An Assessment of the Provision and Distribution of Health Facilities in Bukuru Town, Plateau State, Nigeria

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ABSTRACT

This research investigates issues associated with the provision and distribution of health care facilities in order to promote the well-being of the people of Bukuru town, hence, effectiveness of the health care facilities. Such issues include inadequate provision of health facilities, lack of compliance extant policies and spatial distribution of health facilities. The author looked at the effectiveness of the process of provision with emphasis on broad knowledge as it affects planning and management of health facilities. The list of registered health care facilities was obtained from the Ministry of Health and by identifying and locating their locations. These were achieved with the aid of scientific tools of remote sensing GPS and GIS for an updated map, where the research discovered twenty one (21) health facilities. Questionnaires using the Survey Available Mapping structure (SAM) were used to gather data concerning their categories. The results shows that only one (1) attained the tertiary level, four (4) PHCs while others at health Center level, thus, were uneven distributed (scattered) and insufficient as expected by the policy. The classifications were based on equipment, staff strength and patients' response to the provision of the health care facilities. The response by the patients shows that all of the health care centers charges certain amount of money indicating that they are profit oriented. There were two (2) government owned and nineteen (19) private health care facilities, bed space ranges from 5 to 40 and covering distance of 5 to 200 km in terms of patronage. Despite the inadequacies of some of the health facilities the patients expresses satisfaction with the services rendered. In order to bring about the desired changes to promote the well being of the people of Bukuru town with estimated population of 168, 275, the research recommended strategies towards attaining the desired goal of effective provision and distribution of health care facilities, such as all health providers to strictly adhere to the policies of the provision, upgrading health facilities to competent health facilities in their true sense and strategy of distribution with the need to improve the additional secondary level of health care in Bukuru Town.

Keywords: Assessment, distribution, provision, health, facilities

1.0   INTRODUCTION

The spatial distribution of health facilities is of paramount importance to planners. There inequitable distribution over space is of concern and has brought about the issue of provision and effective utilisation of the facilities. It is believed that it is highly available in the urban areas and, the number and quality of health facility in a country or region is one common measure of that area's prosperity and quality of life (Rizyada, 2012).

Health facilities include all public, private, non-governmental and community-based health facilities defined as a static facility (i.e., has a designated building) in which general health services are offered. Health posts can be counted as static facilities, but because they are generally small with minimal supplies, they may need to be disaggregated for interpretation purposes (WHO, 2010). In addition, health facilities refer to the physical structure and supporting equipment established for provision of health services. It usually involves a structure with facilities for different health service needs, equipment such as cold chain facilities for storage, management and use in the provision of health services to the population (Shrestha, 2010). Markus and Makanjuola (2011) stated that health policies are directed towards the creation of a basic infrastructure and adequate manpower for effective delivery of health services for the rapid growing population considering primary, secondary and tertiary levels.

Although much work has been done by Basu and Friedman (2001), Doherty, Rispel and Webb (1996), Islam and Aktar (2011) and USAID (2013) in accessing the availability and adequacy of health facilities, emphasis was dwelled much on relationship between health facility, population and, the adequacy based on performance toward assessing the progress in determining the intervention of public health facilities to the communities and mostly in relation to urban and rural areas.

Hence, the concern of this research is towards bringing up an existing knowledge on the state of health facilities in Bukuru town considering its provision and distribution.

The present paper is to examine the provision and distribution of health facilities in Bukuru Town in order to determine their accessibility, effectiveness and proffer planning solution that will improve the health being of the people.

Specific Objectives includes:

    i.   To assess the compliance to the policy on the provision of healthcare facilities in Bukuru Town.

    ii.   To determine the adequacy of the provision and distribution of health care facilities within Bukuru Town.

    iii.   To proffer appropriate planning strategies towards ensuring conducive environment for the operation of the health care facilities in Bukuru Town.

The research does not include mobile service delivery points, pharmacist and chemist, and non-formal services such as traditional healers.

There is limitation of non response from some health facilities such as Sunnah Clinic and PHC Gyel to give a 100% survey (21 health facilities).

