

Progressive Report

**NATIONAL DEPARTMENT OF HEALTH
ENVIRONMENTAL HEALTH BRANCH (EHB)
WATER SUPPLY AND SANITATION**

**Water Supply and Sanitation Accessibility into Health Care Facilities
Especially for Maternity Ward / Labour Wards**

Water Supply and Sanitation Unit

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Contents

ACRONYMS	iii
EXECUTIVE SUMMARY	iv
1. INTRODUCTION	5
1.1. Background	6
1.2. Aim of the Survey	6
2. METHODOLOGY	6
3. AVAILABLE DATA.....	7
3.1. Health Facility	7
3.2. Availability of Water in health facility at all times	10
3.3. Types of water supply systems	10
3.4. Water connection into Maternity Ward /Delivery Room.....	11
3.5. Water treatment methods	11
3.6. Distance to water sources	11
3.7. Type of sanitation facility	12
3.8. Medical waste disposal method	13
4. DISCUSSION.....	13
4.1. Health Facility	13
4.2. Availability of Water in Health Facility at all times	13
4.3. Types of Water Supply	13
4.4. Water treatment methods	14
4.5. Connection into health facility (especially labour wards).....	14
4.6. Distance to water sources	14
4.7. Type of sanitation facility	14
4.8. Medical waste disposal method	14
4.9. Health Facility GPS Location	15
5. CONCLUSION.....	15
6. RECOMMENDATION	15
7. REFERENCES	15
ANNEX	15
SURVEY FORM	15

ACRONYMS

CHP	Community Health Post
DEHO	District Environmental Health Officer
EHB	Environmental Health Branch
HC	Health Center
HCF	Health-Care Facility
HSC	Health Sub-Center
OIC	Officer in Charge
NDOH	National Department of Health
NIP	New Ireland Province
NHP	National Health Plan
PEHO	Provincial Environmental Health Officer
PNG	Papua New Guinea
SHP	Southern Highlands Province
WASH	Water Supply, Sanitation and Hygiene
WHO	World Health Organization
WHP	Western Highlands Province
WS&S	Water Supply and Sanitation

EXECUTIVE SUMMARY

This report presents the data collected from certain health facilities with delivery rooms that are in existing in Papua New Guinea. It aims to provide statistical data for the development of “WASH INTO HEALTH CARE FACILITY POLICY”; and guidelines for the design of water supply, sanitation and also enable, stimulate and promote appropriate hygiene practices in the health facilities.

The data collection was schedule in the 2014 to support the development of “WASH Into Health Care Facility Policy”; however, it was carried out in 2015 to allow sufficient time for data collection. As it stands, response from provinces were not as anticipated as expected most of the data gathered is from provinces participating in other environmental health activities and where verbally gathered.

The planed activity was not completed and response from the provinces did not come as expected, although attempts were made to contact them. It is hoped that they will be contact and hopefully data from all facilities in the provinces will be obtained to update this report.

The data collected do indicate numerous dearths in data and it is hoped that an update report will contain a more complete collection of data from the all health facilities in the provinces soon. Nevertheless the WASH into Health-Care Facilities data collected do display range of information such as water supply and sanitation facilities available and type of hygiene practices in different health settings and geographical locations.

1. INTRODUCTION

The Water Supply And Sanitation Unit, Environmental Health Branch- National Department of Health (NDOH) with its developing partner – World Health Organization (WHO) notes the availability of portable water to the community around Papua New Guinea (PNG) is of less quality given that most of the rural population sources their water from rivers, creeks and springs (*NDOH 2011*) and health facility is no exception.

The Department of Health, Church agencies and other water providers do provide alternate water supply to health- care facilities in their own vicinity of operation. The alternate water supply to health facilities ranges from corrugated or tuffa tanks, deep bore wells to damming of creeks and supply of water through pipes into the health facilities.

Water quality for water used by health facilities is a concern however; detailed water quality was not gathered. Nevertheless, the quality of rain water is excellent to health facilities as long as there is no possible contamination through leakages in the pipes (if connected into the facility) or dust blown onto the roofs during dry periods or other possible contamination such as dead leaves from nearby trees.

