Chapter IV

Availability of Health Infrastructure

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4.1 Availability of health centres against requirement

The Sub centre (SC) is the first point of contact between the community and the health care system. Primary Health Centres (PHCs) is a referral unit for six SCs with 4-6 beds. Community Health Centre (CHC) is a 30 bedded Hospital/Referral Unit for four PHCs with specialised services.

As per the Indian Public Health Standards (IPHS) norms prescribed by GoI, the requirement of SC, PHC and CHC are based on population as below:

Category of health centre	Population norms	
	General areas	Tribal/Hilly/Desert areas
SC	5,000	3,000
PHC	30,000	20,000
CHC	1,20,000	80,000

As per Rural Health Statistics (2015-16), SC, PHC and CHC in the State covered average population of 5,801, 26,437 and 1,77,530 respectively against the national average of 5,377, 32,884 and 1,51,316. Thus, comparatively the health centres in the State (except PHC) were overburdened.

The position relating to availability of health centres *vis-a-vis* requirement as on 31 March 2016,considering the State population of 3,12,05,576 (as per 2011 Census) and a decadal growth of (+) 17.07 *per cent* (*i.e;* increase in population by 1.707 *percent* per annum during the five year period 2011-16)is shown in **Table-8**:

Table-8
Availability of health centres against requirement and shortfall

Category of health centre	Numbers required as per population as on 31 March 2016	Numbers available as on 31March 2016	Shortfall (in *per cent*)
SC	6,817	4,621	2,196 (32.21)
PHC	1,112	1,014	98 (8.81)
CHC	278	151	127 (45.68)

Source: Information furnished by NRHM, Assam.

Thus, there was shortfall in respect of all the three tiers of health centres to provide accessable health care facilities to the population at large. On this being pointed out, NRHM in its reply (March 2017) admitted the shortage and stated that the construction of 626 SCs, 90 PHCs and 74 CHCs would be completed shortly and the balance health centres would be proposed soon.

As a result of shortage of institutions/infrastructure, a sizeable section of the population remained outside the purview of easy access to the health care system, besides resulting in extra pressure on the existing health infrastructure and manpower.

4.2 Target and achievement for construction of health centres

The construction of health centres were taken up centrally by the NRHM, Assam. Scrutiny revealed that as per the Records of Proceedings (ROP) 2012-13, GoI

approved construction of 14 Mother and Child Health wings (MCHs), 626 SCs, 65 PHCs and 55 CHCs. The status of construction, taken up since its inception, is shown in **Table-9:**

Table-9
Status of construction of health centres in the State

Year of approval	Category of health Centres	Number of works					Physical progress of incomplete works	
		Proposed and approved	Commenced	Not commenced	Completed (as of March 2017)	Commenced but incomplete	Upto 90 *per cent*	90 to 99 *per cent*
2012-13	SC	626	480	146	209	271	162	109
	PHC	65	56	09	24	32	21	11
	CHC	55	46	09	22	24	12	12
	100 bedded MCH	14	13	01	03	10	06	04
Total		**760**	**595**	**165**	**258**	**337**	**201**	**136**

Source: Information furnished by NRHM, Assam.

From the above table, it would be seen that only 258 (34 *per cent*) out of total 760 health centres approved by GoI could be completed. Test check of records further revealed that there was delay in completion of works ranged between 30 to 1465 days as detailed in **Appendix-4.** Moreover, construction of 165 works related to SC, PHC, CHC and MCH had not yet commenced even after a lapse of more than three years. The reasons for delay were attributable to non-finalisation/allotment of Government land (54 works), delay in allotment of works (eight works), negligence on the part of the contractors (77 works) and Court cases (26 works).

Incomplete building of Long-eh Luboi SC in Karbi Anglong (31.05.2016)

Further, NRHM Assam, failed to make 136 health centres functional although 90 to 99 *per cent* of works were completed.

On being pointed out, NRHM, Assam admitted (March 2017) that the health centres remained incomplete due to various reasons and assured that necessary action would be initiated to expedite the progress of work.

It was further noticed that the completed works were taken over after delays ranging between 29 and 289 days in case of seven CHCs and five PHCs. Additionally, six PHCs and five CHCs could not be made functional due to not-posting of requisite manpower despite a lapse of one to 18 months from the date of handing over(August 2016)of the building. This contributed to the deprivation of the targeted population of the intended benefits of the health facilities.

4.3 Location of health centres

As per the IPHS norms, SC needs to be located for providing easy access to the people so that no person has to travel more than three Kms to reach the SC. Due to shortage of the health centres, a large number of population remained out of easy

access to health care facilities. Scrutiny of data on habitations *vis-a-vis* geographical locations of health centres provided by NRHM, Assam revealed the actual distances between SCs and habitations, as given in **Table-10**:

Table-10
Distance of habitations from SCs in the selected districts

Number of habitations covered by seven selected districts	Distance of SCs from habitations				
	Within 3 Kms	More than 3 Kms	More than 5 Kms	More than 10 Kms	More than 20 Kms
25,800	20,172 (78 *per cent*)	3,653 (14 *per cent*)	1,414 (5.5 *per cent*)	456 (2 *per cent*)	105 (0.5 *per cent*)

Source:Data furnished by NRHM & National Informatics Centre.

Maximum distance of SC from the remotest habitations ranged between eight and 87 Kms in the selected districts. Besides, in the test checked districts, 14 PHCs were not found accessible by all-weather roads whereas public transport facility was not found available for reaching one Sub Divisional Health Centre (SDCH) and 18 PHCs.