2.0 PLANNING FRAMEWORK

Health Facility Policy Development in Nigeria

Provision of health care facilities to cater for the welfare of public was a cardinal policy of the Federal Government as "not much can be expected from a sick labour force, no matter how skilled" **(**Scott-Emuakpor, 2010). It is stated that the first health care facility in the country was a dispensary opened in 1880 by the Church Missionary Society in Obosi, followed by others in Onitsha and Ibadan in 1886. However, the first hospital in Nigeria was the Sacred Heart Hospital in Abeokuta, built by the Roman Catholic Mission in 1885.

In 1979, there were 562 General Hospitals, 16 Maternity and Pediatric Hospitals, 11Armed Forces Hospitals, 6 Teaching Hospitals and 3 prison Hospitals and they all accounted for 44, 600 hospital beds. In addition to these, there were estimated 600 Health Centers, 2740 General clinics, 930 Maternity Homes and 1240 Maternity Health Centers. By 1985, 13% of the hospital beds were provided by 84 Federal Institutions while 47% of the hospital beds were provided by 3, 023 hospitals owned by the State Governments. The rest of the beds were provided by 6331 health facilities owned by Local governments (11% of the beds) and 1436 private hospitals (14% of the beds) Nationwide health care services. The health care services in Nigeria have been characterized by short-term planning, as is the case with the planning of most aspects of the Nigerian life. The major national development plans are as follows:

1. The First Colonial Development plan from 1945- 1955 (Decade of Development)
2. The Second Colonial Development plan from 1956- 1962
3. The First National Development Plan from 1962- 1968
4. The Second National Development Plan from 1970- 1975
5. The Third National Development Plan from 1975- 1980
6. The Fourth National Development Plan from 1981- 1985
7. Nigeria's Five year Strategic Plan from 2004 – 2008

By the time the Third National Development Plan was produced in 1975, this plan, which was described by General Yakubu Gowon, the then Head of the Military Government, as "A Monument to Progress". This development plan appeared to have focused attention on trying to improve the numerical strength of existing facilities rather than evolving a clear health care policy.

Health Facilities Standard in Nigeria

There are basically three health care levels in Nigeria; Primary Health Care (PHC), Secondary Health Care (SHC) and Tertiary Health Care (THC).

PHC is seen by the 1978 declaration at Alma Ata (WHO, 1978) as essential health care based on practical, scientifically sound and social acceptable methods and technology made universally accessible to individual and families in the community through their full participation and at a cost that that the community and country can afford at every stage in their development, in the spirit of self reliance and self determination. It is first level of contact of individuals, the family and the community with the national health system, there by bringing health care as close as possible to where the people live and work.

It is at which basic health services would be delivered in health centers, clinics and outpatient departments of hospitals located in rural suburban and urban centers.

SHC exists to provide specialized services to patients referred from the primary health care level. It was design to provide general and specialist health care services mostly in general hospitals as well as referral support to the Basic/ PHC level.

THC which is the apex of the national health care system consists of highly specialized services. It was to be provided in specialist and teaching hospitals and other similar institutions in support of the basic and secondary levels of the health care delivery system (Anyanwu, Oaikhenan, Oyefusi and Dimowo, 1997).

Scott-Emuakpor (2010) provided the analysis that the Fourth National Development plan (1981- 1985) addressed the issue of preventive health services for the first time. Basic Health Services Scheme (BHSS), which provides for the establishment of three levels of health care facilities.

Review Plan of the Distribution Health Facility in Bukuru

Doxiadis Associates (1976) as reported in the Greater Jos Master Plan (1973) that listing of the four Hospitals in Jos (2 government and 2 missionary) has given 1 bed per 290 inhabitants, for the Jos-Bukuru complex. Although the number of inhabitants per hospital bed in comparison with the standards of the western European countries (1 bed per 70- 140 inhabitants) is relatively low, it would not be correct to accept the actual situation in European countries as the proper standard for Nigeria. Applying the standard of 300 inhabitants per bed to the 1973 estimated population of Jos Bukuru, the total required number of beds equals to 518. Bearing in mind that there are already 540 beds in Jos, there was no need for more hospitals at that time.

