

Impacts of Inequality in Access to Primary Healthcare Facilities on Households' Income in Bonny Riparian Communities, Rivers State, Nigeria

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Abstract

Access to healthcare is a fundamental right of citizen and its impacts on households varies across countries, regions and communities. The study aimed to assess the impacts of inequality in access to Primary Healthcare facilities on household in riparian communities of Bonny, Rivers State, Nigeria. Objectives of the study are to ascertain the economic characteristics of households in the study area, examine the means to access in terms travel distance, time and cost, ascertain the spatial distribution of Primary Healthcare facilities in the communities. The methodology applied is the survey research following a sequential explanatory mixed method approach. The multistage sampling technique was applied to determine the household sampling size. Also sample size of 11,257 households was obtained from the total population 56,286 given 5 persons per average household. Also, simple random technique was used in selection of communities for administration of questionnaires in the study area. A total of 400 respondents (household heads) were interviewed including key informants but 354 questionnaires were considered valid for analysis of data. Data collected from primary and secondary sources were analyzed by the use of SPSS and presented inferentially. The study revealed that households used multiple means of transport to access PHC facilities at a time with associated problems such as poor conditions of means of transport, sea current, and low/high tide among others. Also as a result of uneven spatially distribution of PHC facilities, distance, time and costs of travel to PHC facilities increased and these have negative impacts on households' income.

Key Words: Access, Riparian, Primary Healthcare and Inequality

I. BACKGROUND TO THE STUDY

Access is the provisions available to gain entrance to a facility. In this regards, access is geographic and a function of distance, time and cost.

The nature of access remains a critical determinant of household members in meeting their health well-being physically, mentally and socially in any society. These are attributes of a stable health which contributes to the development of all sectors of the economy of a country. 'Nigeria has one of the largest stocks of human resources for health in Africa but still low to effectively deliver essential health services. The health workforce is concentrated in urban tertiary healthcare services' (WHO GHWA, 2008).

The Primary Healthcare System (PHS) is essentially based on practical, scientifically sound and socially acceptable methods and technology made universally accessible to individuals and families in the community through their full participation and at a cost that the community and country can afford to maintain at every stage of their development in the spirit of self-reliance and self-determination World Health Organization (WHO, 1978). PHS is an index of quality of life in many countries and a fundamental human right of citizens is a measure of good governance. Primary Healthcare (PHC) is a whole-of-society approach to health that aims to ensure the highest possible level of health and wellbeing and their equitable distribution by focusing on people's needs and preferences as individuals, households and communities as early as possible along the continuum from health promotion, disease prevention to treatment, rehabilitation and palliative care, and as close as feasible to people's everyday environment (United Nations Children's Fund (UNICEF), 2018). The goal of PHC is to close the gap between the healthcare of "haves" and "have-nots", with a view to achieving more equitable distribution of health resources, and attain a level of health for all the citizens. Essentially, the WHO in 1978 declared at Alma-Atain consensus; instructed all governments to formulate national policies, strategies and plans of action to launch and sustain PHC as part of a comprehensive national health system and in coordination with other sectors. Access to PHC

facilities in most towns and villages in Rivers State especially in the riparian areas is complex because of the creeks and rivers system.

Study Area

Bonny LGA is one of the 23 Local Government Areas (LGA) in Rivers which landscape is crisscrossed by system of rivers and creeks. It located within Latitude 4°45'N and Longitude 6°50'E (Kuruk, 2004). Bonny is bounded on the North by Ogu/Bolo and Okrika LGAs, to the South by the Atlantic Ocean. Bonny LGA is entirely riparian with 63 communities out which 11 communities have PHC and 53 have no PHC facilities (Rivers State

Ministry of Budget and Economic Planning Statistics, Manpower and Research Department, 2003). Bonny LGA's population was 76,224 in 1991 (National Population Commission-NCP, 2018) and was projected exponentially to 56,286 in 2020 by the application of 3.2% growth rate (NPC, 2018) for the study. Every community in the LGA is an inland or coastal area comprising both land and water characterised by limited land lines with extensive water surface and or inland water ways open to the Atlantic Ocean(see fig.1). These provide natural routes for surface transportation and communications for these communities.

