Article

Determinants of Choice of Care Providers During Childbirth in Rural West Bengal, India

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Abstract

The article analyses determinants of choice of care providers during childbirth. Public health facilities provide care for free to all women during childbirth in West Bengal. In addition, a cash incentive is also attached with the service package for poor women who give birth at public health facilities. However, a section of women still prefer to give birth at home and some avail services from private facilities. The article attempts to explore the reasons underlying such difference. This analysis is based on primary data collected from four villages of Jalpaiguri district following multistage sampling method. It involved a survey of 251 households having at least one child below 2 years. Multinomial logistic regression model was used to analyse the data. The results suggest that quality of public health services, rural infrastructure, utilization of antenatal care and conditional cash transfers influenced the choice of care providers. Women who were eligible for and were aware of Janani Suraksha Yojana were less likely to go to private health facilities for childbirth. However, the programme did not seem to be effective in terms of reducing delivery at home.

Keywords

Conditional cash transfers, care providers, reproductive health, JSY, ANC, public health

Introduction

The article analyses factors determining choice of care providers during childbirth, along with assessing the effectiveness of cash assistance programme (Janani Suraksha Yojana [JSY]), in terms of reducing childbirth at home in rural West Bengal.

Maternal mortality ratio is very high in India (167 per 100,000 live births in 2011–2013) and most of the maternal deaths occur during obstetric complications and delivery (Kinney et al., 2010). According to Devadasan, Elias, John, Grahacharya, and Ralte (2008), home delivery by unskilled personnel and delay in seeking healthcare services lead to maternal mortality. Therefore, it is important to improve

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institutional delivery rate. National Rural Health Mission (NRHM) had launched JSY on 12 April 2005 with the objective to improve institutional delivery and antenatal check-ups, especially among poor pregnant women. The JSY had been implemented in all the states and union territories. The programme had classified the states as either low-performing states (LPS) or high-performing states (HPS). Special attention had been paid on LPS.[1] The JSY attached cash incentive with antenatal and delivery care. It was a modification on National Maternity Benefit Scheme (NMBS).[2] In HPS, only BPL women of 19 years or above were eligible for the disbursement for up to two childbirths. However, in LPS, restrictions on age, number of live births and live birth only on public institutes had been removed.

It is important to note that public health facilities provide care for free to all women during childbirth and in addition, under the JSY, a cash incentive is attached with services at public health facilities. However, a section of women still prefer to give birth at home and some avail services from private facilities. The article attempts to answer a specific question:

> why a section of women do not avail services from public facilities and opt for unsafe alternatives like home delivery by unskilled health personnel, or go to private facilities and incur high expenses, even though public health facilities provide care for free and a cash incentive is also attached to it?

The underlying objective of the article is to address deficiencies in public provisions.

The article is organized in the following way: the second section covers literature on choice of health-care providers; the third section discusses data collection and data analysis methodology; the fourth one describes basic features of the sample respondents; and the fifth one discusses results followed by a section which concludes the article.

Review of Literature

McKinlay (1972) recognized different factors that guide decisions about healthcare utilization. He categorized the factors as follows: (a) economic factors: income, health insurance coverage, cost of services and availability of drugs for free; (b) geographic factors: proximity to health facilities; (c) socio-demographic factors: age, social class, gender and education; (d) psychological factors: motivation, perception, learning and so on; (e) sociocultural factors: lifestyle, norms and values; and (f) organizational or health system-related factors: health workers and organizational related aspects.

Kroeger (1983) proposed a model of perceived morbidity which affected explanatory factors. These factors in turn determine the choice of care providers. Kroeger classified the factors broadly in three categories. These are as follows: (a) predisposing factors, (b) type of disorder and patients' perception and (c) features of health services.

Majumder (2006) modified Kroeger's model and identified a set of explanatory variables, which might influence the choice of care. These were as follows: age, gender, caste, household size, education, normal out-of-door trips, agricultural possession, cash income, standard of living and travel to distant place (as predisposing factors); type of illness and severity of illness (as characteristics of disorders and people's perception); availability, preference for a system of care, cost of care, preference for a type of care and quality of care (as characteristics of services and enabling factors). The author found that age, family size (small families utilize more), cost of care, severity of illness and type of care provider (public and private) affect the utilization pattern.

There are several other studies which corroborated these factors (characteristics of the disorder and perception, characteristics of predisposing factors, characteristics of services or enabling factors) with evidence:

1. Characteristics of the disorder and their perception (need, risk factors or complications) affect utilization (Ellencweig, Ritter, Olavsky, & Tamir, 1990; McCormick, Brooks-Gunn, Shorter, Holmes, & Heagarty, 1989).
2. Characteristics of the subject or predisposing factors are as follows: (a) family characteristics: age, gender, family size and marital status; (b) social structure: education, employment and ethnicity; (c) culture, regional identity, women's autonomy; (d) assets and affordability of households: assets, income, insurance coverage (Agarwal, Singh, & Garg, 2007; Bloom, Wypij, & Das Gupta, 2001; Bogg, Wang, & Diwan, 2002; Clair, Smeriglio, Alexander, & Celentano, 1989; Ellencweig & Grafstein, 1989; Ellencweig et al., 1990; Falkingham, 2003; Furuta & Salway, 2006; Handler, Rosenberg, Raube, & Kelley, 1998; Koenig et al., 2007; Kravdal, 2004; Materia et al., 1993; Matsumura & Gubhaju, 2001; Short & Zhang, 2004; Trakroo, 1993).
3. Characteristics of the services or the enabling factors are as follows: (a) availability of health facilities (manpower, plant, equipment, drugs, bed, pharmaceuticals, doctors and specialists); (b) accessibility of healthcare (distance, area coverage of health centres (CHCs), distance of referral units, expenditure, transportation) (Bogg et al., 2002; Ellencweig et al., 1990; Koenig et al., 2007); (c) quality of care (cleanliness, water supply, doctor-patient relationship, mechanism to encourage continuity of medical care, patients' perception, waiting area structure and waiting time) (Agarwal et al., 2007; Ellencweig & Grafstein, 1989; Ellencweig et al., 1990; Falkingham, 2003; Handler et al., 1998; Koenig et al., 2007; Mikhail, 2000) and (d) cost of care (doctors fee, hospital admission fee, cost of drugs, cost of medical test, cost of surgery as direct cost, cost of special diet, cost of drug, cost of transportation, tips, rituals, monetary loss of earnings of patient, loss of earning of person accompanying the patient) (Falkingham, 2003; Koenig et al., 2007).

Several studies have specifically focused on utilization of healthcare services during childbirth and identified factors which influence the choice of care provider during childbirth, among which place of residence, educational status, economic status, supply side factors, utilization of services during antenatal period, physical accessibility, women's autonomy and employment status are noteworthy.

Place of residence has an influence on the choice of care provider (Jena, Mahajan, Bhatia, & AIIMS, 2013; Odo & Shifti, 2014). Urban women were more likely to go for institutional delivery compared to rural women (Mehari, 2013; Salam & Siddiqui, 2006; You & Boyle, 2012).

Several studies have also pointed out that mothers' educational qualification influences their choice of care providers (Hagos et al., 2014; Mehari, 2013; Paneru, 2014; Salam & Siddiqui, 2006; Smith, Tawiah, & Badasu, 2012; Sugathan, Mishra, & Retherford, 2001; Woldemicael, 2007; You & Boyle, 2012).