Scrutiny of records of selected health centers also revealed that 25 (56 *per cent*) out of 45 test checked SCs were situated beyond three Kms from the remotest village covered by such SC. Two DHs were far away from CHCs and required more than four hour journey by local mode of transport to reach the health care facility. Distance from remotest village to SC, PHC, CHC and SC to PHC, SC to CHC, District Hospital (DH) to PHC, DH to CHC etc., in the selected districts is shown in **Table-11**:

Table –11
Distance of selected health centres (in Kms)

Distance	Number of SCs			Number of PHCs			Number of SDCHs/CHCs	Maximum distance (in Km)	
	From remotest village	From nearest PHC	From nearest CHC	From nearest CHC	From nearest DH	To remotest SC linked to the PHC	To nearest DH		
4 to 10 kms	19	24	16	13	4	13	0	SC to village	40
11 to 25 kms	5	9	19	12	7	7	5	SC to PHC	45
More than 25 kms	1	3	7	4	19	4	8	SC to CHC	55
								DH to CHC	220
								DH to PHC	200

Source: Compilation of Information collected from selected health centres.

The above position indicated that Mission could not ensure easy access to health centres by people staying at far flung areas.

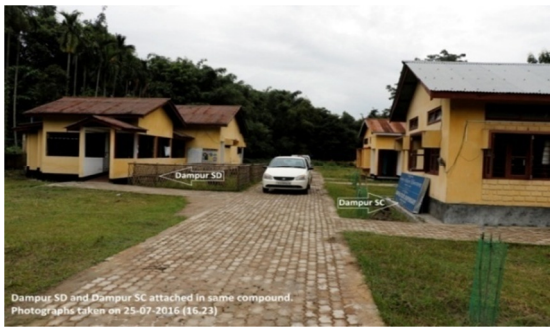
4.4 Coverage by existing health centres

As per norms, PHC is a referral unit for six SCs and CHC/SDCH is the referral unit covering four PHCs.

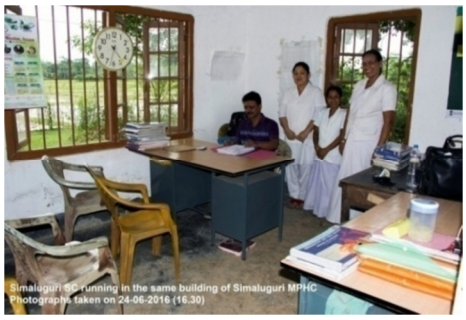
Scrutiny however, revealed that 10 out of 30 test-checked PHCs were catering to the health needs of seven to 38 SCs *i.e.*, more than the stipulated norms of six SCs.

Similarly, four CHCs (out of nine test-checked CHCs) were found linked with PHCs ranging from six to 13 PHCs whereas three CHCs/SDCHs did not cover any PHC.

Alternately, 79 PHCs in the State were running in the same campus with CHCs/MHs while 62 SCs were co-existing with nine CHCs/Model Hospitals (MHs) and 53 PHCs, for want of required building/ infrastructure. Physical verification of 95 selected health centres also revealed that 10 health centres (eight SCs and two PHCs)[41] were functioning from the same campus of other 10 health centres (eight PHCs and two CHCs).



Dampur SD[42] (PHC) and Dampur SC functioning in the same campus in Kamrup (R) district (25.07.2016)



Simalguri SC functioning in a room of Simalguri PHC in Sivasagar district (24.06.2016)

As a result of the co-existence of two health institutions in the same campus, both the institutions were catering to the health needs of the same section of the population. On the other hand, PHCs/CHCs were also found overburdened due to extra coverage by those because of uneven distribution and location of health centres beyond the prescribed norms.

On this being pointed out, NRHM, Assam stated (March 2017) that the shortfall in infrastructure would be proposed in the APIP, in due course.

4.5 Deficient infrastructure in Sub Centres, Primary Health Centres, Community Health Centres

In test-checked health centers, it was observed that seven SCs had been operating from other government buildings like Gram Panchayat, Anganwadi Centre buildings etc., one SC was operating from a rented building and another from an incomplete building and one SC was operating from a kutcha house while six SCs, 10 PHCs, two CHCs, one SDCH and two DHs had partial boundary wall. It was noticed that delivery could not be conducted in four PHCs due to non-availability of labour room. Similarly, Caesarean delivery could not be conducted in two CHCs due to non-availability of OT room.

Joint physical inspection of the test checked 95 health centers by audit in the presence of departmental officials revealed the following deficiencies as shown in **Table-12**:

[41] Dampur SC, Kulshi SC, Bhoksong SC, Tekelangjun SC, Bhawraguri SC, Rupshi SC, Suffry SC, Simalguri SC, Sipajhar PHC and Kalabari SD (PHC).
[42] State Dispensary (SD) is equivalent to PHC.

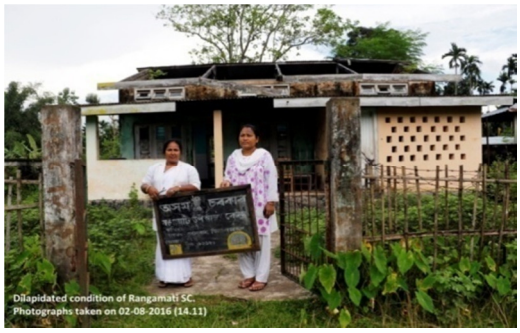
Table-12
Lack of infrastructure in test checked health centres

Selected Health facility level (numbers)	Without electric supply		Compound wall		Water supply		Toilet		Fire protection measures		Separate male and female ward		New Born Care Corner (NBCC)	
	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
DH (7)	7	0	7	0	7	0	7	0	5	2	7	0	7	0
CHC/SDCH (13)	13	0	11	2	13	0	13	0	9	4	11	2	12	1
PHC (30)	30	0	21	9	30	0	30	0	NA	NA	26	4	18	12
SC (45)	15	30	18	27	22	23	37	8	0	45	NA	NA	0	45

