	1	1	0	64	NBC	Road/2 Hr Trek
		Mui		1,913	Kaugia SHC					1					Covered from Illahita HC (Maprik)
5	BAPANDU		1,242	1,142		865	245	450		2	2	0	73		
		Gatikum	390	353	Kaugia SHC	384	98	193	06.11.21	1	1	0	41	NBC	Road
		Bapandu	852	789	Kaugia SHC	481	147	257	06.11.21	1	1	0	32	NBC	Road/2 Hr Trek
6	VISIKUM		944	768		772	139	388		2	2	0	60		
		Visikum	774	473	Kaugia SHC	520	91	266	30.10.21	1	1	0	47	NBC	Road/30 Min Trek
		Iupuko	170	295	Kaugia SHC	252	48	122	30.10.21	1	1	0	13	NBC	Road
7	NUMAMAKA		986	916		714	160	366		2	2	0	91		
		Isogum 2	233	21	Kaugia SHC	219	50	113	30.10.21	1	1	0	22	NBC	Road/40 Min Trek
		Numamaka	752	895	Kaugia SHC	495	110	253	30.10.21	1	1	0	69	NBC	Road/1 Hr Trek
8	STAPIKUM		752	546		574	161	295		1	1	0	56		
		Stapikum	752	546	Kaugia SHC	574	161	295	06.11.21	1	1	0	56	NBC	Road/2 Hr Trek
9	TAILENGI		878	725		733	153	370		2	2	0	105		
		Blamda	417	346	Kaugia SHC	365	73	181	02.11.21	1	1	0	47	NBC	Road/45 Min Trek
		Taliengi	460	379	Kaugia SHC	368	80	189	02.11.21	1	1	0	58	NBC	Road/30 Min Trek
10	KITIKUM		1,352	1,144		1,267	248	625		1	1	0	130		
		kitikum	1,352	1,144	Kaugia SHC	1,267	248	625	06.11.21	1	1	0	130	NBC	Road/1 Hr Trek
11	NUMBUNGE		1,985	1,747		1,615	515	892		3	3	1	130		

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		Kaugia STN	NEW	NEW	Kaugia SHC	45	11	23	30.10.21	1	1	1	11	NBC	Road
		Numbunge 1	1,029	825	Kaugia SHC	689	295	411	30.10.21	1	1	0	92	NBC	Road
		Numbunge 2	956	922	Kaugia SHC	881	209	458	30.10.21	1	1	0	27	NBC	Road
12	GOLAKUM		347	1,051		1,084	217	507		1	1	0	106		
		Golakum	347	1,051	Kaugia SHC	1,084	217	507	01.11.21	1	1	0	106	NBC	Road/1 Hr Trek
13	KUATMUKUM		1,117	1,038		1,050	211	527		1	1	0	0		
		Kuatmukum	1,117	1,038	Wombisa HC	1,050	211	527	04.11.21	1	1	0	0	95.3 FM	Road
14	SARKIM		1,469	1,333		1,379	348	699		1	1	0	144		
		Sarkim	1,469	1,333	Kaugia SHC	1,379	348	699	03.11.21	1	1	0	144	NBC	Road/1 Hr Trek
15	BUKIBALIKUM		480	367		372	78	186		1	1	0	11		
		Bukibalikum	480	367	Kaugia SHC	372	78	186	03.11.21	1	1	0	11	NBC	Road/2 Hr Trek
16	JAMBITANGIT		2,337	2,016		1,897	390	948		3	3	0	0		
		Jambitanget	1,579	1,299	Wombisa HC	1,239	250	616	04.11.21	1	1	0	0	95.3 FM	Road
		Lingu	507	429	Wombisa HC	422	90	214	04.11.21	1	1	0	0	95.3 FM	Road
		Bangangu	251	289	Wombisa HC	236	50	118	04.11.21	1	1	0	0	95.3 FM	Road
17	WAPINDUMAKA		2,106	1,603		1,663	332	830		3	3	0	0		
		Wapindumaka 1	1,017	733	Wombisa HC	793	179	394	04.11.21	1	1	0	0	95.3 FM	Road
		Nigip Com.Sch	20	84	Wombisa HC	64	13	32	04.11.21	1	1	0	0	95.3 FM	Road