Kesterton, Cleland, Sloggett, and Ronsmans (2010) showed that economic status influences peoples' choice between private and public health services. Wealthy women were more likely to go for institutional deliveries. There are several other studies supporting the argument (Hagos et al., 2014; Mehari, 2013; Salam & Siddiqui, 2006; Smith et al., 2012; You & Boyle, 2012).

According to Paneru (2014), availability of services, quality of care and health workers' attitude towards the patient party influence the choice of care provider. Kumar and Dansereau (2014) showed that availability of beds, drugs and equipment, electricity, and communication services at health facilities have positive impact on institutional deliveries. Thus, supply side of the services must be improved. Women go to health facilities for delivery because they seek better services (Odo & Shifti, 2014). Prinja et al. (2014) mentioned the need for adequate health service facilities to serve the women who come for institutional delivery with a focus in improved obstetric emergency care services. Cost of institutional delivery and midwives' behaviour affect place of delivery (Engmann et al., 2013). Women were more

likely to deliver at health facilities after service fees were waived (Mills, Williams, Adjuik, & Hodgson, 2008).

Utilization of services during antenatal period explains institutional delivery significantly (Sugathan et al., 2001). Women who get counselled for institutional delivery by health professionals during antenatal period go for it (Odo & Shifti, 2014).

Agadjanian, Yao, and Hayford (2016) analysed how spatial distribution and other characteristics affect the choice regarding place of delivery. They showed that physical accessibility was an important determinant and recommended expansion of services to hard-to-reach areas. Kumar, Dansereau, and Murray (2014) showed that women residing closer to health facilities with in-patient care are more likely to go for institutional deliveries. However, Sugathan et al. (2001) found that distance of health facility does not have any impact on choice making.

Prinja et al. (2014) in their study in Haryana found that efficiency of referral transportation system increases the institutional delivery rate. Engmann et al. (2013) also argued that lack of transportation services prevents women from going to health facility. Several studies have, in fact, found that transportation problems and distance to the health facilities act as barriers in institutional deliveries (Crissman et al., 2011; De Allegri et al., 2011; Ekirapa-Kiracho et al., 2011; Faye, Niane, & Ba, 2011; Gabrysch, Cousens, Cox, & Campbell, 2011; Galaa & Daare, 2008; Hodgkin, 1996; Hounton et al., 2008; Mills et al., 2008; Titaley, Hunter, Dibley, & Heywood, 2010).

Smith et al. (2012) found that women's status, through their education and wealth, influences the choice of place of delivery. Woldemicael (2007) showed that women's autonomy affects the utilization of healthcare services. Socio-economic indicators such as employment and education influence women's decision-making power and thus influence the utilization pattern.

Among others, according to Salam and Siddiqui (2006), religion was also a determining factor. Christian and Sikh women were more likely to utilize reproductive health services as compared to Hindu and Muslim women. According to Gupta et al. (2012), institutional delivery of mothers at risk had increased.

Table 1 shows that education, quality of care, economics condition and cash incentive programme were significantly influencing institutional delivery. These studies, however, did not consider physical accessibility, rural infrastructure and utilization of antenatal care (ANC) as determinant factors.

Methodology

Jalpaiguri district, in West Bengal, was selected for field survey since it is the largest district in the northern part of West Bengal and is primarily a rural district with more than 70 per cent of the population living in rural areas. Multistage sampling method was followed to collect primary data. At the first stage, the villages of the district were categorized under three different groups which were tea gardens, forest villages and revenue villages. At the second stage, one tea garden (Kurti Tea Garden) and one forest village (Holapara Forest village) were selected purposively, each based on highest women workforce participation rate. Other than that, two revenue villages were also selected for the study. One revenue village shares international border with Bangladesh and has highest women workforce participation ratio (Daikhata) and the other village (Bengkandi), with recorded highest birth rate, was selected from a block and Gram Panchayat (within that block) with highest Rashtriya Swasthya Bima Yojana (RSBY) enrolment ratio. At third stage, households were selected purposively, with at least one child below 2 years in each village. A total of 251 households were surveyed—Kurti (96), Daikhata (51), Holapara (19) and Bengkandi (85).

A multinomial logistic regression model was used to analyse the data. Here, the response variable is place of delivery. The choices are as follows: (a) home, (b) public institutions and (c) private institutions.[3]

Table 1. Review of Literature

Studies	Countries	Determinants of Institutional Delivery												
		Physical Accessibility	Lack of Knowledge/ Education	Quality	Ethnicity	Economic Condition	Transportation	Cost of Care	Geographic Barriers	Cash Incentive Programme	Availability of Services	Women's Autonomy	Insurance	Time
Agadjanian et al. (2016)	Mozambique	✔												
De Allegri et al. (2011)	Burkina Faso	✔			✔	✔		✔						
Agarwal et al. (2007)	India		✔			✔						✔		✔
Ekirapa-Kiracho et al. (2011)	Uganda						✔							
Engmann et al. (2013)	Ghana			✔			✔	✔						
Gabrysch et al. (2011)	Zambia			✔					✔					
Galaa and Daare (2008)	Ghana			✔			✔							
Devadasan et al. (2008)	India									✔				
Gupta et al. (2012)	India									✔				
Hagos et al. (2014)	Ethiopia		✔	✔		✔					✔			
Hodgkin (1996)	Kenya	✔										✔	✔	✔
Jena et al. (2013)	India		✔	✔										

Source: The author.

Table 2. Definitions of Independent Variables

S. No.	Variable	Definition	Value
1.	Economic status	Total asset holding	Continuous variable
2.	Rural infrastructure	Village dummy	1: If the village has functioning road 0: Otherwise
3.	Quality of public health facilities	Perception of women before each pregnancy	1: If good 0: Otherwise[1]
4.	CCT	Awareness and eligibility of CCT before childbirth	1: If yes 0: Otherwise[2]
5.	Utilization of ANC	Whether mothers had fully utilized all services	1: If yes 0: Otherwise[3]

Source: The author.
Note: Reference category: [1] bad; [2] not eligible or not aware or both; [3] underutilized or not utilized the services.

I took public institutions as base categories since the objective was to find what determined institutional deliveries and why some people were going to private institution for delivery and some giving birth at home. The model is defined as follows:

$$P(Y = j \mid x) = \exp(x\beta_j)/[1 + \Sigma_{h=1}^{j} \exp(x\beta_h)]\ j = 1, 2, 3 \quad (1)$$

Here, j is place of childbirth, xs are explanatory variables and βs are coefficients of independent variables. Explanatory variables used for the study are as follows: (a) perception about the quality of public health facilities, (b) JSY programme, (c) economic status, (d) utilization of ANC and (e) rural infrastructure. Explanatory variables are defined in Table 2.

In log odds form, the models are as follows:

$$\text{Log } P(\text{home})/P(\text{pub}) = \exp(x\beta_j)/[1 + \Sigma_{h=1}^{j} \exp(x\beta_h)]\ j = 1, 2, 3 \quad (2)$$

$$\text{Log } P(\text{pri})/P(\text{pub}) = \exp(x\beta_j)/[1 + \Sigma_{h=1}^{j} \exp(x\beta_h)]\ j = 1, 2, 3 \quad (3)$$

and the constrained is as follows: P(home) + P(pub) + P(pri) = 1(4)

Here, P(home) implies probability of choosing home as place of delivery, P(pub) implies probability of choosing public health facilities for childbirth, P(pri) implies probability of giving birth at private health facilities.