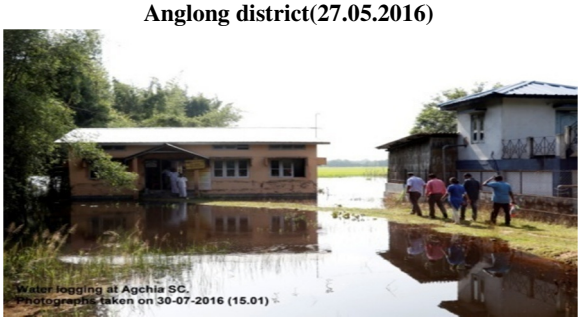
Source: Joint physical verification of health centres. ***NA: Not Available***

Details of non-availability and poor infrastructure in health centers are shown in**Appendices-5** and **6** respectively.

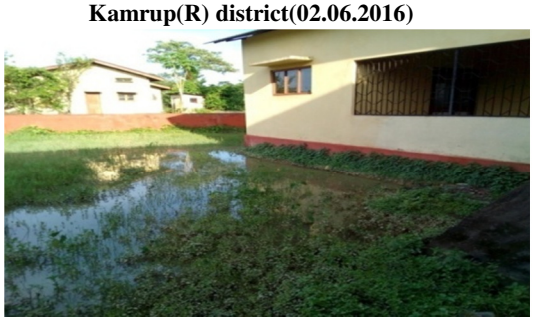
Dilapidated condition of toilet at Uttar Borbil SC, Karbi Anglong district(27.05.2016)



Dilapidated condition of Rangamati SC, Kamrup(R) district(02.06.2016)



Water logging at Agchia SC, Kamrup(R) district (30.07.2016)



Water logging in Dakhinhengera PHC, Golaghat district (30.07.2016)

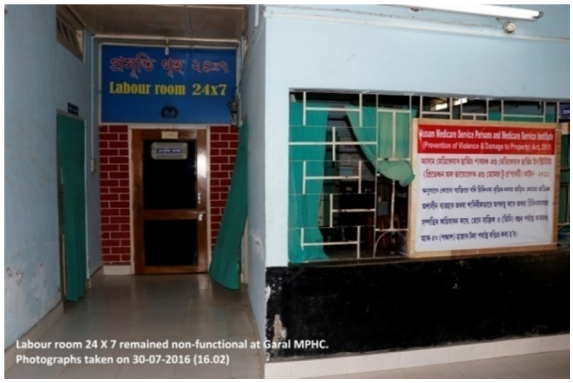
Thus, both deficient and poor infrastructural facilities in the health centres deprived the patient of basic services to be made available through NRHM in the State.

4.6 Non-upgradation of infrastructure

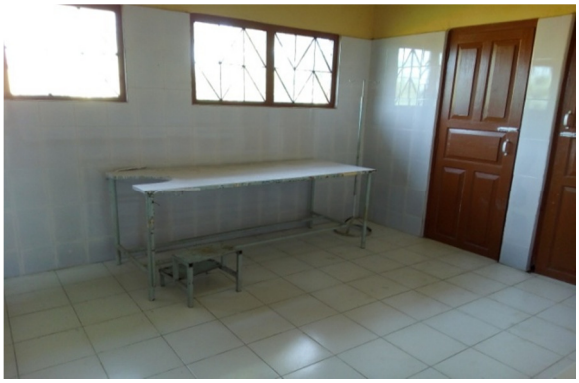
As per IPHS norms, SCs had been categorised into two types *viz.*, Type-'A'(provides OPD services only) and Type-'B'. Type-'B' SC provides for 24x7 delivery services at the centre's labour room assisted by Skilled Birth Attendant (SBA) and trained Auxiliary Nurse Midwives (ANMs). The ANMs are to be provided with residential quarters attached with Type-'B' SC. As approved by GoI, NRHM, Assam targeted 20 SCs (out of 4621)only for upgradation to Type-'B' during 2011-16 but the same could not be completed (March 2017).

Similarly, a PHC of Type 'A' which was at a distance of more than one hour journey from the nearest CHC/FRU was required to be upgraded to a Type 'B' PHC with a delivery load of 20 or more deliveries per month as per norms which was not planned by the NRHM, Assam during 2011-16.In the seven selected districts, 119 PHCs (as of March 2016) were located at a distance of more than one hour journey. Scrutiny however, revealed that against the target of 56 PHCs to be upgraded to Type 'B', 40 (71*per cent*) PHCs were upgraded to 24x7 PHCs during 2011-16, of which 12 PHCs could not provide 24 x 7 services due to lack of manpower and equipment etc.

Thus, the NRHM, Assam was unable to achieve the goals set by itself to upgrade the Type 'A' health centres to Type 'B' to ensure facility of 24 x 7 delivery services.