These are some of the reasons why mothers prefer home deliveries than attending to a HCF that do not have proper structures and facilities that are attractive such as water supply and sanitation facilities. These conditions are closely related into increase in unsupervised deliveries or home deliveries contributing to incidences and other adverse health outcomes for the mother, child and infant.

Here the survey covers the type of water supply facilities and its accessibility into the labour wards, the type of sanitation facilities available and hygiene practices practiced by the health facilities and medical waste disposal methods.

The structure of this report presents firstly, the aim and the background, followed by methodology, results, discussion, conclusion and recommendations. A reference section then lists the reports and documents. Annex

1.1. Background

Due to the remoteness of some the primary health-care facilities, water supply and sanitation services are either inadequate or non-existent. While some of the primary health care facilities that are located within community project areas covered by water supply and sanitation services, they are sometimes bypassed due to lack of coordination. Most health centers and primary health-care facilities resort to using unsafe water from unprotected rainwater tanks and open dug wells. Often they lack of toilet facilities and proper waste disposal facilities.

The National Department of Health (NDOH) strategies spelt out in the National Health Plan (NHP) 2011 – 2020 included ensuring all health facilities have access to running water and effective waste disposal and sanitation. One of the activities in the Annual Implementation Plan for 2012-2013 aims at developing water policy and advocating increase in water accessibility.

1.2. Aim of the Survey

The main goal of the project is to;

- i) Gather information of healthcare facilities with and without water supply, safe sanitation and proper waste disposal methods.
- ii) Provide statistics as basis to develop WASH Accessibility into Health Facility Policy.

2. METHODOLOGY

The methodology employed here were;

- 2.1. Workshop with Central province on WASH accessibility into Health facilities especially delivery rooms or labour wards was conducted on the date 1st - 3rd of May 2013. The workshop was attended by PEHO, DEHO, Provincial Strategic Planning Officer and OIC from selected health facilities.
- 2.2. A survey form was distributed to certain provinces to conduct their own survey. A specific time frame was given but till now it is long overdue.
- 2.3. Information were gathered during other Environmental Health activities with the provinces such as technical support on water supply issues, health facilities with easy road access were visited and data gathered

- 2.4. Verbal and phone communication with Provincial Environmental Health Officers (PEHO) and provincial health Information officers was also employed
- 2.5. Desktop data review of health department's health information system data reports to extract relevant information on water supply and sanitation facilities that are available.
- 2.6. Another progress report will be produced awaiting feedback from provinces which will be followed by a final report.

3. AVAILABLE DATA

Some of the health facility names were from NDOH - Health Information System Office, while some were from Provincial Environmental Health Officer,

3.1. Health Facility

The table below is the list of facilities surveyed in 2014 and 2015

NO	Province	District	LLG	Health Facility Name:	Run by:	Type of facility
1	Central	Rigo	Rigo Coastal	Kwikila Hc	Government	HC
2	Central	Rigo	Rigo Coastal	Kokorogoro Sc	Salvation Army	
3	Central	Rigo	Rigo Coastal	Boregaina Sc	Salvation Army	HSC
4	Central	Rigo	Rigo Coastal	Hula Sc	United Church	HSC
5	Central	Rigo	Rigo Inland	Boku Hc	Government	HC
6	Central	Rigo	Rigo Inland	Dorobisoro Sc	Government	HSC
7	Central	Rigo		Alepa CHP	Government	CHP
8	Central	Rigo		Meirobu CHP	Salvation Army	CHP
9	Central	Rigo		Sivitatana CHP	Government	CHP
10	Central	Rigo		Tauruba CHP	Government	CHP
11	Central	Rigo		Gabagaba CHP	Government	CHP
12	Central	Abau	Marshall Lagun	Kupiano Hc	Government	HC
13	Central	Abau	Marshall Lagun	Upulima Sc	Government	HSC
14	Central	Abau	Cloudy Bay	Moreguina Hc	Government	HC
15	Central	Abau	Cloudy Bay	Iruna Hc	United Church	HC
16	Central	Abau	Cloudy Bay	Boru Hc	United Church	HC
17	Central	Abau		Hood Lagoon	Government	CHP
18	Central	Goilala	Tapini	Tapini Hc	Catholic Health	HC
19	Central	Goilala	Woitape	Woitape Hc	Government	HC