Economic Condition

In the present study, the economic status of households had been measured by taking inventory of household assets (excluding financial assets). The assets that were considered for this purpose were as follows: (a) land and buildings' value (homestead and business purpose), (b) household durables' value (mattress, pressure cooker, other kitchen utensils, chair, bed, table, fan, radio or transistor, B&W or colour TV, sewing machine, mobile, telephone, computer, refrigerator, watch or clock, bicycle, motorcycle or scooter, animal-drawn cart, car, water pump, thresher, tractor), (c) cultivable lands' value, (d) other lands' value and (e) value of animal resources. The values of assets were imputed on the basis of information obtained from respondents.

Rural Infrastructure

Rural infrastructure is very important for ensuring accessibility. Health facilities must be within safe physical proximity for all sections of the population. However, nearest health facilities from each of the villages are at least 12 km away. Condition of roads thus becomes critical to ensure accessibility, given the distance of health facilities from villages. Therefore, I have taken a dummy to quantify rural infrastructure. Villages having motorable approach road in and around were considered to have better rural infrastructure.

Quality of Public Health Facilities

Measuring quality is a difficult task. I have used women's perception about quality of public health facilities as an indicator since perception governs decision-making. I asked several questions to respondents on experiences they had during their last stay at public hospital. On the basis of experiences, respondents' remarks regarding services at public health facilities (good/bad) were recorded.

Respondents were asked the following questions:

1. How long did you have to wait?
2. Was the waiting area clean and good?
3. Was the health centre clean?
4. What was doctors' or nurses' attitude towards you? Did they listen to you carefully? Did they cooperate with you?
5. Did you get a bed in hospital? If yes, was it a single occupancy bed?
6. Did you get medicine free of cost?
7. Were you provided food? Was it good?
8. Was the bathroom clean?
9. Was there regular power and water supply?

Conditional Cash Transfer and Antenatal Care

I have taken joint distribution of awareness and eligibility criteria. Dummy variable was created. The variable was created to capture impact of JSY programme. A dummy was created for ANC variable. Women who received all antenatal services were under full utilization category.

Basic Features of Study Villages

Kurti shares its border with Ghatia River and Ghatia Tea Estate to the east, Naya Saili Tea Estate to the west, Bhutan to the north and Bhagatpur Tea Estate to the south (Figure 1). Daikhata shares its border with Bangladesh in the west, north and south and Binnaguri in the east (Figure 2). Holapara forest village shares its borders with Uttar-Baalalguri and Totopara in the north, Lankapara forest in the west and Torsa River in the south and east (Figure 3). Bengkandi shares its borders with Hedayatnagar in the south and Alinagar in the south and west, Sishabari in the west, Dhulagaon in the east and Dalgabasti in the north (Figure 4).

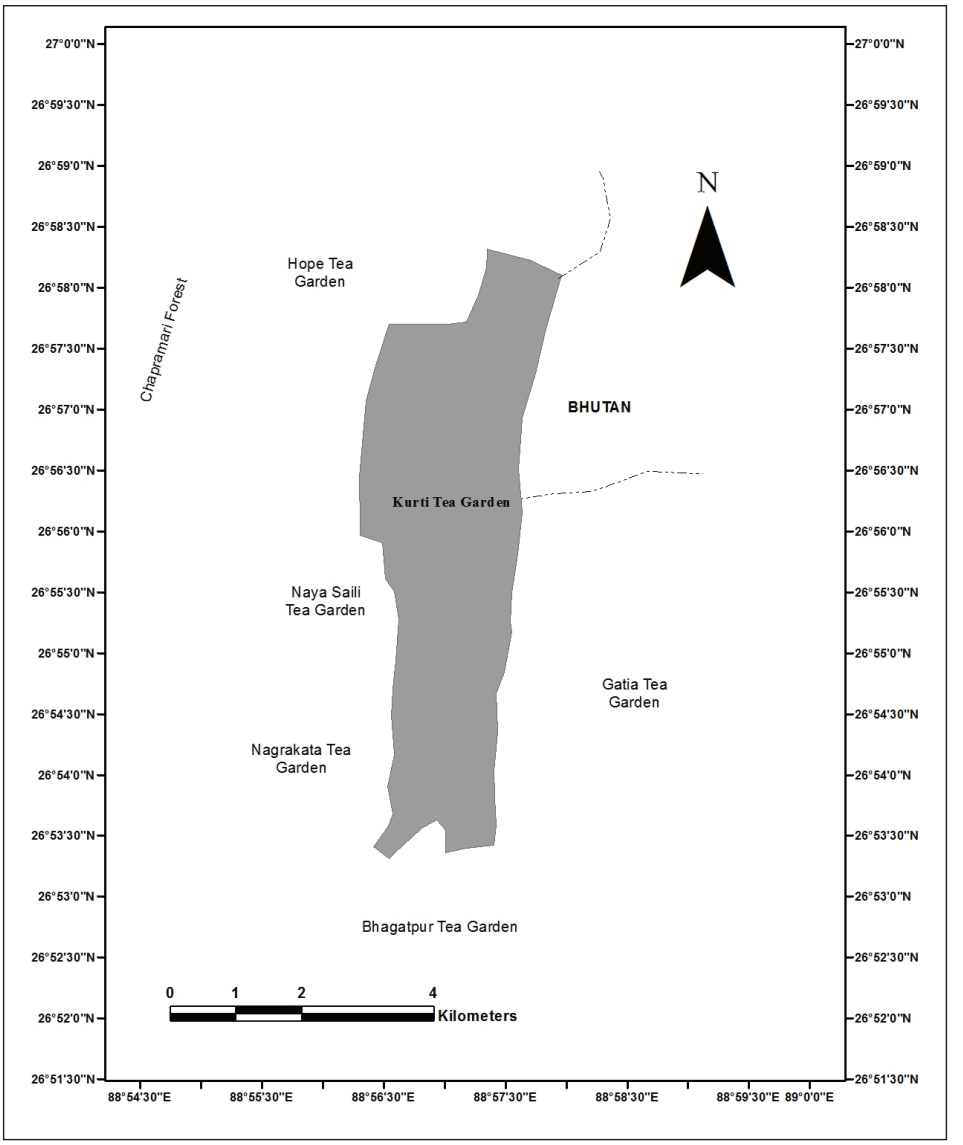

Figure 1. Map of Kurti Tea Garden

Source: The author.