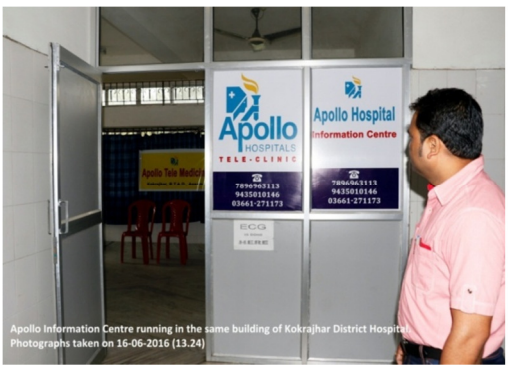
Labour room 24x7 at Garal MPHC, Kamrup(R) district remained non-functional due to non-posting of manpower (30.07.2016)



Labour room at Dakhinhengera PHC, Golaghat district remained non-functional due to want of trained staff (30.07.2016)

4.7 Undue benefit to private hospital

It was observed that an Information Centre and Tele Clinic of Apollo Hospital (a private nursing home) had been operating in the building of Kokrajhar RNB Civil Hospital since 2012 without paying any rent/share money to the Hospital Management Society of the Civil Hospital though the centre had been collecting fees from its patient @ ₹ 200 to ₹ 2,000 per patient. The said Centre did not have any link with the Civil Hospital and it was completely a profit earning private institute.



Apollo Hospital Tele Clinic running in RNB Civil Hospital, Kokrajhar DH (16.06.2016)

The Director of Health Services, Bodoland Autonomous Council had executed an agreement for 10 years with the owner of the Centre who was allowed to use the infrastructure including electricity and water of the Civil Hospital. But in the said agreement, no clause was incorporated for providing free service or services at reduced rates to any patient.

Audit observed that the Civil Hospital could not install and operate X-ray machine since 2013-14 for want of space. As such, use of the health infrastructure by the private party not only extended undue benefit to the party but also caused inconvenience to the Civil Hospital for providing the committed service to its patients.

Thus, the private Tele Clinic of Apollo Hospital was operating its own business without benefiting the Civil Hospital or its patients.

4.8 Emergency response system (Ambulance service)

As per NRHM Framework, the Emergency Response System (ERS)/ Patient Transport Systems (PTS) would respond within a time interval of 30 minutes of each call. Assured free transport in the form of ERS and PTS was an essential requirement for a public hospital as it reduced the cost barrier to institutional care. The ERS catered to all medical emergencies and delivery cases while the PTS was primarily used to ensure entitlements for mothers and sick infants under Janani-Shishu Suraksha Karyakram (JSSK), and shifting of patients (non-critical) to higher health facilities.

World Health Organisation (WHO) recommended to have at least one ambulance per one lakh population in plain areas. In Assam, against the requisite number of 333 Ambulances (against the rural population of 333.64 lakh), there were 380 Ambulances ('108'Emergency Service), 238 of which were equipped with Basic Life Support (BLS) and 142 had Advanced Life Support (ALS).

Analysis of data regarding '108'Emergency Ambulance Services as furnished by NRHM, Assam revealed that 93 to 95 *per cent* emergency calls (17,58,322 out of 18,70,981 calls) were attended to during 2011-16which was a positive indication.

However, further scrutiny of data relating to Maternal and Child Health (MCH) calls revealed that 37 to 70 *per cent* calls were attended to, beyond the stipulated time of 30 minutes while three to 18 *per cent* of calls were attended to after one hour as shown in **Table-13**:

Table-13
Time taken to reach the patient by '108'Ambulance during 2011-16

Year	MCH related calls			Less than 30 minutes		More than 30 minutes but less than 1 hour		More than 1 hour	
	Registered	Attended	Percentage attended	Attended	Percentage attended	Attended	Percentage attended	Attended	Percentage attended
2011-12	1,37,887	1,30,451	95	81,948	63	45,041	34	3,462	3
2012-13	1,22,119	1,16,380	95	73,030	63	39,421	34	3,929	3
2013-14	1,54,719	1,48,209	96	58,274	39	63,024	43	26,911	18
2014-15	1,70,089	1,62,495	96	52,787	33	90,106	55	19,602	12
2015-16	1,55,913	1,48,856	95	45,273	30	80,278	54	23,305	16

Source: Compiled figure as per database of NRHM, Assam.

The reasons for delay were attributed to frequent break down of vehicles, non-availability of vehicle due to maintenance works *etc.*

Besides, it was observed that absence of motorable roads also affected the ERS/PTS.As per Rural Health Statistics (RHS) data (2016), 53 PHCs and 414 SCs in the State did not have motorable roads to facilitate ease of access to the health centres. During field visit of selected 30 PHCs, it was also observed that 18 PHCs were lacking '108' Ambulance services for want of motorable roads. This highlighted absence of inter departmental convergence to ensure smooth transport services for effective ERS/PTS. The State Government may consider introduction of 24x7 Bike Ambulance Service in such areas as adopted in some States.

Cases of death due to late arrival of Ambulance

Test check of 265 numbers of Maternal Death Report (MDR) of the sampled districts revealed that in four death cases, the cause of death was attributed to delay/non attending by '108' Ambulance Service as shown below:

Position of four cases of maternal death

Name of Deceased PW	Address	Date of Death	Remarks of the reviewing Medical Officer in the MDR
Mofida Khatun	Bauriabita, Chayagaon, Kamrup	01-05-14	'108' Ambulance was called by the husband of the pregnant woman who was informed by the driver that due to lack of fuel, the patient could be picked up only after 2 hours. Delivery had to be done by the local *Dhai* and due to excessive bleeding; the woman expired after half an hour of delivery.
Narmada Das	3 No. Titkuri, Rangia, Kamrup	14-11-14	Late arrival of '108' Ambulance by more than one hour contributed to the death of the woman during transportation to the health centre.
Minuwara Khatun	Iaskatodiya, Chamaria, Kamrup	10-11-15	'108' Ambulance did not respond to the call made by the patient family and as such, delivery of the first child was done by an untrained Dhai. In the meantime, the health condition of the woman deteriorated and the woman was admitted in the nearby PHC with the help of ASHA worker in a rented car where she delivered the second child. On the next day, the woman was shifted to Gauhati Medical College on the advice of the attending doctor from the PHC where she died. Doctor opined that delay in transportation hastened her death.
Numali Gogoi	Kachupathar, Patsaku BPHC, Sivasagar	08-09-13	'108' Ambulance was called by an ASHA. The Ambulance reached one and a half hour late. The pregnant woman delivered in the Ambulance during transportation to CHC. The patient died due to excessive bleeding before reaching the CHC.