The above mentioned estimate of the necessary number of hospital beds concerns the population of the urban area alone and does not cover the rural population within the zone of influence of the city. Though, it is customary for rural population around important urban centers to use the public health services of the latter. The data available was said to be not permit and a reliable estimate of the extra number of hospital beds that should be created in Jos Bukuru to accommodate the needs of the surrounding population.

Estimate of Health Facilities in Jos- Bukuru in 1973

The estimate of the health facilities in the 1973 and future needs has been divided into the three following categories and corresponding targets:

  a.   Dispensaries, with a target of 1 to 10, 000 inhabitants.
  b.   Health Centers, with a target of 1 to 100,000 inhabitants.
  c.   Hospitals, with a progressively improving target of number of beds rising from 3.5 to 8 per 1, 000 inhabitants. This was said to consider and to cope for a part of the needs of the wider region, in addition to those of Jos- Bukuru complex itself.

Shankland Cox (1980) in their final report of the Plateau Regional study, stated that Plateau state as a whole was well provided with hospitals, but local health facilities were not well distributed, lack equipment and were understaffed. Also that there was concentration of health facilities in the capital of the state which invariably includes Bukuru town being part of the capital though, there was an ambition for developing an adequate system of health facilities but there was severe financial and man power constraints on its successful implementation.

n in their report of Greater Jos Master Plan used the conventional standard of one Primary Health Centre for every 5,000 people (that is, a neighbourhood), indicates gross deficiency in the provision of Primary Health Centres, particularly for Jos North and Jos South. That by standard, a minimum of 86 PHCs would be required for a total population of 429,300 in Jos North but only 30 were existing. Similarly, 61 PHCs were required as against only 46 existing in Jos South.

In view of the general lack of funds, it was recommended that Government should develop at least one General Hospital in each Sub-Sector which is made up of approximately 5 neighbourhoods of between 25,000 – 30,000 population and one Specialist/Referral Hospital in a Sector which is made up of about 3 – 4 Sub-Sectors. That Private Sector should be encouraged by Government to develop Sub-Sector Hospitals within the Private – Partnership – Arrangement (PPA).

2.0 MATERIALS AND METHOD OF STUDY

The study area

Bukuru which serves as the administrative headquarters and the major commercial centre of Jos- South Local Government Area Council is situated approximately on latitude 9.5º North and longitude 3.5º East with a population of 78,249. It is bounded by Gyel in the western part, and Zawan in the southern part, and Du in the northern part.

Bukuru Town which is about 14.5km south of Jos grew from a small mining settlement in 1929 to a prospective town of 88,249 people and the township with a population of 10,800 (Bukuru Central). The history of Bukuru will be incomplete without mentioning Jos. This is because the two are usually considered as one.

Research design

The list of registered health care facilities was obtained from the Ministry of Health and by identifying and locating their locations. These were achieved with the aid of scientific tools of remote sensing GPS and GIS for an updated map, where the research discovered twenty one (21) health facilities. Questionnaires using the Survey Available Mapping structure (SAM) were used to gather data concerning their categories. The classifications were based on equipment, staff strength and patients' response to the provision of the health care facilities

The research method adopted is mainly survey research which involves extensive field survey and interviews. The researcher undergo extensive site visit to observe the health care facilities, examine their locations, facilities available, accessibility, and compatibility with surrounding uses, the environmental quality, site coverage, and development permit granted.

The existing Health care facilities in the study area are Mushet Nurse Home Clinic and Maternity, Tausayi Clinic and Maternity, Veejay Royal care hospital, Aminci clinic, ECWA Comprehensive health center, TCNN Clinic, Gyel Central Clinic, Shefwol Clinic, Graceland Clinic and Maternity, Medview Radiological,

Sunnah clinic and maternity, Abunaeema clinic and Ihsan clinic and maternity, PHC Bukuru Cetral, PHC Bukuru Express,PHC Gyel Lokwon Clinic, Dee Medical center and Bukuru Specialist Hospital.

In order to identify information source and information collection, informal and formal survey were used in collecting and recording the information, thus the use of GPS, GIS and remote sensing tools. And Service Availability Mapping (SAM)). SAM aims to provide an overview of what is available and where; it can be used to monitor scale up and assess equitable and appropriate distribution of services and resources.