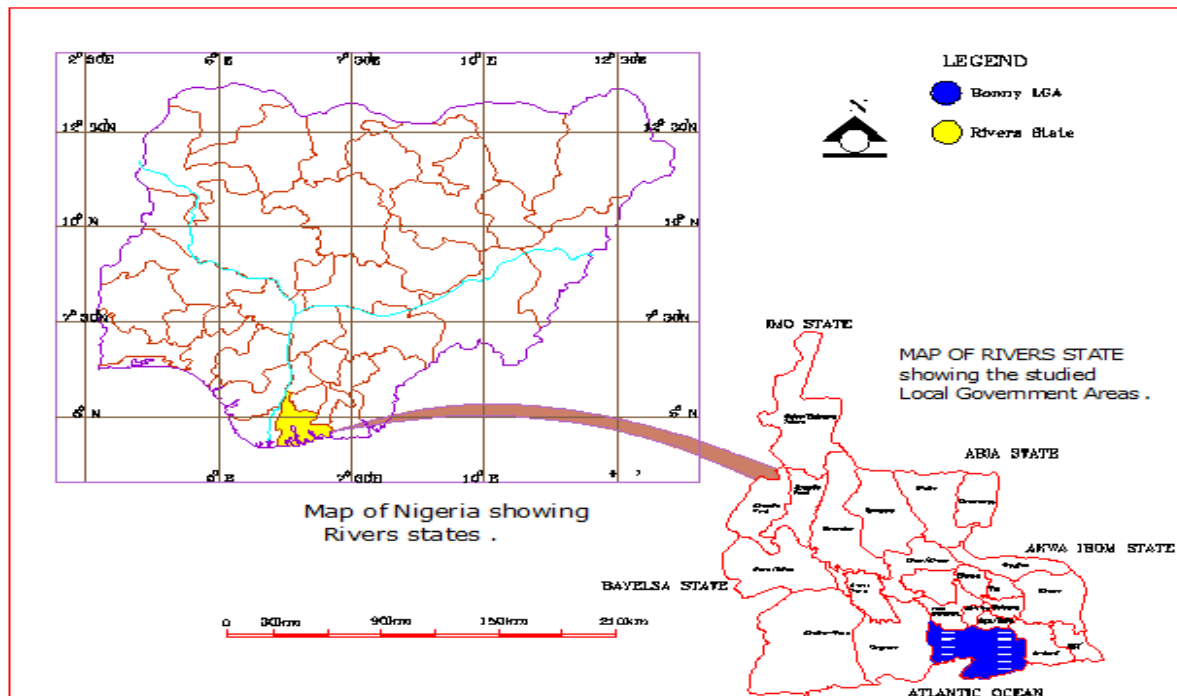


Fig. 1: Map of Nigeria showing Rivers state and Bonny LGA
 Source: Authors', 2021

Aim of the Study and Objectives

The aim of the study is to examine the impact of inequality in access to PrimaryHealthcare facilities on households' income in Bonny riparian communities, Rivers State.

The study has the following objectives:

- i. Ascertain theeconomic characteristics of households in the study area.
- ii. Examine the means to accessin terms travel distance, time and cost to primary healthcare facilities.
- iii. Assess the spatial distribution of Primary Healthcare facilities in the communities.

Statement of the Problem

The contiguous island communities in Bonny LGA located within the creeks and rivers directly linked to the Atlantic Ocean (see fig. 1.1) and by geographic location they are vulnerable to physical and environmental issues that impede movement. Major among these is the ease with which the people living in these communities access essential public facilities spatially located in the areas for prompt attentions when they have health challenges. For instance PHC facilities in record which were provided for some communities were meant to service other communities that do not have these facilities. However, provisions for ease of access were not considered when locating these PHC facilities. This is a challenge to households to meet

their health needs. It becomes more apparent in handling health related emergencies and referrals of households in these communities as they depend on the available means and modes of transport to the required healthcare facilities as at when needed. Presently, accessing communities in the study area is more problematic because governments (local and state) no longer provide and manage public marine transport services. Communities rely on small private boat operators to meet their needs. These operators are totally responsible for the management of the entire marine transport system.