NO	Province	District	LLG	Health Facility Name:	Run by:	Type of facility
20	Central	Goilala	Woitape	Fane Sc	Catholic Health	HSC
21	Central	Goilala	Woitape	Ononge Sc	Catholic Health	HSC
22	Central	Goilala	Woitape	Yongai Sc	Catholic Health	HSC
23	Central	Goilala	Tapini	Tororo Sc	SDA	HC
24	Central	Kairuku - Hiri	Kairuku	Efogi Sc	Government	HSC
25	Central	Kairuku - Hiri	Koiari	Sogeri Sc	Government	HC
26	Central	Kairuku - Hiri	Hiri	Kuriva Sc	Government	HSC
27	Central	Kairuku - Hiri	Kairukul	Bereina Hc	Government	HC
28	Central	Kairuku - Hiri	Kairuku	Agevairu Sc	Catholic Health	HSC
29	Central	Kairuku - Hiri	Mekeo	Inawaia Sc	Catholic Health	HSC
30	Central	Kairuku - Hiri	Kairuku	Waima Sc	Catholic Health	HSC
31	Central	Kairuku - Hiri	Kairuku	Yule Island Sc	Catholic Health	HSC
32	Central	Kairuku - Hiri	Mekeo	Bakoiudu Sc	Catholic Health	HSC
33	Central	Kairuku - Hiri	Mekeo	Veifa'a Hc	Catholic	HC
34	Central	Kairuku - Hiri	Kairuku	Doa Sc		HSC
35	Central	Kairuku - Hiri	Mekeo	Akufa Sc	Catholic	HC
36	Central	Kairuku - Hiri	Hiri	Porebada Sc	Government	HSC
37	Central	Kairuku - Hiri		Gaire CHP	St John	CHP
38	Central	Kairuku - Hiri		Kubuna CHP	Catholic Health	CHP
39	East Sepik	Yangoru-Saussia	West Yangoru	Yangoru Hc	Government	HSC
40	East Sepik	Yangoru-Saussia	Sausso	Kubalia Sc	Government	HSC
41	East Sepik	Wosera - Gawi	Gawi	Gawi Hc	Government	HC
42	East Sepik	Wosera - Gawi	North Wosera	Kunjingini Sc	Government	HC
43	East Sepik	Ambunti - Dreikikir	Ambunti	Ambunti Hc	Government	HC
44	East Sepik	Ambunti - Dreikikir	Dreikikir	Dreikikir Hc	Government and church agency	HC
45	East Sepik	Ambunti - Dreikikir	Tunap/Hustein	April River Sc	not mentioned	HSC
46	East Sepik	Ambunti - Dreikikir		Mersey Sc	Catholic Health	HSC
47	East Sepik	Ambunti - Dreikikir	Tunap/Hustein	Hauna Sc	SDA	HSC
48	East Sepik	Angoram	Angoram	Biwat Sc	Catholic Health	HSC
49	East Sepik	Angoram	Karawari	Kaningara Sc	Catholic Health	HSC
50	East Sepik	Angoram	Lower Sepik	Marienber Sc	Catholic Health	HSC
51	East Sepik	Angoram	Angoram	Timbunke Hc	Catholic Health	HC
52	East Sepik	Angoram	Keram Rural	Kambot Sc	not mentioned	HSC
53	East Sepik	Angoram	Tarubu Rural	Kambuku Sc	Lutheran	HSC
54	East Sepik	Maprik	Bumbita/Kunai	Brugam Sc	SSEC	HSC
55	East Sepik	Maprik	Bumbita/Kunai	Ilahita Sc	SSEC	HSC
56	East Sepik	Maprik	Maprik/Wora	Maprik Hc	Government	DH
57	East Sepik	Maprik	Tamaui/Yamil	Ulupu Sc	Catholic Health	HSC