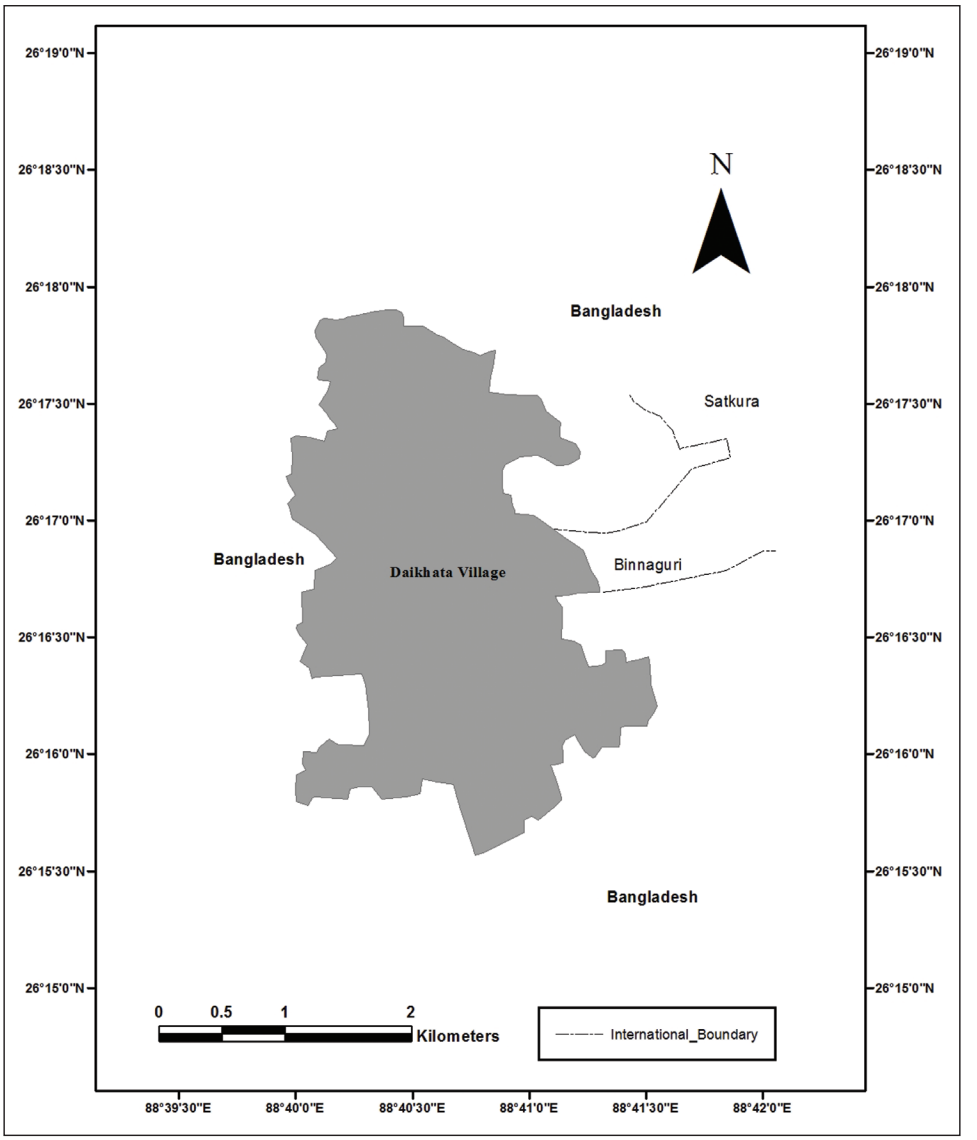

Figure 2. Map of Daikhata

Source: The author.

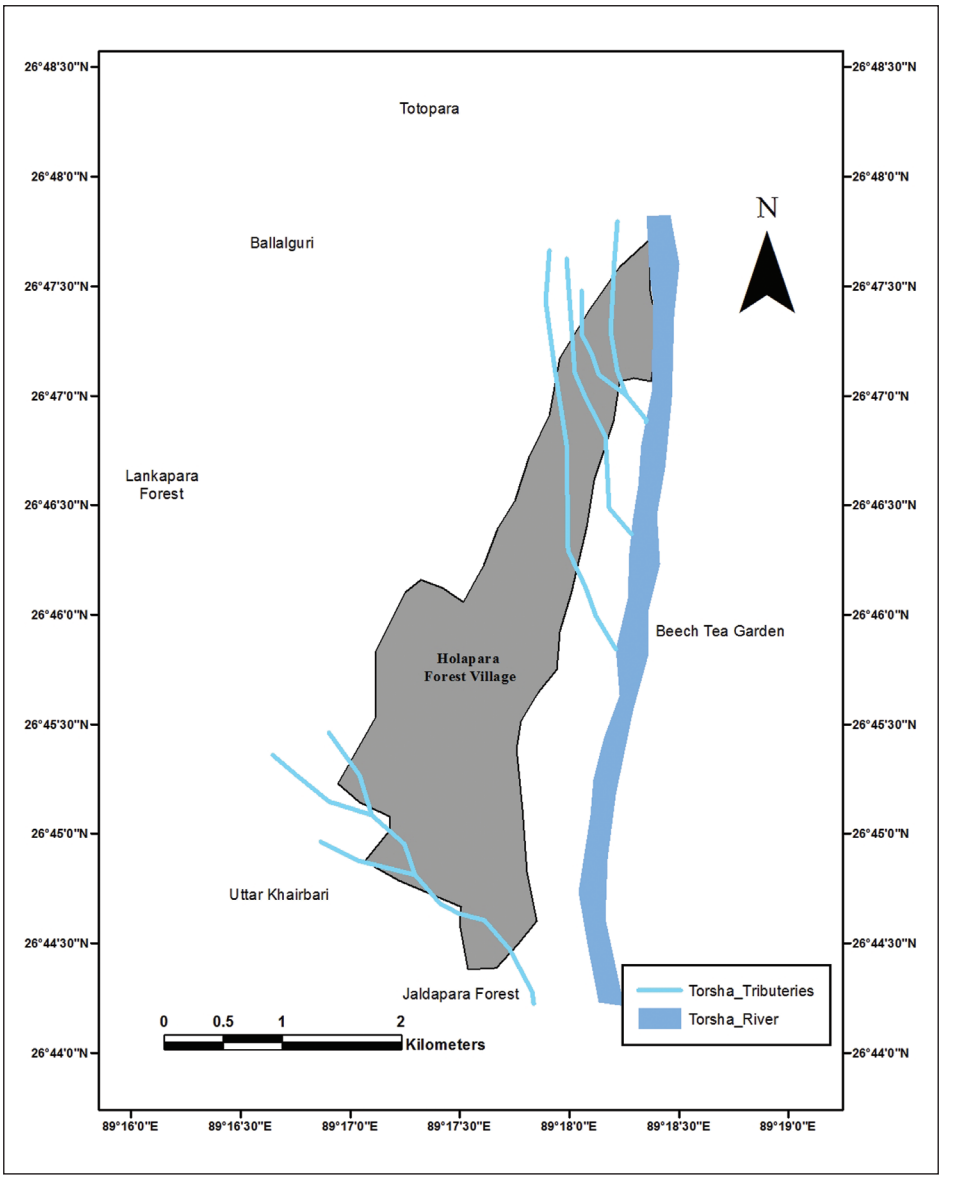

Figure 3. Map of Holapara Forest Village

Source: The author.