Scope of the Study

In Rivers State, there are three major strata of Healthcare facilities. These are the tertiary, secondary and primary healthcare facilities. At the tertiary level there is a teaching hospital; at the secondary level there are general hospitals and the primary health cares at the primary level. The Primary Healthcare facilities are those facilities mainly found in the Local Government Areas and access to the PHC facilities in terms of travel distance, travel time and cost of travel are the interest in this study. In this direction, the study covers spatially the riparian communities in Bonny Local Government Areas of Rivers State. The emphasis is on communities with PHC and those without PHC facilities which can only be accessed by water mode of transportation. However, the study focused on potential access which represents feasible entry into the healthcare location and this has to do with distance covered in kilometers, time in hour and costs of travel in naira. It means access in the light of transportation planning (travel distances, costs and times to PHC facilities excluding excess times).

II. METHODOLOGY

The methodology applied in this study is survey research method following a sequential explanatory mixed method approach. The multistage sampling technique was applied to determine the household sampling size. First, 30% of communities with PHC and without PHC facilities were

purposely selected randomly to arrive at 3 and 15 communities for 'have' and 'have not' of PHC facilities respectively. The 'have' communities are Finima, Banigo and Oloma while the 'have not' are Jackmay, Georgekiri, Henry Long John, Sodeinkiri, Jumbo, Hart Abraham, Kalabiyama, Bariko, Eferewary, Epelema and Achiana. Others are Ishileogono, Iwoma, Erewari and Otolomabia. Based on the total projected population of these communities, a sample size of 81,422 was obtained for a total population of 473,224 given 5 persons per average household. A total of 111 respondents (household heads) derived by the application of the Krejcie and Morgan model and also by percentage ratio of the population of these communities it was distributed. Finally, 35 and 76 household heads were interviewed in PHC 'have' and 'have not' communities respectively by a structured questionnaire. Other instruments employed for primary data collection directly from field of study were key informants, photographs, observations, Stock-watch and Geographic Positioning System (GPS) Speedometer. Data was analyzed with Special Package for Social Statistics-SPSS and presented in inferential statistics and the posited hypothesis was test with multiple regression model.

III. FINDINGS

The finding in this study is on the strength of analyzed 354 (88.5%) of valid questionnaire retrieved. It was revealed that most household heads are male and 37% of these households have 4-6 members next to 7-9 (30.4%) members (see Table 1 and 2). It means decisions in households especially trips to healthcare facilities as at when needed is made more by the male household heads in communities that have PHC and those that have not. The main occupation of households in the riparian communities of Bonny is fishing followed by artisanship and petty trading out of which households raise money to make healthcare related trips. Monthly the income of most households is ₦18,000 to ₦39,999 and household budget in a month is within this range (see Table 3 and 4).

Table 1: Sex of Household Heads

S/N	Gender	Bonny Communities					
		PHC Have		PHC Have not		Aggregate	
		N	%	N	%	N	%
1	Male	46	66.7	181	63.5	227	64.1
2	Female	23	33.3	104	36.5	127	35.9
	Total	69	100	285	100	354	100

Researcher's Field Survey, 2020

Table 2: Household Size

S/N	Household Size	Bonny Communities
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		PHC Have	PHC Have not	Aggregate	%
		N	N	N	
1	1-3	19	15	34	10
2	4-6	31	100	131	37
3	7-9	8	100	108	30.4
4	10-12	11	43	54	15
5	13-14+	-	27	27	7.6
Total		69	285	354	100

Researcher's Field Survey, 2020

Table 3: Household Heads Occupation Status

S/N	Occupation status	Bonny			
		PHC Have	PHC Have not	Aggregate	%
		N	N	N	
1	Civil and Public servant	8	-	8	2.3
2	Artisan	15	66	81	23.4
3	Contacting	4	4	8	2.3
4	Company staff	8	-	8	2.3
5	Fishing	15	81	96	28.0
6	Boat Driving	8	42	50	14.5
7	Petty Trading	8	62	70	20.2
8	Security	-	-	-	-
9	Hunting	-	12	12	3.5
10	Farming	-	-	-	-
11	Religion Management	4	8	12	3.5
12	Retired	-	-	-	-
13	Applicant	-	-	-	-
14	Others	-	-	-	-
Total		70	275	345	100