		Wapindumaka 2	1,070	786	Wombisa HC	806	140	404	04.11.21	1	1	0	0	95.3 FM	Road
18	JIPAKO		696	801		726	156	363		1	1	0	0		
		Jipako	696	801	Wombisa HC	726	156	363	02.11.21	1	1	0	0		Road
19	MANJIKORUWI		645	661		639	125	325		1	1	0	0		
		Manjikorowi	645	661	Wombisa HC	639	125	325	04.11.21	1	1	0	0	95.3 FM	Road
20	UMUNKO		919	811		853	178	429		1	1	0	0		
		Umunko	919	811	Wombisa HC	853	178	429	04.11.21	1	1	0	0	95.3 FM	Road
21	JIPAKIM		161	832		783	175	390		1	1	0	0		
		Jipakim	161	832	Wombisa HC	783	175	390	02.11.21	1	1	0	0	95.3 FM	Road
22	UGUTAGUA		1,430	1,394		1,332	276	672		2	2	0	0		
		Ugutagua	862	815	Wombisa HC	810	177	411	02.11.21	1	1	0	0	95.3 FM	Road
		Sigilako	568	579	Wombisa HC	522	99	261	02.11.21	1	1	0	0	95.3 FM	Road
23	WEIKO		1,522	1,282		1,301	324	651		2	2	0	0		Possible Need To Access By Air
		Weiko	1,522	767	Nungwaia SHC	769	208	390	26.10.21	1	1	0	0		Road/2 Hr Trek
		Warrmetalali		515	Nungwaia SHC	532	116	261	23.10.21	1	1	0	0		Road/1 Hr Trek
24	DUMEK		919	835		882	190	453		1	1	0	0		
		Dumek	919	835	Nungwaia SHC	882	190	453	23.10.21	1	1	0	0		Road by vehicle
25	NUNGWAIWA		962	1,098		1,140	287	586		1	1	0	0		
		Nungwaia	962	1,098	Nungwaia SHC	1,140	287	586	25.10.21	1	1	0	0		Road from Wosera
26	KWANGA		817	968		1,031	213	522		1	1	0	0		
		Kawanga Re-sett.	817	968	Nungwaia SHC	1,031	213	522	28.10.21	1	1	0	0		Road/5 Hr Trek
27	WATEUKA		489	489		402	97	207		1	1	0	0		
		Watekuka		489	Nungwaia SHC	402	97	207	23.10.21	1	1	0	0		2 hours road
SOUTH WASERA RURAL			36,455	34,337		33,011	7,115	16,530		62	57	8	1,053	57	
1	JIKINANGU		1,973	1,686		1,470	344	761		2	2	0	23		
		Bopmakum	1,003	881	Kunjigini SHC	673	149	351	04.11.21	1	1	0	18	95.3 FM	Road/1 Hr Trek
		Jikinangu	970	805	Kunjigini SHC	797	195	410	04.11.21	1	1	0	5	95.3 FM	Road/1 Hr Trek
2	TIADIKIM		1,513	1,303		1,288	269	639		2	2	1	16		
		Miko 2	468	360	Kunjigini SHC	421	90	211	02.11.21	1	1	0	3	95.3 FM	Road/1 Hr Trek
		Tiadikim	1,044	943	Kunjigini SHC	867	179	428	04.11.21	1	1	1	13	95.3 FM	Road/1 Hr Trek
3	MIKO 1		1,409	1,422		1,434	294	697		1	1	1	64		
		Miko	1,409	1,422	Kunjigini SHC	1,434	294	697	02.11.21	1	1	1	64	95.3 FM	Road/20 Min Trek
4	KONIBANDU		2,046	1,541		1,515	480	806		2	2	0	117		
		konebandu 2	897	0	Kaugia SHC2	754	199	388	31.10.21	1	1	0	71	NBC	2 Hr Road
		konebandu	1,148	1,541	Kaugia SHC2	761	281	418	31.10.21	1	1	0	46	NBC	3 Hr Road
5	KONIBANDU 3		866	914		862	191	445		1	1	0	34		
		Kaukia	866	914	Kunjigini SHC	862	191	445	01.11.21	1	1	0	34	95.3 FM	Road/2 Hr Trek
6	TUKOKIM		960	693		738	132	362		1	1	0	8		