Key areas of information it provided

- Availability and location of physical infrastructure (health care facilities, beds, basic medical equipment);
- Location of health service delivery points (public and private);
- Availability and location of health services (maternal and child health, HIV/AIDS, TB, malaria);
- Availability and location of health workers.

RESULT

The author deduced that there is grossly in adequate bed space, the existing 189 bed space can only serve 56,700 people and the shortfall of 371 is high. The permanent sites of the health facilities constituting 72% is spread across the area and so would not affect the accessibility and availability as can be seen in figure 15. The distance coverage is within the range as spelt out in the policy. The population as tested reveal that the null hypothesis is rejected based on the available data. That the spread of health facilities is not independent of the population which invariably suggest connotes the haphazard distribution of the health care facilities in the planning area .

The author considered the study area as entity and determined the diameter distance in figure 16 which reveals that the horizontal distance radius within the walking distance of 2km as stated in the policy and the vertical diameter 3km which need to be considered in the planning, while figure 17 shows the distance from the farthest point to the nearest health care facility expressing also the walking distance of approximately 2km either side.

The Table 1 shows that 13 of the health facilities were permanently located, while, 5 were temporary located. They individually have targeted population and distance coverage, and from the information gathered. The distance to the health facilities from individual abode ranges from 2 to 200 km and targeted population of 200 to 1.5m people. The information reveals that patients do have access to the facilities in Bukuru town from far distances not necessary from the immediate environment. For instance Mushet and Nursing Home with 18 Beds meets up with the expected target of 100 patients having 104 with some of the patients coming from distance of 20km, Gyel Central Clinic (Plates g) having 24 Bed space, 2km distance coverage and an expected visits of 300 experienced 700 patients. Among the health ssfacilities that responded only Aminci Clinic had less of the expected targeted population of 50 to 200 and distance coverage of 100km. Dee Medical (Plate a) portrayed a higher responsibility in terms of service which, it had distance coverage of 200km, 1.5 million target population and 40 bed space being the highest. The two government own health facilities PHC Bukuru Central (Plates b) and PHC Bukuru Express do maintained the standard radius of 5km with 10 Bed space each, the population of 81 and 50 of 88 and 50 patients respectively reveals high patronage.

Table 2 expresses the staff strength and their qualifications so as to determine the capability and category of the Health facility. The information reveals that apart from Dee medical center that had the strength of of 6 doctors, 14 nurses and pharmacists being outstanding, Gyel central clinic and Medview Radiogonistic (Plates F and G) had 2 medical Doctors, 7 others have one each and the rest having Nurses and Community Health Workers to maintain the needs of the patients, 13 of the facilities had laboratories, non has radiologist, while 7 had health Record staff. Having 17 Doctors to the population 168,275 is grossly inadequate and contrary to the panel size approach to attending to patients; that averagely suppose to attend to 25 patients per day and 1 doctor for population of 40.

The author considered the health facilities with Doctors and Nurses as strong in terms of strength of staff and the ones with qualification below Doctors and Nurses as weak. This can be seen reflecting in figure 18.

Table 3 above shows the equipment used by health facilities which invariably determined the class or category of health facility. The information gathered revealed that only Dee Medical center uses 100% of the recommended equipment for a complete hospital status, while Mushet Nursing Home and Maternity uses about 88% of the equipment including Oxygen system cylinder, Anesthetic Machine and Hemolytic meter and Ambulance. Grace Land (Plates g) and Salama Clinic have Oxygen cylinders. Medview a Radiogonistic center has Xray Machine for scanning which informed the category of the health facility. This then reveals that all the health service providers are below the category of Primary Health Centers. The facilities could be seen as reflected in figure 19.

Some of the Health Facilities in Bukuru Town

Plate a: Premises of Dee Medical Center

Plate b: PHC BUKURU Central

Plate c: ECWA Comprehensive Health center (Mission)

Plate d: Sunnah Clinic at Gero Road Bukuru Central

Plate e: Abunaeema Dispensary at Gero Road Bukuru Central

Plate f: Frontage of Gyel Central Hospital, Tanchol

Plate g: Grace Land Clinic and Maternity, Takum, Gyel

Plate h: COCIN Dispensary, Gyel (Mission)

Determining Compliance to the Policy on The Provision Of Healthcare Facilities in Bukuru Town

This objective is to be achieved by determining whether provision and distribution of health facilities in Bukuru Town was according to the policy, hence the adequacy.