Researcher's Field Survey, 2020

Table 4: Household Heads Monthly Income

S/N		Bonny			
		PHC Have	PHC Have not	Aggregate	%
		N	N	N	
1	Less than 18,000.00	-	31	31	8.8
2	18,000.00 – 39,999.00	4	93	97	27.7
3	40,000.00 – 59,999.00	15	77	92	26.2
4	60,000.00 – 79,999.00	19	23	42	12
5	80,000.00 – 99,999.00	15	27	42	12
6	100,000.00-119,999.00	4	15	19	5.4
7	120,000.00-139,999.00	4	-	4	1.1
8	140,000.00-159,999.00	-	4	4	1.1
9	160,000.00-179,999.00	-	-	-	-
10	180,000.00-199,999.00	-	-	-	-
11	200,000.00+	4	15	19	5.4
Total		65	285	350	100

Researcher's Field Survey, 2020

The means of transport use by households to and from the location of PHC in communities with PHC and without PHC as presented in table 5

indicates 35.2% of households make trips to PHC facility on foot and more (46.6%) households in communities without PHC. Also, households in

communities without PHC spent more time and move longer distance to PHC facilities in Bonny owing to lack of personnel and maintenance of the facilities (see Plates 1 and 2). However, while 25.7% use motor cycle in aggregate, 14.3% of households ply out-board engine fiber speed boat as the predominant means of transport. This has an impact on households' budget in meeting their health needs considering their poor monthly income. In some communities like Oloma a multi-national company provides an alternative PHC but still abandoned for lack of personnel hence households in this community travel to Bonny Island for healthcare

either by hand-pulled canoe out board engine fiber speed boat. *'In times of emergency, households put phones across to boat drivers at Bonny Island or New Finima and pay the 'to and fro' fares'*. However, communities with functional PHC facilities (Bonny and New Finima), households used motorcycle, foot and private cars while households in communities without PHC rely on hand-pulled canoe, foot and motorcycle per trip to PHC facilities. This takes longer travel time, distances and costs to PHC facilities and negatively impact on household income.

Table 5: Household Heads Means of Transport to and from Location of PHC in Communities with and without PHC Facilities

S/N	Means of Transport	Bonny					
		PHC Have		PHC Have not		Aggregate	
		N	%	N	%	N	%
1	Out board engine fiber Speed boat	46	36	12	4.1	58	14.3
2	Hand pulled canoe	12	10	57	20.5	69	17.1
3	Motor cycle	39	31	66	23.3	105	25.7
4	Out-board engine wooden boat	12	10	12	4.1	24	5.7
5	Bicycle	-	-	-	-	-	-
6	Bus	-	-	-	-	-	-
7	Taxi	-	-	4	1.4	4	0.9
8	Foot	12	10	131	46.6	143	35.2
9	Private car	4	3	-	-	4	0.9
10	Others	-	-	-	-	-	-
	Total	125	100	282	100	407	100

Researcher's Field Survey, 2020



Plate 1: Dilapidated and Abandoned PHC Facility in Oloma Community in Bonny LGA
 Source: Researcher's Field Survey, 2020



Plate 2: Abandoned PHC Facility in Banigo Community in Bonny LGA Commissioned on 13th May, 1999

The monthly average cost of accessing PHC facilities by households in communities with PHC facilities by different means of transport in Bonny is illustrated in table 6. Specifically, data show 17.9% of households at travel fare categories of ₦3,000, ₦5,000 and ₦11,000 spend average sums of ₦30,000, ₦50,000 and ₦209,000 respectively as fare to PHC facilities by the use of out-board engine fiber speed boats and motorcycles as means of transport. Other fares categories at the same proportion of 7.2% are ₦1,000 and ₦8,000 and respondents spend average sums of ₦4,000 and ₦32,000 respectively by the use of hand-pulled canoes, out-board engine fiber speed boats and motorcycles as means of transport. Similarly, 10.7% of respondents at fare categories of ₦4,000, ₦6,000 and ₦9,000 spend average sum of ₦16,000, ₦72,000 and ₦54,500 respectively board hand-pulled canoes, out-board engine fiber speed boats, motorcycles and out-board engine wooden boat to access PHC facilities. An average sum of ₦83,625 is spent monthly by all households to access PHC facilities. This represents 51.6% of the monthly households' income that is spent on trips to healthcare facilities alone and the rest 48.4% is used to solve other households' problems. Most households really afford these costs and as a result rely on self-medications and traditional efficacies in meeting their healthcare needs.