NO	Province	District	LLG	Health Facility Name:	Run by:	Type of facility
58	East Sepik	Maprik	Albiges/Mablep	Albinama Sc	Catholic Health	HSC
59	East Sepik	Wewak	Boikin/Dagua	Dagua Hc	Catholic Health	HC
60	East Sepik	Wosera - Gawi	North Wosera	Kaugia Sc	Catholic Health	HSC
61	East Sepik	Wosera - Gawi	Kwanga Urban	Nungwaia Sc	SSES	HSC
62	East Sepik	Wosera - Gawi	Gawi Rural	Torembi Sc	Catholic Health	HSC
63	East Sepik	Wewak	Wewak Islands	Kairiru Sc	Catholic Health	HSC
64	East Sepik	Wewak	Wewak Islands	Koil Sc	not mentioned	HSC
65	East Sepik	Yangoru-Saussia	Numbor Rural	Sassoya Sc	Catholic Health	HSC
66	East Sepik	Yangoru-Saussia	West Yangoru	Naksimigel Sc	not mentioned	HSC
67	Enga	Kandep	Kandep Rural	Kandep Dh	Government	DH
68	Hela	Komo - Margarima	Magarima Rural	Margarima Hc	Government	HC
69	Jiwaka	Angalimp - South Wahgi	Minj Rural	Minj Hc	Government	HC
70	Jiwaka	North Wahgi	Nondugul Rural	Nondugl Hc	Government and United Church	HC
71	Manus	Lorengau	Tetidu	Tingou Hc	Government	HC
72	Manus	Lorengau	Aua Wuvulu	Mal Hc	Government	HC
73	Manus	Lorengau	Pomutu/Kurti/Andra	Bundralis Hc	Catholic Health	HC
74	Manus	Lorengau	Aua Wuvulu	Wuvulu Hc	Government	HC
75	Manus	Lorengau	Rapatona	Panuselu Hc	Government	HC
76	Manus	Lorengau	Balopa	Lako Hc	Government	HC
77	Manus	Lorengau	Pobuma	Patu Hc	Catholic Church	HC
78	NIP	Namatanai	Sentral Niu Ailan	Kimadan Hc	United Church	HC
79	NIP	Kavieng	Tikana	Bol Sc	Government	HC
80	NIP	Kavieng	Tikana		Government	CHP
81	NIP	Kavieng	Tikana Rural	Lemakot Hc	Catholic Health	HC
82	SHP	Mendi	Lai Velley	Munihu Hc	Government and United Church	HC
83	SHP	Imbonggu	Imbonggu Rural	Imbongu Sc	Government	HC
84	SHP	Ialibu-Pangia	Ialibu Urban	Ialibu Hospital	Government	DH
85	SHP	Ialibu-Pangia	East Pangia	Pangia Hc	Government	HC
86	West Sepik	Vanimo-Green River	Bewani/Watung Onei	Bewani Hc	Government	HC
87	WHP	Tambul - Nebilyer	Mt Giluwe rural	Tambul Hc	Government	HC

3.2. Availability of Water in health facility at all times

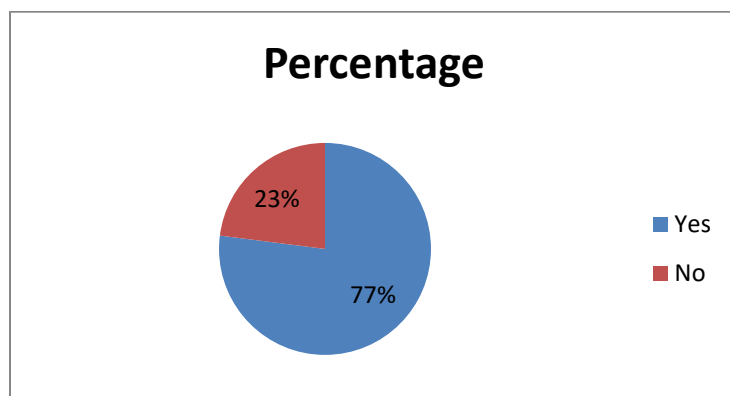


Figure 1 – Availability of Water into the Health Facility in percentage

About 67 of the 87 facility (which is 77 percent) have availability of water in the health facility, while 20 of the 87 (which is 23 percent) have no constant water available for the health facility. The difference is due to many reasons such as

- a. rainfall pattern
- b. number of tuffa tanks installed
- c. number of patients and mothers attending the facility
- d. leakage from the connected tanks and pipes