		Tukokim	960	693	Kunjigini SHC	738	132	362	31.10.21	1	1	0	8	95.3 FM	Road/1-2 Hr Trek
7	APUSIT		1,775	1,341		1,199	258	602		2	2	1	69		
		Apusit	1,268	956	Kunjigini SHC	815	194	414	02.11.21	1	1	0	21	95.3 FM	20 Min Road
		Guningi	507	385	Kunjigini SHC	384	64	188	02.11.21	1	1	1	48	95.3 FM	25 Min Road
8	NALI		870	936		973	213	477		2	2	0	25		
		Nali 1	341	287	Kunjigini SHC	274	66	139	30.10.21	1	1	0	9	95.3 FM	Road/2 Hr Trek
		Nali 2	529	649	Kunjigini SHC	699	147	338	30.10.21	1	1	0	16	95.3 FM	3 Hr Road
9	KUNJINGINI		1,513	1,159		1,150	277	593		3	3	0	39		
		Kunjingini 1	829	510	Kunjigini SHC	473	80	229	31.10.21	1	1	0	10	95.3 FM	Road/15 Min Trek
		kunjingini 2	556	481	Kunjigini SHC	507	168	278	31.10.21	1	1	0	22	95.3 FM	Road/1 Hr Trek
		kunjingini Stn	127	168	Kunjigini SHC	170	29	86	31.10.21	1	1	0	7	95.3 FM	32 Min Road
10	MUL		762	653		586	174	315		2	2	0	21		
		Bethlem	276	227	Kunjigini SHC	148	45	84	31.10.21	1	1	0	3	95.3 FM	Road/10 Min Trek
		Mul	486	427	Kunjigini SHC	438	129	231	31.10.21	1	1	0	18	95.3 FM	15 Min Road
11	WAIKAMOKO		1,530	1,209		1,134	230	554		2	2	0	32		
		Waikamoko 1	797	631	Kunjigini SHC	501	100	244	31.10.21	1	1	0	16	95.3 FM	Road/2 Hr Trek
		Waikamoko 2	733	578	Kunjigini SHC	633	130	310	31.10.21	1	1	0	16	95.3 FM	Road/1 Hr Trek
12	RUBUKIM		353	820		608	127	299		1	1	0	82		
		Rubukim 1	353	820	Kaugia SHC2	608	127	299	02.11.21	1	1	0	82	NBC	Road/1 Hr Trek
13	GWAIWARU		944	264		539	138	272		3	3	0	84		
		Gwaiwaru	368	264	Kaugia SHC2	254	70	131	02.11.21	1	1	0	55	NBC	Road/2 Hr Trek
		Rubukim 2	300	0	Kaugia SHC2	73	18	36	02.11.21	1	1	0	11	NBC	Road/2 Hr Trek
		Rubukim 3	276	0	Kaugia SHC2	212	50	105	02.11.21	1	1	0	18	NBC	Road/2 Hr Trek
14	MOUNDU		1,089	940		879	168	436		2	2	0	83		
		Moundu 1	478	483	Kaugia SHC2	473	94	235	02.11.21						

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		Vekio	431	455	Kunjigini SHC	480	93	240	01.11.21	1	1	1	22	95.3 FM	15 Min Road
17	SERENGWANDU		2,016	2,064		2,101	426	1,038		6	3	1	106		
		Uruwaru	208	298	Kunjigini SHC					1					Included Under Serangwandu 1
		Makungu	296	307	Kunjigini SHC					1					Included Under Serangwandu 2
		Serangwandu 1	553	308	Kunjigini SHC	779	150	388	29.10.21	1	1	0	87	95.3 FM	Road/30 Min Trek
		Serangwandu 2	772	809	Kunjigini SHC	726	150	357	29.10.21	1	1	0	13	95.3 FM	Road/45 Trek
		Mangi	188	340	Kunjigini SHC	596	126	293	28.10.21	1	1	1	6	95.3 FM	Road/2 Hrs Trek
		Yambi Station		0	Kunjigini SHC					1					Included Under Mangi
18	PALKERI		956	919		1,037	190	533		2	2	1	34		
		Kausaki	562	564	Kunjigini SHC	555	103	290	01.11.21	1	1	1	27	95.3 FM	1 Hr Road