Source: MDR Reports

4.9 Vacant staff quarters at SCs, PHCs, CHCs & DH

As per the IPHS, the health care workers were to be provided with quarters in the vicinity of the health centres to enable them to respond to calls during emergency.

Scrutiny of records regarding availability of staff quarters in the selected health centres revealed that out of 95 health centres, only five had adequate number of

quarters whereas 34 health centres (35 *per cent*) did not have any quarters. Although, 53 health centres (55 *per cent*) had less number of quarters, three health centres had excess number of quarters over the actual requirement. Moreover, in 34 health centres, 78 quarters were lying vacant due to inhabitable conditions. Further, in Kokrajhar district, it was noticed that though nine PHCs were upgraded at a cost of ₹ 48.30 lakh to provide 24x7 delivery services during 2006-09, they failed to provide the same as doctors did not reside in the vicinity of the health centres despite availability of staff quarters. As a result, the NRHM, Assam failed to ensure 24x7 delivery/medical services.

On this being pointed out, NRHM, Assam stated (March 2017) to have noted the audit observation for necessary action.

4.10 Adequacy of health care in outreach areas

4.10.1 Mobile Medical Units

NRHM Framework stipulated provision of Mobile Medical Units (MMUs) to provide health services to remote, far flung, difficult to reach areas and urban slums. The pattern of MMUs will depend upon the geographical location and could provide a package of services equivalent to a primary health centre, and have the necessary HR, equipment and supplies. The status of functioning of MMUs in the seven test checked districts during 2011-16 were, as stated in **Table-14**:

Table-14
Status of MMUs in the seven selected districts

Name of the district	Number of MMUs	Target of Camps	Number of Camps Held	Shortfall		Number of X Ray	Number of USG	Number of ECG	Number of Blood tests	Number of urine tests
				Number of camps	Percentage					
KarbiAnglong	3	2,880	1,587	1,293	45	393	0	5	5,213	223
Darrang	1	1,296	1,048	248	19	169	0	363	12,329	2,692
Kokrajhar	2	2,640	2,250	390	15	162	69	91	6,957	377
Sivasagar	2	2,302	1,246	1,056	46	656	0	0	12,127	1,508
Kamrup Rural	2	2,316	2,030	286	12	2,944	73	2,460	41,244	4,017
Sonitpur	3	2,928	2,435	493	17	0	0	0	0	0
Golaghat	3	3,600	1,668	1,932	54	448	0	622	8,741	2,703

Source: Information furnished by DHS.

MMU lying idle at Nazira SHC, Sivasagar district since December 2015 due to non availability of doctors (21.06.2016)

From the details above, it was observed that there was shortfall in holding of camps which ranged between 12 and 54 *per cent*. The reasons for shortfall in holding of camps by MMU was attributed to frequent break down of vehicles, non-posting of required two doctors and non-posting of doctors for seven to 16 months at a stretch. Further, USG and ECG

were not at all conducted in five and two districts respectively whereas in Sonitpur district MMU, none of the diagnostic tests were carried out during the aforesaid period.

The reason for not providing X-Ray, USG, ECG and blood/urine tests etc., was due to non-posting of regular manpower.

In the State, where there was acute shortage of health centres, MMU being equivalent to the PHC, was expected to cover underserved people (areas or populations having too few primary care providers, high infant mortality, high poverty or a high elderly population)but due to non-posting of requisite manpower, the very objective of taking the health care to the door step of the people in far flung areas under NRHM was defeated.

4.10.2 Health care in Char areas

The Char areas are geographically alienated from the mainland and follow a peculiar pattern of migration. They are subjected to erosion on their upstream and deposition on the downstream, due to which the populace migrate downstream. This affects the topography of the Chars during floods almost every year. In 14 districts of the State through which river Brahmaputra flows, there are inhabited Char areas on the river banks. As per Socio Economic Survey Report of Char Areas (2003-04), there were 2251 Char villages having 24.90 lakh population in the State. NRHM, Assam, could not furnish the present position of availability of SCs/PHCs in Char areas as well as number of Char population covered by any of the existing health centres. Besides, information on the number of maternal and infant deaths in Char areas was also not found maintained by NRHM, Assam for follow up action.

NRHM, Assam however, arranged to provide health care to the populace of Char areas by operating Boat Clinics since 2005. It was seen that altogether 15 Boat Clinics were under operation as of March 2016 which covered only 433 Char villages (19*per cent*) having population of 2.26 lakh. Thus, 1818 Char villages (81 *per cent*) having population of 22.64 lakh remained out of coverage under the umbrella of NRHM. Moreover, the villages covered by Boat Clinics, also did not get adequate health care. Physical verification of two Boat Clinics which covered 28 Char villages each, revealed inadequacy in delivering health care services as outlined below:

- Boat Clinics basically provide services of Ante Natal Check up (ANC), Post Natal Check up (PNC) and immunisation with two doctors, two ANMs, one laboratory technician and one pharmacist. There was no service of sterilisation *viz.,* Intra Uterine Contraceptive Device (IUCD), abortion etc. except for distributing condoms and oral pills.