Table 1: Distribution and Patronage of Health Facility in the Study Area

Clinic	Permanent (P) or not permanent (NP)	Bed space	Distance	Average	Existing distance average	Existing target population
Mushet Nursing	P	18	20km	20km	100	104
PHC Bukuru Central	P	10	5km	5km	88	81
COCIN Clinic Gyel	P	5	5km	5km	100	60
Gyel Central Clinic	P	24	2km	2km	300	700
PHC Bukuru Express	P	10	5km	5km	50	50
Bukuru Specialist	NP	10	5km	3km	50	60
Aminci Clinic	P	10	100km	100km	200	50
Graceland Clinic Gyel	P	6	50km	750km	200	150
ECWA Comprehensive Health	P	5	10	20	605	605
Salama Clinic & Maternity	NP	10	5km	5km	100	30
Tausayi Clinic & Maternity	P	5	5km	5km	50	50
Veejay Royal Hospital	NP	6	10km	10km	500	500
TCNN Clinic	P	6	10km	10km	200	200
Medview Radiodiogonistic	NP	-	10km	10km-	50	60
Ishan Clinic	P	12	5km	5km	20	20
Abunaeema Clinic	P	6	2km	2km	50	50
Lokwon Clinic Gyel	NP	6	5km	5km	200	200
Dee Medical Center	P	40	200km	200km	1.5m	1.5m

Source: Author, 2014

Table 2. Qualification and staff strength of each of the Health facility

CLINIC	DOCTORS`	NURSE	LAB TECH	RADIDGEST	CHW	CHA	HEALTH RECORD	ATTENDANT	CLEANERS	ADIM SEC	DISPENSER	ENVIRONMENTAL HE	SECURITY	CASHIER
Mushet Nursing Home & Maternity	1	3	4	-	12	3	1	2	-	-	-	-	-	-
PHC Bukuru Central	-	3	2	-	6	-	1	8	-	-	-	-	-	-
COCIN Clinic Gyel	-	-	-		1	-	-	-	--	-	-	-	-	-
Gyel Central Clinic	2	2	4	-	2	3	1	4	-	-	1	1	-	-
PHC Bukuru Express	-	6	2	-	6	4	1	7	-	-	-	1	-	-
Bukuru Specialist	1	-	-	-	-	-	-	-	-	-	-	-	-	-
Aminci Clinic	1	1	2	-	5	2	-	4	-	-	-	-	2	-
Graceland Clinic Gyel	-	-	1	-	1	3	-	-	-	-	-	-	-	-
ECWA Comprehensive Health	1	-	1	-	1	-	1	-	-	-	-	-	-	1
Salama Clinic & Maternity	-	2	1	-	1	-	-	-	-	-	-	-	-	-
Tausayi Clinic & Maternity	1	2	2	-	3	-	-	-	3	-	-	-	-	-
Veejay Royal Hospital	1	1	3	-	4	1	-	3	-	-	-	-	2	-
TCNN Clinic	-	-	1	-	5	-	1	1	-	-	-	-	-	-
Medview Radiodiogonistic	2	-	2	-	-	-	-	-	-	2	-	-	-	1
Ishan Clinc	-	-	3	-	1	1	-	-	-	-	-	-	-	-
Abunaeema Clinic	1	-	-	1	2	1	-	4	-	-	-	-	-	1
Dee Medica Center	6	14	5	2	-	-	2	18		2	-	2	6	2
Lokwom Clinic Gyel	-	-	-	-	-	1	-	-	1	-	1	-	-	-

