11. Birth registration, child rights, and local governance in Bangladesh

Abu S. Shonchoy and Zaki Wahhaj

Summary

Historically, the practice of registering births with government authorities has been rare in developing countries, often limited to major urban centres. The absence of systematic birth records can be a serious impediment for implementing government policies related to children such as school enrolment requirements for children of primary school age or restrictions on minimum age of marriage. Recent initiatives to create digital birth records in a number of countries has the potential to address this issue and enhance the capacity of local government authorities to implement state policies. In Bangladesh, there has been increased provision of birth registration at local, government-run digital centres linked to a national database, and having a birth certificate has been made a requirement for receiving various government services including school enrolment and marriage registration. Using first-hand survey data on households with adolescent girls from a rural district in one of the poorest regions in Bangladesh, we document the knowledge, understanding, and behavioural response in relation to these policies at the household level. We also document the phenomenon of invalid birth certificates and provide suggestive evidence that it is due to limited local administrative capacity to register births.

Article 7 of the United Nations Convention of the Rights of the Child mandates that every 'child shall be registered immediately after birth'.[1] Although the convention has been ratified by most countries around the world, universal birth registration remains far from reality in many of them. About

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two-thirds of children under five are registered but the registration rate varies from over 90 per cent in industrialised countries to less than 50 per cent in sub-Saharan Africa and South Asia (UNICEF 2013). Birth registration rates also vary widely within countries, with higher registration rates in major cities compared to rural areas, and for babies born in hospitals compared to those born at home (UNICEF 1998). Without a well-functioning birth registration system, a modern state cannot ensure that key services (access to health care, education, and social welfare programmes) and legal protection (against early marriage, child labour, military service, child trafficking) extend to all children born within it. Given the immense potential social benefits of birth registration and other forms of vital registration, the World Bank and World Health Organization developed a 10-year Global Vital Registration Scaling Up Plan in 2014, with the goal of registering all births, deaths, marriages, and other vital events by 2030.[2]

Presently, survey data on birth registration of children is available for a wide range of countries, allowing comparison of birth registration rates across countries and regions and monitoring progress over time. However, it is important to recognise that governance issues may manifest themselves not just in the form of incomplete coverage but also reporting errors, the circulation of fake documents, and inconsistencies between archival records and digital databases.[3] These types of problems may not be picked up through self-reported birth registration data or even spot checks on birth certificates carried out by enumerators.

To document this issue in a systematic manner, we conducted a household survey in rural Bangladesh that includes not only self-reported data on birth registration but also validity checks on birth certificates for a specific demographic group: unmarried adolescent girls. Birth registration status of adolescent girls is particularly important because of the high rate of underage marriage (that is, marriage below the legal minimum age) among women in Bangladesh and the legal protection provided, at least in theory, by birth registration documents.

In our sample households could produce birth registration records for about 80 per cent of the girls. Survey enumerators verified, for each birth certificate, whether it had a digital record in the national birth registration database on the basis of the birth certificate number. The exercise revealed that just 54 per cent of the girls had a valid birth certificate. Controlling for individual and household characteristics, we found some significant differences in birth certification among adolescent girls across unions, that is, the level of the local authority responsible for registering births and issuing birth certificates.[4] But differences across unions explained a much larger fraction of the variation in *validated* birth certificates, suggesting that the issue of invalid certificates has been a problem stemming from governance issues at the level of the local authority. In line with this evidence, focus-group discussions with local stakeholders revealed concerns about capacity constraints and corruption at the local level, as well as birth registration targets set by the central authority that are not aligned with local institutional capacity.

Our study contributes to a growing academic literature on birth registration in LMICs (Ebbers and Smits 2022; Mohanty and Gebremedhin 2018; UNICEF 2013; UNICEF 2015; World Bank 2016). A strand in this literature focuses on demand-side and supply-side factors that limit birth registration. An important finding from the existing body of work is that both parental/household-level characteristics and local/contextual factors are important determinants of birth registration. A second strand in the literature, which we review in Section 11.3, evaluates the efficacy of recent innovations in registration systems, often involving the use of new information technologies to develop and transmit digital birth records. This strand in the literature highlights that, in the absence of comprehensive local capacity-building and mobilisation, these types of interventions ultimately may not realise their objective of improving birth registration rates in the long run. Our findings are also related to an emerging literature providing rigorous empirical evidence on the role of active monitoring and verification through decentralised local governance, especially emerging e-governance platforms (Banerjee et al. 2020; Muralidharan, Niehaus, and Sukhtankar 2016; Muralidharan, Niehaus, and Sukhtankar 2020).

Our work contributes to the existing literature by documenting, and investigating the determinants of, invalid birth certificates. We argue that individual and household characteristics and limitations in local capacity in registering births may translate not only into low birth registration rates but also the reliability of existing birth records; the latter metric is missing from existing micro-level data on birth registration rates that are widely used in this literature.