- There was no provision of treating patients inside the Boats, rather these were used for transporting medical staff to the Char villages. It had no Out Patient

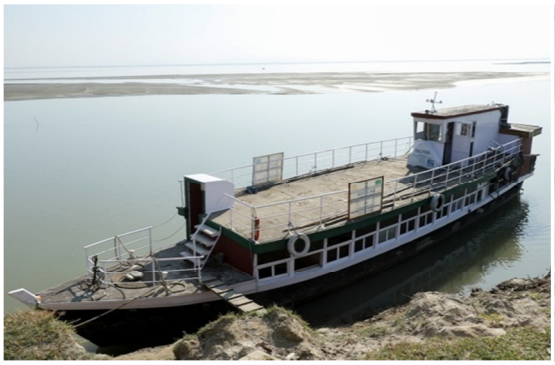
Department (OPD) and labour room. During the period 2011-16, no delivery was conducted by the Boat Clinics. Medical camps were held in open areas like under trees, school campuses, open fields etc., without having provision for any examination tables.

- Boat Clinics conducted 18-20 camps only in a month for 3-4 hours per day. Besides, it visited only one Char village once in a month. This resulted in the Char inhabitants not being provided adequate medical aid during emergencies or at times of need. During visit of five Char villages and interaction with 50 mothers who had given birth during the last two years, it was noticed that 28 out of 50 deliveries (56*per cent*) were done at home due to difficulties in transportation and remoteness of health centres in the mainland.

- There was no facility of ERS/PTS available for transporting patients from the Char area to the mainland during the hour of emergency in the selected districts.

The matter was reported to the Government; their reply had not been received (31 May 2017).

Thus, Boat Clinics having many deficiencies were not able to provide adequate health care to Char inhabitants in the hour of need. Also, high morbidity could not be ruled out due to inadequate health care services in these areas.



Boat clinic at Kamrup (R) district (21.11.2016)

Camp held in the school by boat clinic staff in Kamrup (R) district (21.11.2016)

4.10.3 Health Care in Tea Garden areas

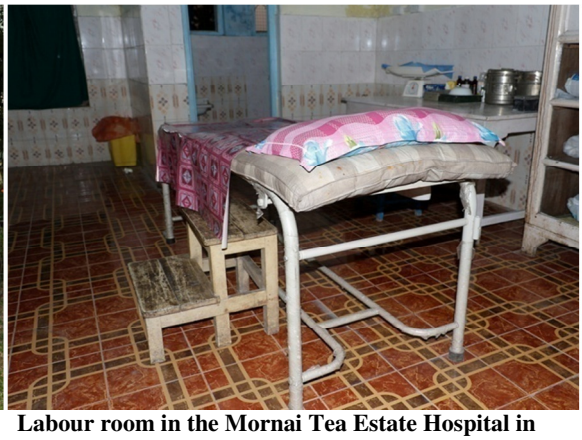
Anaemia, hypertension, malnutrition and diarrheal diseases are major contributing factors to morbidity resulting in high maternal and infant deaths. The State is facing a high Maternal Mortality Rate (MMR) and the districts with the high Tea Garden population (covering 23.91 *per cent* of State's population) contribute to higher MMR. Analysis of Annual Health Survey (AHS) revealed that Upper Assam districts[43], where maximum tea gardens were located, accounted for maximum maternal deaths. As per AHS 2012-13, MMR in Upper Assam (inclusive of Tea Garden areas) was 404 against the State's MMR of 301.

[43] Dibrugarh, Jorhat, Golaghat, Sivasagar and Tinsukia.

Again, as per APIP 2016-17, there were altogether 793 Tea Estates (TEs) in the State. As per Survey Report of 2014-15 conducted by Regional Resource Centre for North Eastern States (RRC-NE), Ministry of Health and Family Welfare (MoHFW), GoI, 649 TEs (out of 758 surveyed) had hospitals run by the TE management. However, the status of health care in Tea Garden hospitals was not satisfactory. The following deficiencies were observed in tea garden hospitals:

- 'In Patient Department' (IPD) service were not available in 45 *per cent* tea garden hospitals and functional labour room were not available in 54 *per cent* Tea Garden hospitals.
- Functional New Born Care Corner (NBCC), laboratory service and doctors were not available in 82, 78 and 38 *per cent* of Tea Garden hospitals respectively.
- NRHM, Assam, covered 150 TE hospitals (as of 2015-16) under Public-Private Partnership (PPP) mode and thus, the populace of remaining 643 TEs (81 *per cent*) were deprived of the benefit of health care under NRHM.
- In the test checked six Blocks under the selected districts of Upper Assam having tea garden population, only 57 out of 82 TEs were having hospitals, of which only 17 were operating under PPP mode with the Mission. Thus, functioning of 40 TE hospitals was dependent only on the TE management while 25 TEs had no hospitals.

Mornai Tea Estate Hospital under PPP mode in Kokrajhar district (09.12.016)



Labour room in the Mornai Tea Estate Hospital in Kokrajhar district (09.12.2016)

As such, population of tea garden areas was lacking adequate health care system which contributed high maternal and infant death. Scrutiny of records of the said six blocks also revealed that 37.69 *per cent* of maternal deaths (49 out of total 130 reported during 2013-14 to 2015-16) were from tea garden population.

The matter was reported to the Government; their reply had not been received (31 May 2017).

Thus, NRHM, Assam, should ensure adequacy of health care system in all the TEs by providing required infrastructural, logistic and manpower support under the

Mission on priority basis to reduce the mortality rates in tea garden areas with consequential reduction in State MMR.

4.11 Equipment

4.11.1 Non-availability of equipment

NRHM Framework (2012-17) stipulated for availability of essential functional equipments in all the facilities.