Table 3. Equipment in each of the Health Facility

CLINIC	X–RAY MACHINERY	OXYGEN SYSTEM CYLINDER	AUTO STERILIZER GLOVE	INFUSE KID	OPERATING THEATER	ANESTHETIC MACHINE	HEMOLYTIC METER	CYTO FLOW METER	AMBULANCE	LATEX GLOVES	REFRIGERATOR	BLOOD PRESSURE MACHINE	STETHOSCOPE	MICROSCOPE	ADULT HEIGHT SCALE	WEIGHT EQUIPMENT	THERMOMETER
Mushet Nursing Home & Maternity	-	✓	✓		✓	✓	✓	-	✓	✓	✓	✓	✓	✓	✓	✓	✓
PHC Bukuru Central	-	-	-		-	-	-	-	-	✓	✓	✓	✓	✓	✓	✓	✓
COCIN Clinic Gyel	-	-	✓		-	-	-	-	-	✓	✓	✓	✓	✓	✓	-	✓
Gyel Central Clinic	-	-	✓		✓	✓	-	-	-	✓	✓	✓	✓	✓	✓	✓	✓
PHC Bukuru Express	-	-	✓		✓	-	-	-	-	✓	✓	✓	✓	✓	✓	✓	✓
Bukuru Specialist	-	-	✓		✓	-	-	-	-	✓	✓	✓	✓	✓	✓	✓	✓
Aminci Clinic	-	-	✓		✓	-	-	-	-	✓	✓	✓	✓	✓	✓	✓	✓
Graceland Clinic Gyel	-	✓	✓		✓	-	-	-	-	✓	✓	✓	✓	✓	✓	✓	✓
ECWA Comprehensive Health	-	-	✓		✓	-	-	-	-	✓	✓	✓	✓	✓	✓	✓	✓
Salama Clinic & Maternity	-	✓	✓		✓	-	-	-	-	✓	✓	✓	✓	✓	✓	✓	✓
Tausayi Clinic & Maternity	-	-	✓		✓	-	-	-	-	✓	✓	✓	✓	✓	✓	✓	✓
Veejay Royal Hospital	-	-	✓		✓	-	-	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
TCNN Clinic	-	-	✓		✓	-	-	-	-	✓	✓	✓	✓	✓	✓	✓	✓
Medview Radiodiogonistic	✓	-	✓		-	-	-	-	-	✓	✓	✓	✓	✓	✓	✓	✓
Ishan Clinc	-	-	✓		-	-	-	-	-	✓	✓	✓	✓	✓	✓	✓	✓
Abunaeema Clinic	-	-	-		-	-	-	-	-	✓	-	-	-	-	-	✓	✓
Lokwom Clinic Gyel	-	-	✓		✓	-	-	-	-	✓	-	✓	✓	✓	✓	-	✓
Dee Medical Center	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Table. 15. Chi-square (For test of Hypothesis)

Clinic	Observed	Expected	Fo-fe		(fo-fe)	$\frac{(O-E)^2}{E}$
MC	100	104	-4		16	0.154
PHC BC	88	81	7		49	0.6
COCIN Clinic Gyel	100	60	40		1600	26.7
Gyel Central Clinic	3000	7000	-4000		16,000,000	2285.7
PHC Bukuru Express	50	50	0		0	0
Bukuru Specialist	50	60	-10		100	1.67
Aminci	200	50	150		22500	450
Graceland Cilinic Gyel	200	150	50		22500	16.67
ECWA	605	605	0		0	0
Salama Clinic & Maternity	100	70	30		900	12.86
Taisayi Clinic & Maternity	50	50	0		0	0
Vegay Royal	5000	5000	0		0	0
TCNN	200	200	0		0	0
Medview radiology	50	60	-10		100	1.67
Islam Clinic	20	20	0		0	0
Abunaeama	50	50	0		0	0
Dee Medical	1,000,000					
Total	**9963**	**13610**	**23,473**			**2796.024**

$$\chi^2 = \Sigma\frac{(fo - fe)}{fe} = 2796$$

where:

   fo - frequency of observed

   fe - frequency of expected

Reject Ho y $\chi^2_{calcualted} > \chi^2_{\alpha(tabulated)}$

   2796.024

Taking α = 0.05

$\therefore \chi^2_{(r-1)(c-1)\alpha}$

$= \chi^2_{(16-1)(2-1),0.05}$

$= \chi^2_{(15,0.05)=24.996}$

Hypothesis

   H_O: The availability of health facilities is independent of population

   H_1:   The availability of health facilities is not independent of population

∴ deciption rule: Reject Ho (null hypothesis) of

$$\chi^2 = \Sigma\frac{(fo - fe)}{fe} > \chi^2_{(row-1)(column-1), \alpha}$$

$$\chi^2 = \Sigma\frac{(fo - fe)}{fe} > \chi^2_{(row-1)(column-1), \alpha}$$

where:

   α = 0.05 (level of significance)

Decision

$\chi^2_{cal.}$ = 2796 > χ^2_{α} = 24.996

Conclusion

Since $\chi^2_{calcualtec}$ is greater than χ^2 tabulated, the null hypothesis is rejected based on the available data. That the spread оı health facilities is not independent of the population which invariably suggest connotes the haphazard distribution of the health care facilities in the planning area.

Adequacy and Inadequacy of the Health Facility in Bukuru Town
The combination of the results of the Health facility with regards to equipment and staff strength were used to determine the adequacy and inadequacy of the health care facility in Bukuru town. The result reveals that twelve (12) of the facilities were adequate and nine (9) inadequate as can be reflected in figure (20).
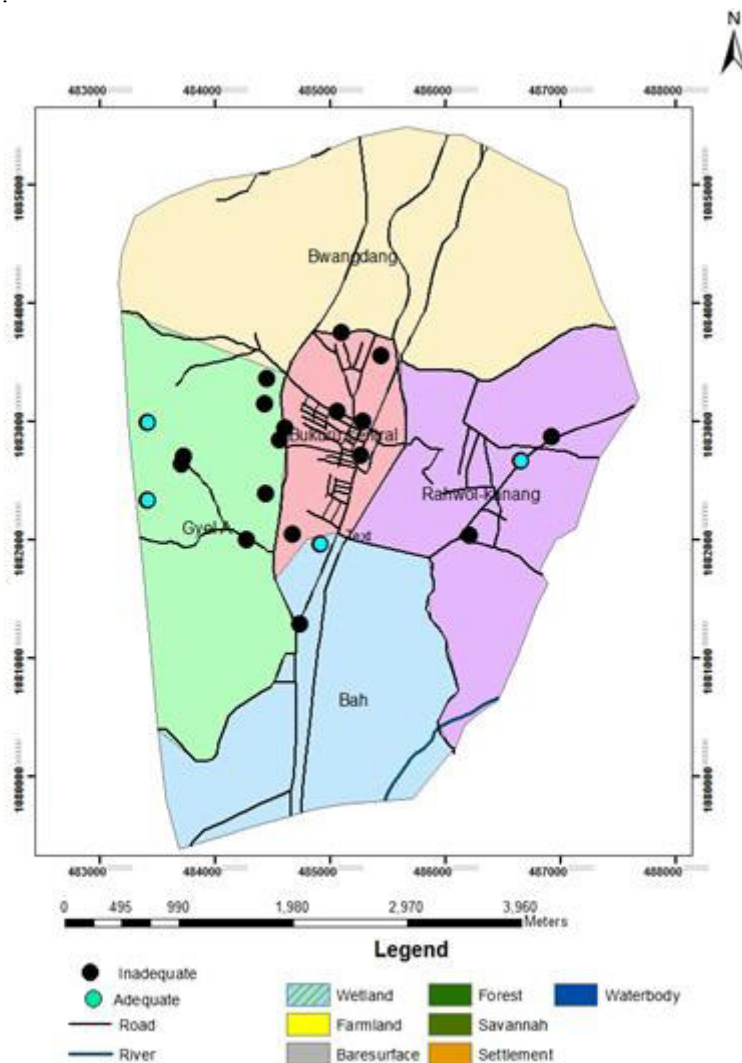

Fig. 1. Adequate and Inadequate Health Equipment in Bukuru Town

3.0 RECOMMENDATIONS
The provision and distribution of health facility will be effective and efficient in service to the people of Bukuru town if the following recommendations are considered.

The statutory body that regulates and enforce law for the establishment or issuing license for operating health care services should be empowered, to keep to the task of monitoring and controlling the sporadic emanation of health facilities. This is in furtherance to effective implementation of the policy of provision of good quality healthcare facility as well checking low quality, most especially the privately owned that where established just for profit making.

There is the need for referral health facilities in the study area so as to complement the effort of the lower level services as record shows that despite the number of health care facilities in the area, privately owned (86%) and public (14%), none were of secondary class and that makes the caring services ineffective in the study area.