3.3. Types of water supply systems

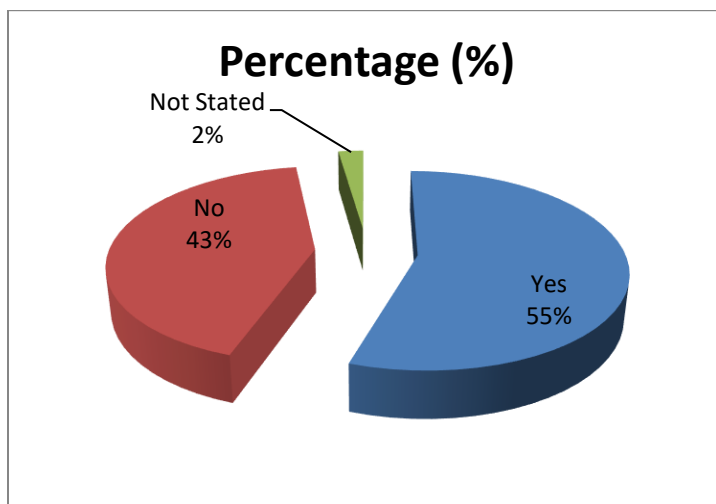
No	Type of Water Supply System	Statistic	%
1	Connection from Town Supply	2	2.3
2	Connected to village reticulated System	0	0.0
3	Rain water collection System	79	90.8
4	Deep well and Pump System	3	3.4
5	Delivery System (Water Cart)	0	0.0
6	Spring	1	1.1
7	Not Stated	2	2.3
	Total	87	100.0

Table 1 – Type of Water Supply System available in Health Facilities

About 90 percent of the water supply system in all surveyed facilities has rain water catchment system as their main water source.

3.4. Water connection into Maternity Ward /Delivery Room

No.	Connection into Delivery Room	Statistic
1	Yes	48
2	No	37
3	Not Stated	2



About 55 percent of the 87 surveyed facilities have water connected into the facility, either they are functioning or don't have constant water flowing into the facility due to the availability of water

3.5. Water treatment methods

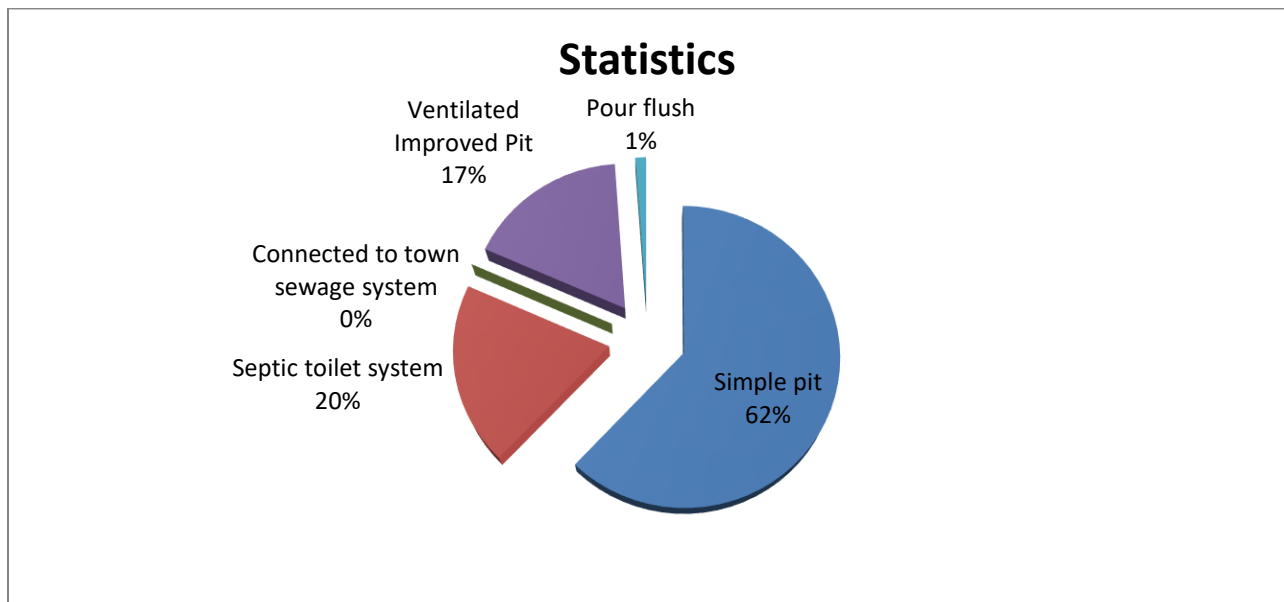
The water used by the most facilities is not treated, however, only those that are connected to Town or Urban Water Supply System are using treated water which compulsorily treated by the water providers.