Scrutiny of records of the test-checked health centres (SC to CHC) and information furnished by them, revealed that basic equipment, which included, *inter-alia*, DD Kits, labour table *etc.,* as shown in **Table-15,** were not available.

Table- 15
Non-availability of equipment in selected health centres

Types of Health Institute (number)	Parameters	Disposable delivery kits (DDKs)	Examination Table	Labour Table	OT Table	Bed Side Screen/ partition	Sterilization Instrument
SC(45)	Available and Functional	3	33	5	SCs do not have operation theatre, In Patient Department and full fledged labour room, hence not available		
	Available but not functional	1	2	9			
	Not Available	41	10	31			
PHC(30)	Available and Functional	19	27	19	3	22	18
	Available but not functional	0	1	6	5	2	1
	Not Available	11	2	5	22	6	11
CHC/ SDCH(13)	Available and Functional	12	12	12	7	8	10
	Available but not functional	0	0	0	1	0	2
	Not Available	1	1	1	5	5	1

Source: Physical verification of health centres.

It can be observed that the kits and equipment required for basic necessary health care services were deficient in a number of Health centres.

Despite this fact, the State did not procure adequate equipment which hindered health care service delivery, as discussed in the following paragraph.

4.11.2 Impact of non-availability of equipment on service delivery

The impact of non-availability of equipment in delivery of health services were as brought out below:

- In 31 out of selected 45 SCs, delivery could not be conducted due to non-availability of Labour Table despite having availability of SBA trained ANM in 18 of those SCs.

- In 11 out of 30 selected PHCs, delivery could not be conducted due to non-functionality/availability of labour table in spite of having doctors in 10 of those PHCs.

- In six out of 13 CHCs, caesarean delivery could not be conducted due to non-functionality/availability of Operation Theatre (OT) table as well as Gynaecologist.

Thus, due to non-functionality/availability of the basic equipment, the delivery services and privacy of treatment due to absence of bed side screens were denied to the patients. This also discouraged the patients' from visiting the health centres as was observed from the beneficiary survey wherein 12beneficiaries (women) out of 22 cases of home deliveries stated that due to non-availability of private rooms, they did not visit the health centres for delivery.

4.11.3 Idle machinery in the health centres

Scrutiny of records of the test-checked health centres revealed that both machineries and constructed infrastructure were lying idle for various reasons, as indicated in **Table-16**:

Table-16

Machinery and constructed infrastructure found lying idle in the selected health centres

Name of district	Name of health institution	Name of machinery	Remarks
KarbiAnglong	Howraghat CHC	Radiant warmer	NBSU including radiant warmer machine was not functional due to non-posting of paediatrician.
	Hamren SDCH	OT and X-ray	Not functional due to non- availability of manpower such as surgeons and radiographer/radiologist.
Darrang	Mangaldoi Civil Hospital (DH)	USG machine	Not operational since August 2014, due to absence of manpower.
Sonitpur	Kalabari MH (CHC)	USG, OT, X-ray	USG, OT, X-ray non –operational due to lack of manpower since inception (July 2014).
Kamrup	TRB Civil Hospital	X-Ray	X-ray machine not functional due to want of room.
	Sualkuchi FRU	ECG machine	ECG machine not working because of non- repairing.
		USG machine	USG not functional due to lack of Radiologist.

Source: Physical verification of health centres.

As a result of the non-functionality of the machines/equipment, the patients were deprived of the health care services assured to them under NRHM.

4.11.4 Availability of ASHA kits

An ASHA worker is provided with a drug kit containing a set of drugs for minor ailments and basic equipment that enables her to provide initial care. She is also provided with a Home Based Newborn Care (HBNC) kit for monitoring the growth of newborn children.

Verification in seven selected districts revealed that the Drug kit was not provided to 4,707 (51.61 *per cent* of 9,120) ASHA workers.

Further, obstetric delivery kits and emergency delivery kits were also not provided to ASHAs in any of the selected districts. HBNC kits, though provided to 3,323 (36.43 *per cent*) ASHAs, contained only two to three items per kit (out of the eight mandated items).

During field visit, 125 ASHAs[44] were interviewed in the seven selected districts, of which only seven ASHAs (5.6*per cent*) stated that Disposable Delivery (DD) kit was available with them. Thus, 94.4 *per cent* of ASHAs were found without DD kit.

[44] Available ASHA under 45 test checked SC subject to maximum of three ASHA per SC.

Further, of the 125 ASHAs, only five (4 *per cent*) knew the usage of the kit. Pregnancy kit (Nischay kit) to confirm the pregnancy was also not found available with 50 ASHAs (40 *per cent)*. 19 ASHAs (15.2 *per cent*) stated that medicines (paracetamol, iron pills, de-worming pills) were not replenished and they ran out of medications for periods ranging from 30 days to 365 days.

Thus, in the absence of the requisite kits, minimum basic care facility expected during emergency from ASHA workers in rural areas could not be ensured in all the cases.

4.12 Drugs and consumables

4.12.1 Procedure for procurement of drugs/consumables

As per Para 5.6.4 of NRHM Framework (2012-17), access to free drugs was an important initiative under NRHM in the 12th Plan. It was however, observed that NRHM, Assam procured drugs centrally without obtaining requirements from districts up to the year 2013-14. However, from the year 2014-15 though the requirement was obtained from districts it was obtained on annual basis only.

Further, the e-Aushadhi, a web based supply chain management application for Drug Inventory Management and Distribution of various drugs, surgical items to District Drug Warehouse, hospitals, health centres and distribution to patients, was not introduced in the State.