In communities without PHC facilities, table 7 explained data on monthly average sums of money spend by households in accessing PHC facilities. It reveals that 13% of households in fare category of less than ₦1,000 use motorcycles as means of transport only and spend an average sum of ₦4,500 while a corresponding percentage at fare categories of ₦5,000 and ₦8,000 spend average sums of ₦85,000 and ₦140,000 respectively by the use of out-board engine fiber speed boats and hand-pulled canoes as means of transport. Most households (16.4%) at a fare category of ₦1,000 board hand-pulled canoes and motorcycles spend an average sum of ₦22,000. Next are 7.1% of households who use out-board engine fiber speed boats and hand-pulled canoes as means of transport at the fare categories of ₦2,000, ₦10,000 and ₦11,000 pay average sums of ₦19,000, ₦190,000 and ₦209,000 respectively. The lowest are 4.4% of respondents at fare categories of ₦4,000 and ₦7,000 spend average sums of ₦48,000 and ₦84,000 respectively. Households generally spend an average sum of ₦93,863 to access PHC facilities at their various locations. This is about three times more than households' monthly income. This has negative impact on households' budgets with increased inaccessibility of PHC facilities by households.

Table 6: Monthly Average Cost of Accessing PHC Facility by Households in Bonny Communities with PHC

S/N	Fare in Naira (₦)	Bonny														
		Means of Transport										Total Respondents N	%	Total (₦)	Average (₦)	
		OBE	HPC	MC	OBW	BC	B	T	F	PC						
1	<1,000 (500)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	1,000	-	4	4	-	-	-	-	-	-	-	8	7.2	8,000	4,000	
3	2,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	3,000	8	-	12	-	-	-	-	-	-	-	20	17.9	60,000	30,000	

5	4,000	-	4	4	4	-	-	-	-	-	12	10.7	48,000	16,000
6	5,000	12	-	8	-	-	-	-	-	-	20	17.9	100,000	50,000
7	6,000	-	-	12	-	-	-	-	-	-	12	10.7	72,000	72,000
8	7,000	-	-	-	-	-	-	-	-	-	-	-	-	-
9	8,000	4	4	-	-	-	-	-	-	-	8	7.2	64,000	32,000
10	9,000	4	-	-	8	-	-	-	-	-	12	10.7	108,000	54,500
11	10,000	-	-	-	-	-	-	-	-	-	-	-	-	-
12	11,000	19	-	-	-	-	-	-	-	-	19	17.9	209,000	209,000
13	11+	-	-	-	-	-	-	-	-	-	-	-	-	-
Total		47	12	40	12	-	-	-	-	-	111	100	669,000	83,625

Source: Researcher’s Field Survey, 2020

***Out-board engine fiber Speed boat (OBE), Hand-pulled canoe (HPC), Motorcycle (MC), Out-board engine wooden boat (OBW), Bicycle (BC), Bus (B), Taxi (T), Foot (F), Private car (PC)

Table 7: Monthly Average Cost of Accessing PHC Facility by Households in Bonny Communities without PHC

S/N	Fare in Naira (₦)	Bonny									Total Respondent N	%	Total (₦)	Average (₦)
		Means of Transport												
		OBE	HPC	MC	OBW	BC	B	T	F	PC				
1	<1,000 (500)	-	-	35	-	-	-	-	-	-	35	13	17,500	4,500
2	1,000	-	4	40	-	-	-	-	-	-	44	16.4	44,000	22,000
3	2,000	4	15	-	-	-	-	-	-	-	19	7.1	38,000	19,000
4	3,000	-	4	12	-	-	-	-	-	-	16	5.9	48,000	24,000
5	4,000	-	12	-	-	-	-	-	-	-	12	4.4	48,000	48,000
6	5,000	30	4	-	-	-	-	-	-	-	34	13	170,000	85,000
7	6,000	-	-	-	-	-	-	-	-	-	-	-	-	-
8	7,000	-	12	-	-	-	-	-	-	-	12	4.4	84,000	84,000
9	8,000	27	8	-	-	-	-	-	-	-	35	13	280,000	140,000
10	9,000	23	-	-	-	-	-	-	-	-	23	8.5	207,000	207,000
11	10,000	19	-	-	-	-	-	-	-	-	19	7.1	190,000	190,000
12	11,000	19	-	-	-	-	-	-	-	-	19	7.1	209,000	209,000
13	11+	-	-	-	-	-	-	-	-	-	-	-	-	-
Total		122	59	87	-	-	-	-	-	-	268	100	1,335,500	93,863