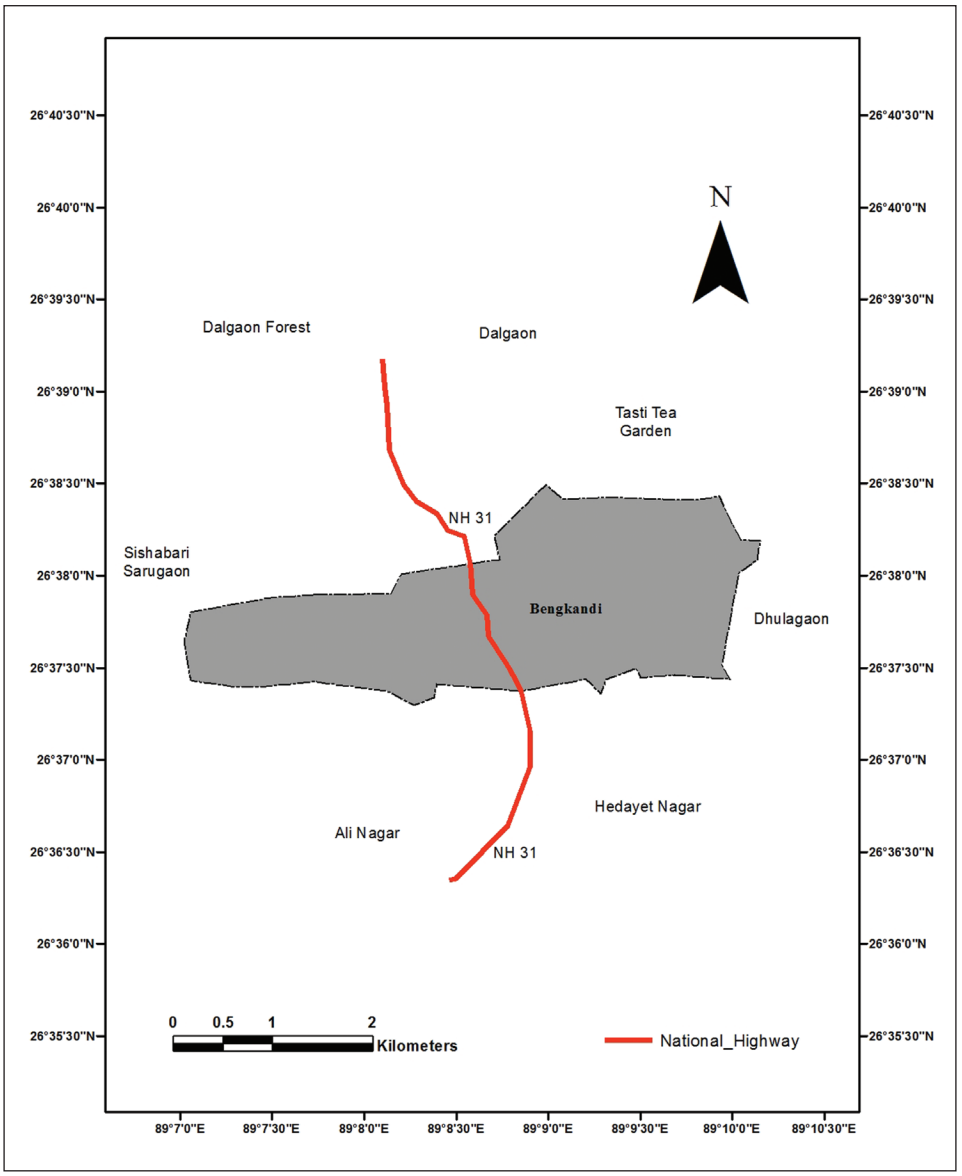

Figure 4. Map of Bengkandi Village

Source: The author.

Table 3. Basic Features of Sample (in %)

Basic Features of Sample	Kurti	Daikhata	Holapara	Bengkandi
SC	2	43	16	70
ST	81	55	63	17
OBC	2		…	
Muslim	2	1		
Others	13	1	…	13
Literate mothers	43	26	47	79
Literate fathers	64	33	42	82
Employed mothers	68	41	14	5
CCT eligible and aware	79	57	63	81
ASHAs counselled	48		16	32
ANC fully utilized	52	27	42	92
Place of childbirth (last child) (%)				
Home	22.9	50.9	31.6	9.4
Public facilities	73.9	47.1	57.9	68.2
Private facilities	2.08		5.3	20
Roadside	1.04	2	5.3	2.4

Source: Data collected and compiled by the author through a field survey conducted in 2014.

Most of the surveyed households were Scheduled Tribes (STs) followed by Scheduled Castes (SCs). Male literacy rates were higher than those of females. A sizable proportion of households opted for home delivery during last childbirth. Table 3 describes basic features of study villages.

Results and Discussion of Regression Analysis

Several studies had shown that quality of healthcare services is an important determinant of the utilization pattern (Agarwal et al., 2007; Ellencweig & Grafstein, 1989; Ellencweig et al., 1990; Falkingham, 2003; Handler et al., 1998; Koenig et al., 2007; Mikhail, 2000). However, the quality of health services is a difficult concept to measure. As discussed in methodology section, I have used women's perception about the quality of services provided by public health facilities as a proxy, since this is what influences the choice of care providers.

Quality of public health facilities influences choice of care providers. Mothers who believed that public health facilities provide quality services compared to mothers, who perceived opposite, were less likely to choose home as the place of delivery. The odds of giving birth at home in comparison with public health facilities were 0.01 times lower for mothers who perceived that public facilities provide better care than for mothers with opposite belief, holding other variables constant (Table 4).

The International Covenant on Economic, Social and Cultural Rights (ICESCR) in 1966 had recommended that there should be functioning health facilities, adequate supply of goods and services, existence of different preventive programmes available for people within the state jurisdiction (availability). To make health services available, a set of underlying determinants, such as access to safe drinking water, proper sanitation facilities, health facilities with adequate infrastructure, trained health professionals and regular supply of essential drugs must be ensured first.

Sub-centres are the village level health facilities and thus the first meeting point between patients and health personnel. None of the sub-centres in the surveyed villages had a labour room and institutional

Table 4. Results of Multinomial Logit Regression

Place of Birth	Indicators	Coefficient (Standard Error)	Relative Risk Ratio (Standard Error)
Home	Perception about quality of public health facilities	−5.19*	0.01*
	CCT	−0.66	0.52
	ANC	−2.05*	0.13*
	Economic condition	−9.50e − 07	1
	Rural infrastructure	−2.54*	0.08*
	Constant	4.57*	96.27*
Private facility	Perception about quality of public health facilities	−18.88	6.33e − 09
	CCT	−1.94*	0.14*
	ANC	17.21	2.97e + 07
	Economic condition	2.66e − 07	1
	Rural infrastructure	15.73	0.68
	Constant	32.38	6.83e − 15

Source: Data collected and compiled by the author through a field survey conducted in 2014.
Note: * Implies significant at 1% significance level.

Table 5. Availability of Health Infrastructure and Human Resources Across Study Villages, 2013–2014

Availability	Daikhata	Holapara	Bengkandi	Kurti
Do Auxiliary Nurse cum Midwife (ANM) live in sub-centre village?	Yes	No	Yes	Yes
Is there separate labour room in sub-centres?	No	No	No	No
Are there beds in sub-centres?	No	No	No	No
Are deliveries conducted in sub-centre?	No	No	No	No
Do ANMs have skilled birth attendant training?	No	No	Yes	No
Toilet in sub-centre	No	Yes	No	No
At least four beds in PHC	No	Yes	No	–
Normal delivery kit in PHC	No	Yes	No	–
ANM trainings in PHC	No	No	No	–
Bed availability (at least 30) of closest higher facilities	Yes	No	Yes	No

Source: Data collected and compiled by the author through a field survey conducted in 2014.

delivery is not conducted in the sub-centres. At the village level, ANMs were the only service providers and they were supposed to provide basic services in an emergency. The ANMs were supposed to stay in the sub-centre quarters and supervise home delivery in emergency. However, most of the sub-centres did not have ANM quarters. The ANMs were supposed to have undergone the skilled birth attendant training. Among all the ANMs I had surveyed, only one ANM, from Bengkandi, reported to have attended the training programme. Therefore, most of them were not trained to conduct childbirths. Primary health centres (PHCs) covering the villages were non-bedded and they do not conduct institutional deliveries, except for Totopara PHC (covering Holapara forest). However, even this one did not have an obstetric care unit and had referred all the pregnant women with complications to higher facilities (Table 5).