		Palkeri	394	355	Kunjigini SHC	482	87	243	01.11.21	1	1	0	7	95.3 FM	1 Hr Road
19	NANGDA		1,309	1,313		1,244	255	606		3	1	0	73		
		Nangda	359	1,313	Kunjigini SHC	1,244	255	606	29.10.21	1	1	0	73	95.3 FM	2 Hr Road
		Gukut	864	0	Kunjigini SHC					1					Included Under Nangda
		Bukiwi Govt Stn	86	0	Kunjigini SHC					1					Included Under Nangda
20	MIKAU		1,497	1,321		1,270	268	639		2	2	0	0		
		Mikau	846	687	Wombisa HC2	634	132	318	04.11.21	1	1	0	0	95.3 FM	Road
		Nindiko	650	635	Wombisa HC2	636	136	321	04.11.21	1	1	0	0	95.3 FM	Road
21	WAMBISI		2,200	1,835		1,560	334	784		5	5	0	0		
		Wabindugum	441	399	Wombisa HC2	360	93	180	04.11.21	1	1	0	0	95.3 FM	Road
		Wambisa 1	760	583	Wombisa HC2	485	100	244	05.11.21	1	1	0	0	95.3 FM	Road
		Wambisa 2	940	741	Wombisa HC2	637	126	318	05.11.21	1	1	0	0	95.3 FM	Road
		Wambisa C/Sch	24	56	Wombisa HC2	53	9	27	05.11.21	1	1	0	0	95.3 FM	Road
		Wambisa Shc	35	56	Wombisa HC2	25	6	15	05.11.21	1	1	0	0	95.3 FM	Road
22	KWANJIOMA		862	1,211		1,176	229	583		2	2	1	5		
		Kwanjioma 1	539	824	Kunjigini SHC	802	150	403	28.10.21	1	1	1	5	95.3 FM	Road/3 Hr Trek
		Kwanjioma 2	323	387	Kunjigini SHC	374	79	180	28.10.21	1	1	0	0	95.3 FM	Road/2 Hr Trek
23	PUKAKO		1,315	1,382		1,358	244	650		1	1	0	33		
		Pukako	1,315	1,382	Kunjigini SHC	1,358	244	650	28.10.21	1	1	0	33	95.3 FM	Road/3 Hr Trek
24	JIPMAKO		1,761	1,675		1,617	341	810		3	3	0	0		
		Bangleko	674	772	Wombisa HC2	766	160	384	05.11.21	1	1	0	0	95.3 FM	Road
		Jipmako	317	251	Wombisa HC2	240	50	120	05.11.21	1	1	0	0	95.3 FM	Road
		Yambiko	770	652	Wombisa HC2	611	131	306	05.11.21	1	1	0	0	95.3 FM	15 Min Road
25	NUNGWAIKO		1,824	2,346		2,115	414	1,066		3	3	0	0		
		Nungwaiko 3	259	272	Wombisa HC2	269	50	135	05.11.21	1	1	0	0	95.3 FM	Road
		Nungwaiko 2	623	656	Wombisa HC2	855	149	428	05.11.21	1	1	0	0	95.3 FM	Road
		Nungwaiko 1	942	1,418	Wombisa HC2	991	215	503	05.11.21	1	1	0	0	95.3 FM	Road
26	KWALGA		541	666		747	139	379		1	1	0	0		
		Kwalge	541	666	Wombisa HC2	747	139	379	05.11.21	1	1	0	0	95.3 FM	Road
27	APAMBE		613	719		611	128	306		1	1	0	0		
		Apambi	613	719	Wombisa HC2	611	128	306	05.11.21	1	1	0	0	95.3 FM	Road
28	GIPMAPIL		1,832	1,931		1,854	412	907		4	4	0	53		
		Gipmabil 1	895	949	Kunjigini SHC	660	126	322	30.10.21	1	1	0	0	95.3 FM	Road/3 Hr Trek
		Gipmabil 2	210	318	Kunjigini SHC	381	100	190	30.10.21	1	1	0	18	95.3 FM	Road/4 Hr Trek
		Gipmabil 3	727	664	Kunjigini SHC	588	142	285	30.10.21	1	1	0	35	95.3 FM	Road/5 Hr Trek
		Gipmabil 4 (Menjil)	NEW	NEW	Kunjigini SHC	225	44	110	30.10.21	1	1	0	0	95.3 FM	Road/5 Hr Trek