Researcher’s Field Survey, 2020

***Out board engine fiber Speed boat (OBE), Hand pulled canoe (HPC), Motorcycle (MC), Out-board engine wooden boat (OBW), Bicycle (BC), Bus (B), Taxi (T), Foot (F), Private car (PC)

Information in table 8 and 10 presents 35.7% of households access PHC facilities by out-board engine fiber speed boats as means of transport at an average distance of 7.3Kms and 12.2% of households by hand-pulled canoes had access at an average distance of 3Kms in 9 hours. The sets of households who by foot and motorcycles means of

transport access PHC facilities cover an average distance of 0.5Km. The entire households by the use of out-board engine fiber speed boats, hand-pulled canoes, foot and motorcycle at an average distance of 8.3Kms access PHC facilities in Bonny communities with PHC facilities (see Figure 2).

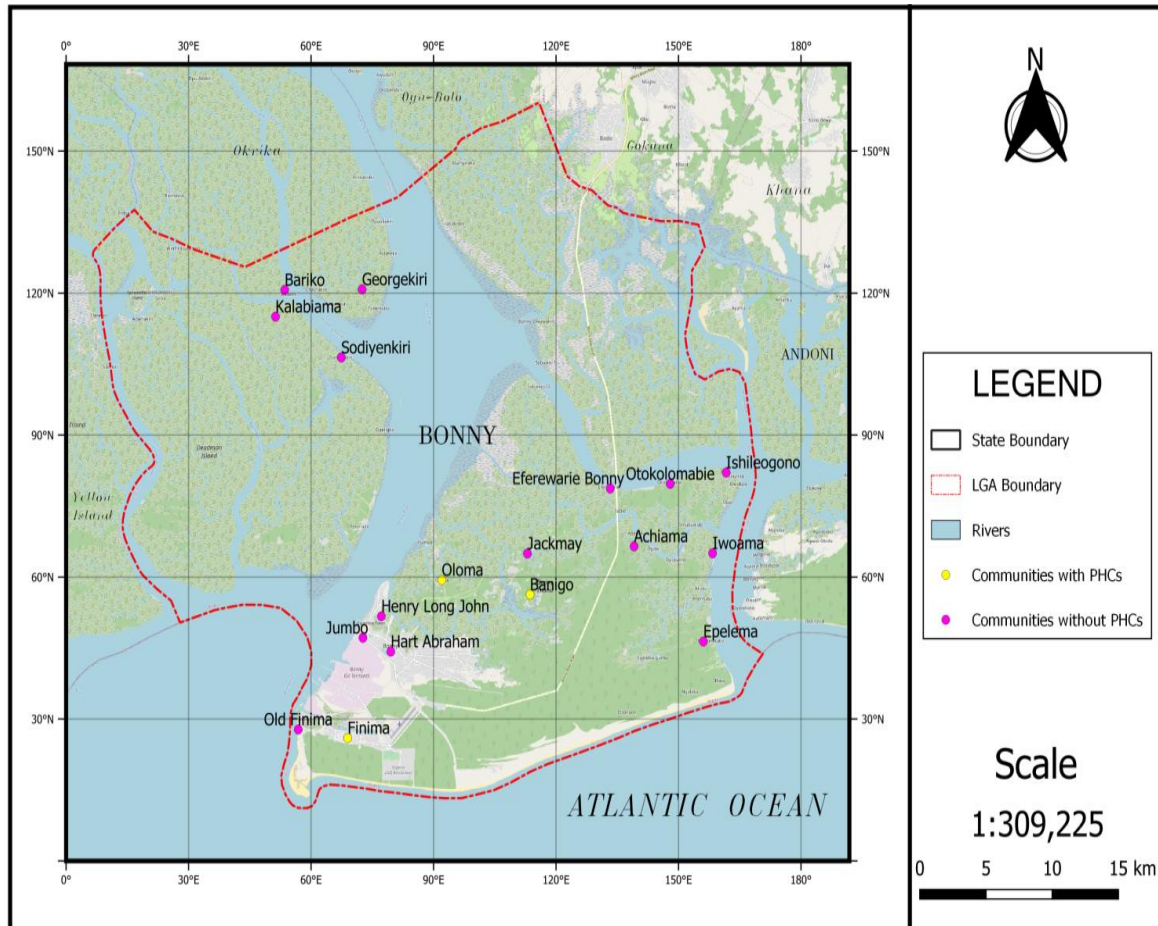


Figure 2: Spatial Distribution of PHC Facilities Sampled in Bonny LGA
 Source: Researchers' Field Survey, 2020