Nearest first referral facilities (from Kurti and Holapara) did not even fulfil the norm of 30 bedded hospitals. Women reported sharing beds with other women. Sometimes they did not even get beds and

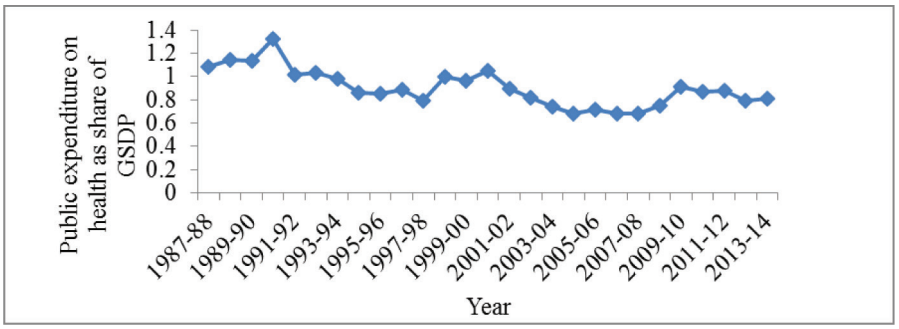

Figure 5. Share of Public Health Expenditure in GSDP, West Bengal, 1988–2014 (%)

Source: Data on public health expenditure collected from State Finance Account, various issues and GSDP from the CSO, various issues.

Note: Expenditure on public health includes expenditure on medical and public health and family welfare. It excludes expenditure on water and sanitation and ICDS.

had adjusted on the floor. Drug supply was not regular. Diagnostic tests were not done in those facilities. Specialized doctors were not available in all these facilities. Therefore, as far as availability of health services are concerned, the government of West Bengal had not been successful in ensuring the minimum expected for reproductive health.

Low public expenditure on health in West Bengal (it was below 1% of GSDP in 2013–2014, refer Figure 5) is the most important reason behind inadequate infrastructure, insufficient human resources and poor service provision. Health facilities do not receive untied funds every year. Health workers are forced to work on very low salaries and with poor working conditions. As a result, they lose motivation for work and get themselves involved in "dual practice". All the doctors that I interviewed reported that they practised privately. Also, households I surveyed claimed that doctors paid more attention and time to patients who could go to private clinics for check-ups. Studies show that the way for the government to retain doctors at public facilities at low salaries is to let them practice privately (Bir & Eggleston, 2003; Ferrinho, Lerberghe, Van Fronteira, Hipólito, & Biscaia, 2004), so that doctors can attend poor patients at public facilities and can earn more privately by attending patients who can afford it.

Instead of increasing expenditure on health, the government is doing away with its responsibility by promoting public–private partnership (PPP) model. PPPs were already in place in West Bengal and they were expanded in secondary and tertiary healthcare, diagnostics (CT scan, MRI, X-ray, USG), dialysis of patients, ambulance services, laundry units and partnership with NGOs for AIDS control and prevention programme after the implementation of National Health Policy, 2002.

Ambulatory services, one of the services outsourced to private providers in West Bengal, were not satisfactory in the district. Most of the women did not receive the service in the study villages. In Daikhata, women who lived at the fringe of the village had to walk 3–4 km to reach the outlet of the village and had to cross a bamboo bridge, and then only could they access the functioning road, even when in labour. However, the problem did not end here. There is no bus stop within 5 km from the village. No private transport service was available in the village due to the absence of functional roads. Sometimes, their partners carried them on cycles to the nearest bus stop and sometimes, they hired van rickshaws to reach the nearest bus stop. Those who could afford booked private cars. Women who had given birth at public facilities had spent ₹1,000 on an average on transportation. In Holapara, most women (91%) had not received transportation facilities. In Bengkandi, 60 per cent women had not

received transportation during their last pregnancy and had spent ₹774.28 on average for transportation. Moreover, women who had received ambulatory services reported that they had to pay ₹100–250 to the driver as "bakshish". They reported that they had no choice but to pay the extra amount to the drivers since drivers refused to come if "bakshish" was not promised. The drivers, on the other hand, claimed that they did not receive payments regularly from their employers.

Dietary services are also provided by private partners in West Bengal. The quality of food served at the tertiary care facilities was very poor. Women preferred to eat home-cooked food as compared to food supplied by the health facilities.

On the one hand, the government is slowly and steadily pushing the health system towards privatization, and on the other hand, it is introducing temporary programme like JSY, which is bound to fail in the absence of basic public provisioning.

The JSY programme found to be ineffective in terms of reducing childbirth at home. It reduced giving birth at private health facilities relative to public health facilities. Transportation cost combined with attendant charges at public health facilities are so high that it always exceeds the amount disbursed to mothers as incentive and households end up incurring high costs. Therefore, the programme seems to be ineffective in terms of reducing home delivery. However, women chose public health facilities over private health facilities when they were eligible and aware of conditional cash transfer (CCT) programme to reduce exorbitant expenses usually charged by private facilities. The odds of giving birth at private health facilities relative to public health facilities were 0.14 times lower for beneficiaries as compared to the rest (Table 4).

Some of the women I surveyed were not eligible for the incentive during their last childbirths. And some of the eligible women did not know about the CCT. In Kurti, 5.21 per cent women were eligible for CCT but were not aware about the same. The corresponding figures in Daikhata, Holapara and Bengkandi were 19.61, 15.79 and 16.47 per cent (Table 6).

It was found that women who were eligible for CCT and were aware of the programme had preferred to give birth to their last child at public health facilities compared to women who were eligible but did not know about CCT.

The ASHAs were supposed to educate women about JSY and motivate them for institutional delivery. However, in Kurti Tea Garden, there were three ASHAs for a population of more than 4,000. Quite obviously, ASHAs could not reach all the women since they were already overburdened with work. In some cases, women reported that ASHAs had not been recruited when they had given birth. Daikhata was a backward village and no ASHA had been appointed in Daikhata until the survey period. In Holapara, there was only one ASHA. The ASHAs can motivate women to go for institutional delivery. However, most of the time they do not reach all their target population due to their workload which leave them with hardly time for this. The ASHAs' performance was very poor in Bengkandi.

However, all the women who were escorted to the health facilities by ASHAs reported that ASHA did not stay with them at night. One family reported that they called up the ASHA when the mother's labour

Table 6. Eligibility and Awareness Regarding CCT Across Study Villages, 2012–2014

Villages	Eligible (%)	Eligible and Know About CCT (%)	Eligible But Did Not Know About CCT (%)
Kurti	84.38	79.17	5.21
Daikhata	76.47	56.86	19.61
Holapara	78.95	63.16	15.79
Bengkandi	97.65	81.18	16.47

Source: Data collected and compiled by the author through a field survey conducted in 2014.

pain started. The ASHA's response to that call was "what can I do in this? Call the ambulance and take her to the hospital. I cannot come now. It is too late". One woman reported that she called up an ASHA in labour and ASHA said, "It is too late at night, who will take me to your house?" The ASHAs are paid very minimal amounts for these services. In addition, road conditions are not good and villagers face life threats from wild animals such as leopards, elephants, bison or rhinos. Women reported that ASHAs did not pay home visits within 7 days of childbirth. Instead, they used to call mothers to sub-centres. These women (ASHAs) were not provided with any transportation facilities.

The ASHAs are more like extension health workers than community change agents. Despite this, at the start of the programme, they were not paid any fixed salary or remuneration, but rather were supposed to work as "honorary volunteers" (GOI, 2013). Subsequently, a minimum "honorarium" of ₹500 per month was provided, also as recognition of the time required to attend training programmes, meetings and monthly reviews. Other than that, ASHAs are provided with incentives for carrying out specific tasks related to health and other social sector programmes. For example, the amount of incentive for ensuring antenatal check-up (ANC) for each woman is ₹300 for rural areas. For complete immunization of a 1-year-old child, the amount is ₹100. For assisting during institutional delivery, the amount is ₹300. In addition, states can provide awards, non-monetary incentives, bicycles, ID cards, social security and so on to motivate ASHAs.