The standard in the provision of the health care facility need to be adhered to both spatially and by population coverage, hence, the enforcement of the planning regulating tools. This will serve as a wake- up call for the planning agencies like the Jos Metropolitan Development Board (JMDB) and the Local Planning Authority to be part and parcel of the spatial location of all activities with closely emphasis to the haphazard development of the health facilities most especially those without license and development permit.

Health care facility is associated to bed space, and so Bukuru town is under medical care with the shortfall of the 402 beds. The health care facilities that are in short supply of beds need to be upgraded in order to cope with patients' visits and effective management of patients. Though, not all of the facilities operated In-Patient services, notwithstanding the provision of beds required should satisfy the standard of atleast at the HC level.

Funding is the bed rock of every active system in the development of human beings, therefore, the only 2 active government health facilities at PHC level are inadequate and the government should make funds available in order to provide more of the required demand. The budget estimate of the country, state and local government should be of significant amount that would cater for the provision of quantitative and qualitative health facility that will make the health care facility efficient in Bukuru town.

There should be synergy between the private and public health providers in the move to provide qualitative and quantitative healthcare facility that would be effective and efficient in operation as well providing services that will enhance the life of the people of Bukuru town.

The recommendations invoke spatial distribution strategy that would be appropriate to enhance accessibility and effectiveness towards improving the health being of the people of Bukuru town.

As always proposals in planning comes with alternatives, because of the different ideas and principles incorporated in the profession, hence, selecting the best alternative to serve as proposal to be implemented in order to achieve the stated goal.

Two alternatives were proposed; alternatives A and B.

ALTERNATIVE 'A'

This alternative considered the weak (Inadequate) health care facilities to serve as Health centers and the strong (Adequate) health care facilities to serve as PHCs. Since there is only one comprehensive health facility in the area, the author proposed that Dee Medical at Bah ward would maintain its status and serve as a District Hospital in order to compliment the effort of the other facilities. It tends to have the best structure, facilities and spacious with lawn and parking lots. This is reflected in map alternative concept.

This considered the different advantages and disadvantages.

Advantages

- Reduction of travel time to comprehensive health centers outside Bukuru town.
- Determination of different cadre of health facilities according to prevailing existing conditions.
- It gives sense of identification as to defining the specific area of a complete system to the provision of health facilities in the area.
- It satisfies the policy in variety and provision of the health facilities in Buluru town.

Disadvantages

- It will be cost effective because of the variation of the health facilities.
- The liability of having different capacity of the health facilities for the public or private providers.

ALTERNATIVE "B"

This also considered the levels of the health care facilities available, by maintaining the inadequate health facilities as health centers and the adequate as PHCs, but with the addition of two (2) district hospitals since the population of the area is about 168,275. This is due to the fact that the policy says one (1) district hospital to 100,000 population. This is reflected in map alternative "B" (figure 33).

Advantages

- Reduction of travel time to comprehensive health centers outside Bukuru town.
- Determination of different cadre of health facilities according to prevailing existing conditions.
- It gives sense of identification as to defining the specific area to a complete system to the provision of health facilities in the area.
- It satisfies the policy in variety and provision of the health facilities in Buluru town.
- The concept tends to have a fair distribution of the health care facilities in the area.

Disadvantage

- Difficulty in the provision of the two district hospitals which are capital intensive projects involving high amount of money either by the government or private.

CHOICE OF ALTERNATIVE CONCEPT

Concept "B" seems more appropriate considering the fair distribution of the health care facilities in Bukuru town, therefore chosen as proposal for implementation. Dee Medical Center being a District Hospital and privately owned facility would be complemented with the newly proposed at Bwandang ward suggested to be provided by the state government.

4.0 CONCLUSION

The proposed strategy is a recommended approach to achieving a system that works according to the policy of provision and distribution of health care facility to serve Bukuru town effectively. It connotes strategy and policy to providing quality opportunities in the health sector. The Update can be used as a reference by MDAs and other interested Non- governmental organisations, thus, a guide for future actions and decisions. Further research will require further discussion concerning public involvement and implementation strategies.

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