Also, table 9 and 11 presents data on average distance covered by households in communities without PHC facility. It reveals that 41.8% and 23.8% of households who by out-board engine fiber speed boats and hand-pulled canoes respectively access PHC facilities at an average distance of 8.8Kms while 1.2Kms, 10% of households boardmotorcycleat an average distance of 3.5Kms. In like manner, 14.1% of households use out-board engine wooden boat to access PHC facilities. However, 2.8% of households who by Bicycle, Bus and Taxi cover an average distance of 0.5Km in access to PHC facilities while 1.4% of households by private car cover an average distance of 0.5Km to PHC facilities. Collectively, households cover an average distance of 12.8Kms to access PHC facilities in communities without PHC facilities.

It means households in communities such as Jackmay, Georgekiri, Henry Long John,

Sodeinkiri, Jumbo, Hart Abraham, Kalabiana, Bariko, Eferewary, Epelema and Achiana. Others are Ishileogono, Iwoma, Erewari and Otolomabia (see figure 2) spend half day minimum in transit to meet their healthcare needs by multiple means of transport. This has an economic impact and also contributes to inaccessibility of the healthcare facilities by households in Bonny riparian communities in Rivers State. Considering the spatial distribution of PHC facilities in the LGA, analysis shows 11(17.5%) of the total 63 communities have PHC facilities and only PHC facilities in Bonny and Fenima towns which is 3.2% of the total provisions are non-functional by observation. This also gives rise to increase in travel costs, distance and time to PHC facilities by households in communities without PHC facilities to meet their healthcare needs by travelling to Bonny and Finima towns when necessary and these have direct negative impact on finance of the households in the communities.

Table 8: Average Distance Covered by Households in Accessing PHC Facility in Bonny Communities with PHC

S/N	Means of Transport (MT)	Bonny														Total Respondent	%	Total (km)	Average (km)
		Distance Covered in Kilometres (km)																	
		Less 1 (.5km)	1	2	3	4	5	6	7	8	9	10	11	12					
1	OBE	-	-	-	-	-	4	4	-	4	-	23	-	-	35	35.7	29	7.3	
2	HPC	-	-	-	12	-	-	-	-	-	-	-	-	-	12	12.2	3	3	
3	MC	39	-	-	-	-	-	-	-	-	-	-	-	-	39	39.7	0.5	0.5	
4	OBW	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
5	BC	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
6	B	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
7	T	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
8	F	12	-	-	-	-	-	-	-	-	-	-	-	-	12	12.2	0.5	0.5	
9	PC	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
10	Others	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Total(MT)	2	-	-	1	-	1	1	-	1	-	1	-	-	98	100	33	8.3	

Source: Researcher’s Field Survey, 2020

***Out board engine fiber Speed boat (OBE), Hand pulled canoe (HPC), Motor cycle (MC), Out-board engine wooden boat (OBW), Bicycle (BC), Bus (B), Taxi (T), Foot (F), Private car (PC)

Table 9: Average Distance Covered by Households in Accessing PHC Facility in Bonny Communities without PHC

S/N	Means of Transport (MT)	Bonny														Total Respondent	%	Total (km)	Average (km)
		Distance Covered in Kilometres (km)																	
		Less 1 (.5km)	1	2	3	4	5	6	7	8	9	10	11	12					
1	OBE	-	-	-	-	-	-	35	19	-	8	12	-	42	116	41.8	44	8.8	
2	HPC	-	-	-	-	-	-	4	-	8	19	23	12	-	66	23.8	44	8.8	
3	MC	12	12	4	-	-	-	-	-	-	-	-	-	-	28	10	3.5	1.2	
4	OBW	-	-	-	-	19	19	-	-	-	-	-	-	-	39	14.1	9	4.5	
5	BC	8	-	-	-	-	-	-	-	-	-	-	-	-	8	2.8	0.5	0.3	
6	B	8	-	-	-	-	-	-	-	-	-	-	-	-	8	2.8	0.5	0.3	
7	T	8	-	-	-	-	-	-	-	-	-	-	-	-	8	2.8	0.5	0.3	
8	F	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
9	PC	4	-	-	-	-	-	-	-	-	-	-	-	-	4	1.4	0.5	0.5	
10	Others	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Total(MT)	5	1	1	-	1	1	2	1	1	2	2	1	1	277	100	102.5	12.8	