This raises the question of whether the dependence of these "honorary volunteers" on incentives, for different tasks they are assigned with instead of any decent fixed remuneration, increases their efficiency and usefulness for the health system. The underlying assumption is that the combination of orientation towards community service on the part of poor local women with some financial incentives for specific tasks would serve as adequate motivation to ensure a decently functioning basic health system driven by volunteer workers. However, a study by Joshi and George (2012) found that ASHAs incline towards work with high incentive payments, which in turn means that other activities that are associated with less or zero incentive are relatively neglected.

There can be other unanticipated consequences of this system of incentives. One such consequence came to light in the course of my field survey, when the recorded childbirth rate of a particular village in Jalpaiguri district, West Bengal, was found to be several times higher than the actual birth rate. After further investigation, it was found that both the ANM and ASHA were maintaining false registers, with many children having more than one entry for each vaccination and immunization and in some cases five or six times the actual number. Since ASHAs get ₹100 for completion of full immunization for each 1-year-old child, repeated entries obviously make the count higher, enabling the ASHAs to claim extra amounts. Thus, these poorly paid activists take advantage of being the first port of call for recording births and so on and get involved in malpractices. This reflects the moral hazard that arises due to the information asymmetry between ASHAs and the district health authority. However, the ASHAs also get support from ANMs, since without ANMs' consent such over-reporting would not be possible.

The ASHAs belong to the same community they work for and come from, more or less, a similar socio-economic background. The amount of money they receive as honorarium and incentives is typically paltry but nevertheless constitutes a significant part of their total household income especially in more backward areas. Even so, it is very often the case that these incentives combined with the household's incomes from other sources are barely sufficient to maintain subsistence. This material insecurity and the absence of a defined secure income from such work creates an incentive for malpractice, which is enabled by their relatively advantageous position due to counterparty's dependence on them to access complete information.

The outcome is therefore a peculiar situation, in which ASHAs are effectively incentivized to provide false (usually excess) information regarding births, immunization and so on. For the public health

system, this is both inefficient and counterproductive, since official policy is then based on inadequate and occasionally false information on the actual demographic and health realities. It is likely that the provision of a proper salary (even at the minimum wage) would be a much more effective way of employing community health workers. It would eliminate the advantages of overstating any numbers merely for financial gain and so provide a much more realistic picture of actual trends. It would also motivate such workers to serve society in a better and more meaningful way by engaging in all required tasks with equal zeal, instead of focusing mainly on those for which financial incentives are provided.

Another example is of health attendants. Health attendants make a huge share of work force of hospital industry and are inseparable part of this care giving system. Their service is integral part of hospitals' services. However, they are not paid by the hospitals. They receive earnings from the patients.

Utilization of services during the antenatal period increases the probability of institutional delivery. The more the pregnant women interact with health workers, the easier it is for health workers to counsel them for institutional delivery. Also, it becomes easier to identify pregnancy-related complications, if any, at an early stage. Thus, women can be convinced to seek medical assistance for childbirth.

Women who had utilized antenatal services fully compared to those who had not were less likely to choose home as the place of childbirth. The odds of giving birth at home in comparison with public health facilities were 0.13 times lower for mothers who utilized antenatal services fully than for those who did not, holding other variables constant.

Data from surveyed villages suggest that there is still a long way to go to achieve full utilization[4] of services during the antenatal period.

The public health system alone could not improve ANC visits. The public health system worked parallel to the private health system to improve conditions. Doctors, appointed at hospitals, practised their profession privately apart from practising in these government hospitals. Mothers reported that they preferred to go to private chambers during the antenatal period since they got more attention there. In the public hospitals' OPD section, due to heavy workload, the same doctors did not attend to them with the same intensity. Therefore, women who went to see doctors at private clinics were more likely to go for institutional delivery. Thus, availing ANC services from private providers were motivating women to go for institutional delivery. It was quite clear that the kind of attention women received from health professionals at public health facilities was not sufficient to motivate them to go for institutional delivery. Shortages of staff, infrastructural bottleneck and heavy workload were the key problems at public health facilities.

Although economic condition did not seem to influence choice of care provider, among 251 households, 14.33 per cent reported to have taken loan for different medical purposes. Households which took loan from money lenders had to pay a very high rate of interest which ranged between 20 and 60 per cent in study villages. Among total surveyed households, 7.96 per cent households borrowed money during childbirth for incurring healthcare-related costs (Table 7).

Women who belonged to villages with functional road (Kurti, Holapara and Bengkandi) compared to women from Daikhata with no road were less likely to choose home as place of childbirth and more likely to give birth at public facilities. The probability of giving birth at home relative to public health facilities was 0.08 times lower for mothers who belonged to Kurti, Holapara and Bengkandi compared to mothers of Daikhata, holding other variables constant. Physical accessibility was a critical determinant of choice of care provider.

Physical accessibility, defined by ICESCR in 1966, implies that health facilities must be within safe physical proximity for all sections of the population. However, the nearest health facility with labour rooms, doctors and caesarean section was as far as 13.2 km in Kurti, 14.5 km in Daikhata, 8.7 km in Holapara and 12.1 km in Bengkandi.

Table 7. Percentage of Households Which Took Loans for Health Purpose, 2013–2014 (%)

Sources of Loan	Percentage of Households Taking Loans for Medical Care to Total Surveyed Households (in %)	Percentage of Households Taking Loan for Childbirth to Total Surveyed Households (in %)	Rate of Interest (in %)	Percentage of Households with Loan Outstanding (in %)
Extended family	3.58	2.39	0	3.19
Friends	3.58	1.99	0	3.58
Money lenders	3.98	1.59	Ranges between 20 and 60	3.58
Cooperative societies	2.79	1.59	Ranges between 2 and 12	2.79
Employer	0.4	0.4	0	0.39

Source: Data collected and compiled by the author through a field survey conducted in 2014.

Now, given the distance between nearest health facilities and villages, it is worthwhile to check whether the roads between villages and health facilities are in good condition or not and whether there exist all-weather motorable approach roads or not. All these health facilities have all-weather motorable approach roads within a radius of some kilometres. However, the conditions of roads from the villages are not good and not always safe. In Kurti, women cannot access functioning road during monsoon due to waterlogging. Also, it is not safe to walk by the gardens alone since leopards attack people very frequently. In Daikhata, the bridge connecting the village with the outer world is broken. The village is surrounded by international border from three sides. The only road which connects the village with the rest of the country is not functioning. Therefore, no public transportation facility is available there. Holapara is a forest village. Roads from Holapara are closed during the monsoon since hilly rivers surrounding Holapara become alive during that time and it becomes impossible to reach the hospitals. Only Bengkandi is in an advantageous position since the national highway (NH-31) splits the village into two halves. Thus, transportation facilities are better in that village and the village has access to associated amenities.

Roads in most of these villages are not in good condition. Public or other private transportation, therefore, is either not available (Daikhata) or not regular (Kurti and Holapara).

I have designed an index which measures accessibility of health facilities. The index incorporates three indicators which reflect physical accessibility (Table 8). These are as follows:

1. distance of the nearest health facilities from the villages (I have taken the distance from the clusters near the entrance of the villages to the closest health centres, which conduct both normal and C-section deliveries, from those clusters),
2. conditions of roads (whether all-weather motorable approach road or not and functional for how many months a year) and
3. availability and frequency of public/private transport per day.

Bengkandi is located in more advantageous position in terms of distance to health facility with both normal and C-section services. So, I have put value 1 for Bengkandi to make an index of distance and calculated values for other villages following unitary method.