3.6. Distance to water sources

Most of the Health Facilities uses rain water catchment System, in which all tuffa tanks are located near the buildings and is less than 50meters away (<50m)

3.7. Type of sanitation facility

No.	Type of sanitation Facility	Statistics
	Connected to town sewage system	NIL
	Septic toilet system	17
	Pour flush	1
	Ventilated Improved Pit	15
	Simple pit	52
	None	2
	Total	



The most common and preferred type of toilet facility is the simple pit latrine which is less expensive, easy to construct by any person and does not need water.

3.8. Medical waste disposal method

No	Medical Waste Disposal Method	Statistics
1	Incinerator and Burry	9
2	City/Town Garbage Collection	2
3	Dug Pit and Burning	77
4	Burn on the ground	NIL
5	Left on the ground	NIL
6	Into the sea	NIL
7	Into nearby river	NIL

The most preferred and easy applicable method of dumping medical wastes is dumping in the dug pit for burning and burial or cover when full.

4. DISCUSSION

The data collected from the provinces were not complete because of some of the health facilities information not available and this will be stated further in the conclusion of this report. Nevertheless, the data supplied do indicate the picture of WASH accessibility into health facilities for each facility in the provinces.

4.1. Health Facility

Some of the health facilities names in provinces health information system are not captured in the NDOH health information system such as health facilities having to providing maternity wards for and services were not listed.

4.2. Availability of Water in Health Facility at all times

The availability for water in the health facility is a concern, however, availability of water into the facility with constant water flowing into the maternity and the delivery ward is a priority.

4.3. Types of Water Supply

Most of the health facilities are using rainwater as their main water source. It is easy to install and pipe into the readily available water supply and sanitation facilities.

The number of tanks and sizes should be increased in order to store excess rain water that normally overflows during rain periods. Storing more rain water would have impact on the availability of water in health facility at all times (which is point 3.2 and 4.2)

However, this survey did not capture specific details such as;

- i. Type of tank used by the health facility for maternity and delivery wards, either they are corrugated tanks or tuffa tanks.
- ii. How many tanks connected into the maternity and delivery wards to supply water and the tank sizes?
- iii. Does the facility have overhead tanks and its size?
- iv. The type of water pump used to supply the water to the overhead tank.

4.4. Water treatment methods

Water treatment by the provincial and district health office is said to be an expensive exercise and thus need specialize organization and specialist to carry out such activity. Rain water catchment is the most preferred type of water source because it is easy to install and monitor.

4.5. Connection into health facility (especially labour wards)

All facility surveyed have pipes connected from the water sources use by the facility. The availability of water flowing through those pipes depends on the point 4.2 of this report (availability of water at all times)

4.6. Distance to water sources

From the survey most of the facilities have their water sources in the vicinity of the health facility, therefore the distance of the water source from the facility is noted to be less then 50m (<50 meters) away

4.7. Type of sanitation facility

Most of the health facilities have showers and septic toilets installed in the maternity wards however, only some are using these facilities, e.g. some HCF are only using the showers and not the septic toilets while others are not using these facilities at all.

Most HCF use the simple pit latrine, which is simple to erect and no expense, however, the condition of these simple pit latrines are not user friendly. The type of simple pit latrine they use, are the squirting type with small hole to squirt through.

4.8. Medical waste disposal method

Most of the medical waste are burnt or incinerated before they are dumped into the specific pit allocated, e.g. needles and sharps have it own dumping method and dumping area,

4.9. Health Facility GPS Location

The GPS location for all facilities were not collected and a map showing locations for different types of available facilities couldn't be produced

5. CONCLUSION

Overall information from each health facility display varying/ similarity background values and this is the first of its kind to obtain detailed information on WASH accessibility into health facilities

There is still a low of missing data at this stage and hence there is a need for follow up with provinces to gather this information.