Source: Researcher’s Field Survey, 2020

***Out board engine fiber Speed boat (OBE), Hand pulled canoe (HPC), Motorcycle (MC), Out-board engine wooden boat (OBW), Bicycle (BC), Bus (B), Taxi (T), Foot (F), Private car (PC)

Table 10: Average Time Taken by Households in Accessing PHC Facility in Bonny Communities with PHC

S/N	Means of Transport (MT)	Bonny														Total Respondent	%	Total (hr.)	Average (hr.)
		Time in Hour (hr.)																	
		Less 1 (.5hr)	1	2	3	4	5	6	7	8	9	10	11	12					
1	OBE	-	4	12	4	12	15	-	-	-	-	-	-	-	-	47	42.7	15	3
2	HPC	-	-	-	-	-	-	-	8	4	-	-	-	-	-	12	10.9	17	8.5
3	MC	39	-	-	-	-	-	-	-	-	-	-	-	-	-	39	35.4	0.5	0.5
4	OBW	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	BC	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	B	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	T	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	F	-	4	-	4	-	4	-	-	-	-	-	-	-	-	12	10.9	9	3
9	PC	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	Others	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Total (MT)	1	2	-	2	-	2	-	-	1	1	-	-	-	-	110	100	41.5	10.4

***Out board engine fiber Speed boat (OBE), Hand pulled canoe (HPC), Motorcycle (MC), Out-board engine wooden boat (OBW), Bicycle (BC), Bus (B), Taxi (T), Foot (F), Private car (PC)
 Source: Researcher’s Field Survey, 2020

Table 11: Average Time Taken by Households in Accessing PHC Facility in Bonny Communities without PHC

S/N	Means of Transport (MT)	Bonny														Total Respondent	%	Total (hr.)	Average (hr.)
		Time in Hour (hr.)																	
		Less 1 (.5hr)	1	2	3	4	5	6	7	8	9	10	11	12					
1	OBE	-	-	23	19	12	4	31	19	12	-	-	-	-	-	120	43.0	35	5
2	HPC	-	-	-	-	-	-	-	4	8	19	23	12	-	-	66	23.6	45	9
3	MC	27	-	-	-	-	-	-	-	-	-	-	-	-	-	27	9.6	0.5	0.5
4	OBW	-	19	19	-	-	-	-	-	-	-	-	-	-	-	38	13.6	3	1.5
5	BC	8	-	-	-	-	-	-	-	-	-	-	-	-	-	8	2.8	0.5	0.3
6	B	8	-	-	-	-	-	-	-	-	-	-	-	-	-	8	2.8	0.5	0.3
7	T	8	-	-	-	-	-	-	-	-	-	-	-	-	-	8	2.8	0.5	0.3
8	F	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	PC	4	-	-	-	-	-	-	-	-	-	-	-	-	-	4	1.4	0.5	0.5
10	Others	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Total (MT)	5	1	2	1	1	2	1	2	2	1	1	1	-	-	279	100	85.5	10.7

***Out board engine fiber Speed boat (OBE), Hand pulled canoe (HPC), Motorcycle (MC), Out-board engine wooden boat (OBW), Bicycle (BC), Bus (B), Taxi (T), Foot (F), Private car (PC)
 Source: Researcher’s Field Survey, 2020

IV. RECOMMENDATIONS

The major occupation of the people is fishing and income from it had sustained most households but income from this occupation is inadequate to pay for fares to PHC facilities and solve other households’ problems in a month. Hence, household training on advanced fishing techniques can be undertaken by government, non-governmental organizations and individuals to enhance the income base of households. Secondly, more PHC facilities are required and location and staffing of these facilities also required adequate

study. In this case, the LGA has to be directly involved in monitoring and maintenance of PHC facilities as well as provisions of incentives for personnel. Finally, the provision of mobile healthcare programmes and services through water ambulances will reduce households’ travel time, distances and costs to PHC facilities.

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