Table 8. Parameters of Accessibility Index

Indicators / Villages	Distance to the Closest Facilities (in km)	Roads Condition (From Village to the Closest Facilities) Works for How Many Months a Year	Availability and Frequency of Transportation (Public or Private)
Kurti Tea Garden	13.2	11	5 times a day
Daikhata	14.5	0	0
Holapara Forest village	12.7	8	12 times a day
Bengkandi	12.2	12	50 times at least

Source: Data collected and compiled by the author through a field survey conducted in 2014.

To take into account road conditions, I have taken ratio of number of months in a year when roads are functional to total number of months in a year.

To measure the transport index, I have taken the frequency of both public and private transport. In Kurti Tea Garden, no public transport enters the village. Private transport services operated five times a day, on average in Kurti. In Daikhata, no transport service is available. People have to cover at least 5 km on their own to find transport to other places or nearest town. In Holapara, public transport is available only once a day and private transport is available around 11 times a day, on average. In Bengkandi,

Table 9. Accessibility Index

Index / Villages	Distance	Roads	Transportation	Accessibility Index
Kurti Tea Garden	0.924	0.917	0.1	0.647
Daikhata	0.841	0	0	0.280
Holapara forest	0.961	0.667	0.24	0.623
Bengkandi	1	1	1	1

Source: Data collected and compiled by the author through a field survey conducted in 2014.

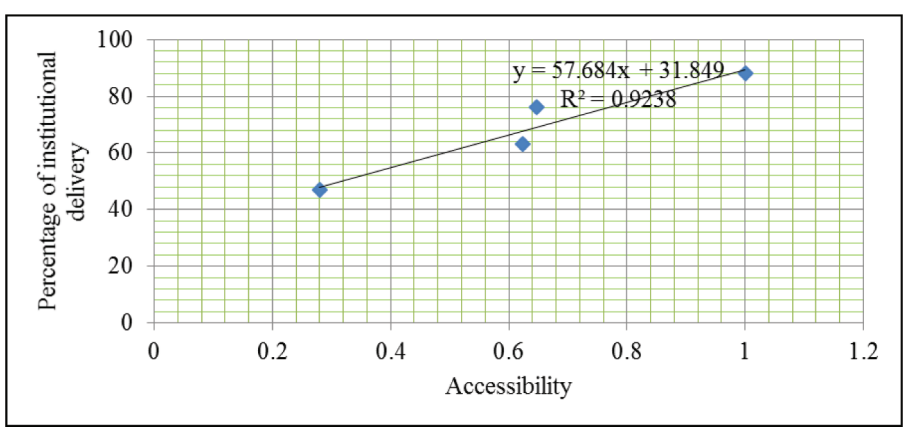

Figure 6. Association Between Accessibility and Rates of Institutional Deliveries, Across Villages

Source: Data collected and compiled by the author through a field survey conducted in 2014.

transport facilities are available all day. One has to come to the main road, to take a ride. Private transports enter the village about 50 times a day, on average. Since Bengkandi is in better position, I have put value one (50 times a day = 1) to it and have calculated transport index for other villages in unitary method. Then, I have taken simple average of these three indices to measure accessibility (Table 9).

I have plotted accessibility index with percentage of institutional deliveries during last childbirth on a graph plot and had found a positive relation between the two. Villages with better accessibility index (or access to healthcare) have higher institutional delivery rates (Figure 6).

The Hausman test of IIA assumption suggests that dependent variables are independent of other alternatives. Therefore, the multinomial logit model satisfies the IIA assumption.

Conclusions

The results suggest that quality of public health services, rural infrastructure, utilization of ANC and JSY programme were significant factors.

Women who perceived that public health facilities provided quality services did not choose home or private health facilities as place of childbirth. Villages with poor road condition and communication facilities had poor institutional delivery rates since women from these villages were not able to make it to health facilities. Indebtedness and asset rundown were major problems for poor women opting for institutional delivery in the study villages. Women, eligible for JSY, had chosen public health facilities over private health facilities. However, the programme was not effective in terms of reducing home delivery and motivating women for institutional delivery since the costs of care at public facilities were higher than the incentive provided.

Rural infrastructure and perception about the quality of public health services were the key factors defining choices of care providers. Poor road condition affected choice of care providers both directly and indirectly through other factors. In the absence of public transportation and ambulance services, poor women went for home delivery to avoid expenses on private transportation, which usually charged high prices. Moreover, in villages like Daikhata, ambulances could not even escort women from their home and waited far away from those villages and the women, in labour pain, had to cover the distance by walking. Therefore, the road condition precluded women from economically backward classes to go for institutional deliveries. Second, women, facing those infrastructural barriers, did not go for ANC visits, which in turn kept them away from all the counselling which could have motivated them to avail services from health facilities. Third, the CCT of JSY programme was ineffective in terms of reducing home delivery since women spent more on transportation than they received under JSY. Therefore, the cash incentive could not attract women anymore.

The PPP policy can be successful only when both the partners have inclusive and pro-poor approach in terms of service provision. However, private partners operate on commercial principles with profit motive to expand their business. The government spends very little on health, resulting in insufficient public service provision, and therefore encourages private partners to fill the gap, on the basis of agreements with their private partners that the latter would not function with the profit motive. However, these agreements are confined to official papers only and hardly implemented. The low public expenditure on health is the root cause of failures of all the policies and measures. Basic public provision and increase in public expenditure are instrumental for proper designing and implementation of policies and programmes.

The importance of correcting policy loopholes for supplying quality healthcare services cannot be ignored. However, this may not be enough, in a society like ours, for providing quality healthcare services to poor people who mostly belong to socially oppressed groups. One of the basic requirements

for providing quality healthcare services is to ensure accountability at all tiers of the health system. In other words, the consumers of health services—the majority of whom are poor, economically and socially—must be empowered enough to demand quality health services from the government as well as from private players. As Drèze and Sen (1995) pointed out that public action and social movements can reduce inequalities that exist in the society. Gram Panchayats and other local self-governments in rural areas of West Bengal could have been used more effectively to empower people, which would have enabled them to demand and access quality healthcare services. West Bengal had played a pioneering role in the country through the implementation of land reform and decentralization of power in rural areas, whereby there were changes in correlations of class forces in the countryside in favour of rural poor. However, these changes did not empower them adequately, so their ability to demand quality health services from the state did not take place. Clearly, more needs to be done through social and political mobilization of rural poor which can lead to the creation of a health system that is more accountable and sensitive to the needs of these sections of the population. Such mobilization can play an important role in compelling the state to provide basic physical infrastructure, such as, road, transportation, electricity, in a backward region like North Bengal. In all, these are crucial to plug gaps in existing policies and reform these in a pro-poor direction more effectively.

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Notes

1. Low-performing states: states with lower rate of institutional delivery, for example, UP, Uttaranchal, Bihar, Jharkhand, MP, Chhattisgarh, Assam, Rajasthan, Odisha, Jammu and Kashmir.
2. In NMBS, only incentives were provided to pregnant women from BPL families. Initially, the programme was under the ministry of rural development. It was transferred under ministry of family welfare in 2001.
3. Some women had given birth at roadside on their way to hospital. Those deliveries were not considered in this case, since giving birth at roadside was not their choice. It happened accidentally.
4. Full utilization implies four or more antenatal visits, two TT injection, 100 and more iron folic acid tablets. During antenatal check-ups, weight, haemoglobin, blood sugar and insulin are measured. Women who had gone for less than four ANC visits or got less than two TT of 100 iron folic acid tablets are said to have underutilized services during antenatal period.

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