Thus, the assessment of requirement of drugs in the State was made on annual basis only. This resulted in instances of short supply of drugs on one hand and expiry of medicines in a few instances on the other hand as highlighted in the succeeding paragraphs.

4.12.2 Shortage of drugs against IPHS and State norms

Scrutiny of records revealed that the State had devised Essential Drug List (EDL) for various levels of health centres and hospitals except for SCs. However, as per IPHS norms, the SCs were required to make available nine types of drugs. It was seen that in the selected facility, significant number of drugs were never supplied as shown in **Table-17**:

Table-17
Non-availability of EDL in selected health centres

Category of health centres	Number of health centres	Number of items enlisted in the EDL	Number of items of drugs in the EDL not supplied (Range of non-supply)*	
			From	To
PHC	26	128	7	48
CHC	7	132	6	19
SDCH	4	189	6	48
DH	5	189	7	27

Source: Records and information from selected health centres.
***Less than 5 items of drugs ignored.**

It was noticed that shortfall in number of medicines ranged between two and seven in the SCs, while in other five SCs, no drug was available.

Further, it was also noticed that significant number of drugs in the enlisted EDL remained out of stock for prolonged periods as shown in **Table-18**:

Table-18
Period of non-availability of drugs in selected health centres

Category of health centres	Number of health centres	Number of medicines out of stock		Number of days (ranging)*	
		From	To	From	To
PHC	28	6	43	30	1,826
SDCH/CHC	9	4	29	31	1,826
DH	7	5	25	30	1,521

Source: Records and information from health centres.
****Gap period less than 30 days ignored.***

Thus, due to non-supply/non-availability of drugs for prolonged periods, the patients were either deprived of the medications or had to purchase the medicines from open market (Para 8.8 refers) thereby not fulfilling the objective of NRHM.

4.12.3 Expiry of medicines due to excess supply

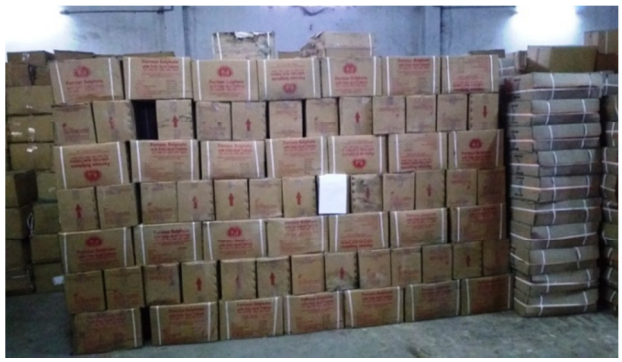
Besides the shortages of essential drugs, there were instances of excess supply of medicines noticed giving rise to expiry of medicines under NRHM, Assam.

Scrutiny of records of 16 test-checked health centres revealed that 67 types of medicines ranging from13 to 3,10,000 in numbers and valued at ₹ 51.15 lakh were expired during 2011-16.

It was stated by the health centres that medicines expired due to excess supply of medicines by NRHM, Assam against the requirements of the health centres. Further, the supplied medicines were of short shelf life which contributed in expiry of the medicines.

4.12.4 Expiry of medicine at Central Drug Store

Scrutiny of records of Central Store at Guwahati revealed that 6.22 crore numbers of IFA small tablets supplied during April 2014 and June 2014, had a shelf life upto February 2016. Of these, 1.94 crore tablets valued at ₹ 48.52 lakh(@ ₹ 0.25 each) expired due to non-issue of tablets within its shelf life as distribution started only in March 2015 *i.e.*, after nine months of receipt.



1.94 crore expired IFA small tablets lying at Central Store, Guwahati (29.07.2016)

Similarly, 60,070 numbers of IFA large tablets worth ₹ 0.17 lakh (@ ₹ 0.28 each) expired in the Central store in February 2016 due to non-issue of the same within its shelf-life. On the contrary, instances of short distribution of IFA tablets amongst Pregnant Women (PWs) were noticed as discussed in succeeding Para 7.2.

This indicated that the assessment of requirement and distribution of medicines was not proper.

4.12.5 Prescribing medicines in brand name

GoA vide Notification (January 2013) directed that the prescription of drugs in all government Medical Colleges, Hospitals and Health Institutions, need to be made in generic names only. It was observed that NRHM procured all medicines in generic names only.

During test check of prescriptions/Bed Head Tickets (BHT) of selected seven DHs, it was noticed that medicines were prescribed in brand names as shown in **Table-19**:

Table-19
Position showing medicines prescribed in brand name

Name of District	Name of DH	Number of prescription/ BHT	Number of medicines prescribed	Number of medicines prescribed in brand name
Kokrajhar	RNB Civil Hospital	16	91	16
Golaghat	KK Civil Hospital	9	58	14
Sivasagar	Sivasagar Civil Hospital	11	47	11
Darrang	Mangaldoi Civil Hospital	25	93	25
Sonitpur	Kanaklata Civil Hospital	13	78	23
KarbiAnglong	Diphu Civil Hospital	4	14	4

Source: Records of DH
Note: only Kamrup DH, however, prescribed medicines in generic names.

Further scrutiny revealed that the generic medicines of the same composition although available in the health centres could not be issued by the pharmacists as those were prescribed in brand name by the doctors instead of generic name.

Thus, the patients were compelled to procure the brand name medicines from the open market which caused undue financial burden on the rural population in such situations.

It was thus, revealed in audit that there were shortages of health centres. Instances were noticed where the available health centres were not located as per norms to cater to the needs of the populace in an equitable manner. Deficiencies were also noticed in ensuring availability of drugs, consumables and equipment. Health care services in outreach areas especially in Char and Tea Garden areas were inadequate and needed immediate attention.