6. RECOMMENDATION

The main recommendations for this report are;

- Allow for further survey, study and exchange with NDOH and Provincial Health with a view to gather additional information to be able to provide a more comprehensive data.
- An updated questionnaire is attached in Annex

7. REFERENCES

NDOH 2011, Draft Health Policy and Action plan for Climate Change, NDOH (unpublished internal Document)

NDOH, WS&S Unit, 2013, Workshop Report on WASH accessibility into Health Care Facilities for Central Province (unpublished, internal Document)

ANNEX

SURVEY FORM

Maternal, Newborn, Child and Health Delivery Facilities Survey in Papua New Guinea

Water Supply, Sanitation, and Hygiene

Date of Survey:...../...../.....

Province:_____ District:_____ LLG: _____

Surveyor Officer (name): _____

Health Facility Name: _____ Contact No. _____

GPS Location of the Health Facility:

Run By:

- a) Government:
- b) Church agency (name): _____
- c) Others (Specify): _____

Type of Facility

- a) Community Health Post / Aid Post
- b) Health Centre
- c) Health Sub Centre
- d) District Hospital

W.1 Is there enough clean water supply readily available to the health facility at all times?

- a) Yes
- b) No (skip 2 & 3)
- c) Don't Know

W.2 If "yes", (readily available at all times), what is the type of water supply system?

- a) Connected to town supply (Eda Ranu or Water PNG)
- b) Connected to village water reticulation system
- c) Rainwater collection system
- d) Deep Well and pumping system
- e) Delivery system (water cart)

W.3 If "No", (W.1), where does the health facility collect its water from?

- a) Community Stand Pipes
- b) Individual Rainwater Catchment System
- c) Shallow well, water drawn by buckets
- d) Nearby River
- e) Distant Open spring source

W.4 What is the distant of the nearest water collection point?

- a) Less than 50 meters
- b) 100 meters to 500 meters
- c) One kilometer or longer

W.5 Does the maternity ward have its own water tank?

- a) Yes
 - b) No
- W.6 What type of water tank?
- a) Corrugate iron tank
 - b) Tuffa tanks
- W.7 Water is the size of the water tanks specifically for maternity ward?
- How many tanks? Sizes?
- W.8 Is it connected to the delivery facility (labour ward)?
- a. Yes
 - b. No
- W.9 Does it have overhead tank
- a) What type of water pump does it have or use
 - b) Electrical pump
 - c) Rotary hand pump
 - d) Fuel powered water pump.
 - e) Others (specify)
- W.10 Is there any form of water treatment carried out from sources that are not considered safe?
- a) Yes
 - b) No
 - c) Sometimes
- W.11 If “yes”, what is the method used for the treatment?
- a) Using chlorine solution
 - b) Water Filters
 - c) Boiling
 - d) Exposing to sunlight
 - e) Leaving water in containers overnight (Sedimentation)
 - f) None
- S.1 What types of sanitary facilities are being used by the health facility?
- a) Connected to town sewerage system
 - b) Septic Tank System
 - c) Pour Flush Toilets
 - d) Ventilated Improved Pit Latrine
 - e) Simple Pit Latrine
 - f) None
- S.2 If “none”, how are human wastes disposed of?
- a) Over-sea or over-river toilets
 - b) Into the bush
 - c) Nearby beach
 - d) Near the plantation/garden
- H.1 Is hand washing being encouraged and practiced in the health-care facility at all times?

- a) Yes
- b) No

H.2 If “Yes”, how do you wash your hand?

- a) With soap/ detergents
- b) With ash
- c) With leaf
- d) Others (specify):_____

H.3 Where and how do you dispose medical and solid wastes?

- a) Incinerator only
- b) Incinerator, dug pit and burning
- c) City/town garbage collection
- d) Dug pit and burning cover when full
- e) Burning on the ground
- f) Left on the ground
- g) Nearby river
- h) Into the sea

H.4 Where do you dispose needles and sharps?

- a) Puncture-proof container
- b) Open bucket
- c) Wheelie bin