The remainder of this chapter is organised as follows. We first provide a conceptual discussion of factors that may undermine birth registration process in the presence of weak governance. We next give an overview of birth registration systems in LMICs and recent interventions to improve birth registration rates in Section 11.2, with a focus on innovations aimed at improving local institutional capacity. Section 11.3 describes the regulations and institutions underpinning the existing birth registration system in Bangladesh. We use data from our purposefully designed household survey to present descriptive statistics on birth registration rates in rural Bangladesh and highlight the issue of invalid birth registrations. In Section 11.4, we use a regression framework to investigate the determinants of birth certification as well as valid registration among unmarried adolescent girls and discuss whether differences in birth registration at the local level could be due to administrative capacity. The conclusions discuss the implications of our analysis.

11.1 Birth registration systems and sources of weakness

Policymakers and international development agencies have long recognised that an effective system for documenting births is critical for national governments to ensure that access to essential services and legal protection against

various sorts of harm reach all children. Among advanced economies, most births are registered successfully within the recommended time period. By contrast, birth registration has not been a priory in the majority of low- and middle-income countries (LMICs), albeit with a few exceptions. Lack of resources is the most important reason for the absence of an effective birth registration system in many LMICs.

In LMICs there are vast differences in the birth registration facilities in urban and rural areas. However, there may be significant variation at the local level too because of political factors, cultural norms, and the knowledge, understanding, and priorities of parents. But there are other reasons why birth registration systems may be weak. Parents may not sufficiently value the services and protection provided by the state, or they may lack an understanding of the link between them and birth registration. Hence they may not take the appropriate steps to get registered. Perhaps just as importantly, they may not make political demands to ensure that the registration process is hassle-free and inexpensive. A recent review of the literature highlights both supply-side (legal barriers, poor infrastructure, limited resources) and demand-side factors (lack of sufficient perceived benefits net of costs) as factors contributing to low birth registration rates in LMICs (World Bank 2016).

It may also be that the legal protection provided by the state upon the registration of a child conflicts with traditional norms, or with the economic reality of the households in which the children are born. A case in point is the traditional practice of marriage among adolescent girls soon after they reach puberty, which often contradicts the legal minimum age of marriage within the country. In these instances, parents may be reluctant to register their children or, at any rate, may circumvent the process (for example, by misreporting a girl's birth date) so that they are able to continue with traditional practices.

Local governance typically plays an important role in the birth registration system, either by actively collecting information on births or by providing services that allow parents to register their children, issuing certificates, and so on. So, variation in the quality of local governance may lead to variations in the efficacy of birth registration systems across locality and thus contribute to inequitable access to government services and legal protection for children born in different parts of country.

A number of LMICs have long-standing civil registration systems. For example, in Botswana, a civil registration system was established at its independence, in 1966. At its inception, the registration of births and deaths was compulsory in towns and major villages only. But the registration of vital events became mandatory nationally in 1998. In 2003 Botswana's civil registration system was automated following the establishment of the Department of Civil and National Registration (Republic of Botswana and World Bank 2015). In the case of the Philippines, the registration of all vital events (births, deaths, and so on) was made mandatory in 1930 through the Civil Registry Act. But public awareness and compliance was low due to the general lack of understanding of the process, high costs, and cultural and language barriers

(Celeste and Caelian 2021). On the other hand, low per-capita-income countries – such as Armenia, Azerbaijan, China, Honduras, Kyrgyzstan, Mongolia, Sri Lanka, and Tajikistan – have managed to register at least 90 per cent of births (UNICEF 1998). Overall, birth registration in LMICs is characterised by low compliance. In Africa, one in seven registered children in school do not have a birth certificate (UNICEF 2013). However, there exists major variability across regions and countries. For example, about 50 per cent of school-registered children possess birth certificates in eastern and southern Africa, while the corresponding number is 88 per cent in west and central Africa.

In recent years, a number of studies have investigated to what extent demand-side and supply-side factors limit birth registration. The existing research reveals that both parental/household-level characteristics and local/contextual factors have been important determinants of birth registration. For example, using data from the India Human Development Survey-II, Mohanty and Gebremedhin (2018) found that the maternal autonomy and control over resources were important determinants of birth registration, but the marginal effects of maternal autonomy also varied across districts in India. Using data from the Demographic and Health Surveys for 34 countries in sub-Saharan Africa, Ebbers and Smits (2022) found that household poverty, lack of education, absence of the father, restricted autonomy of women, and belonging to a traditional religion affected registration negatively, but so did local factors such as lack of professional care during pregnancy, delivery, and early life and lack of local health care facilities. In a mixed-methods study of birth registration in south-eastern Kenya, Pelowski et al. (2015) highlighted a different issue. A quantitative survey in the region designed to better understand the current state of registration and parental understanding and attitudes revealed high levels of awareness and low barriers to birth registration – yet over 50 per cent of children in the sample were unregistered. Based on responses by parents during focus-group discussions, the authors concluded that:

> a series of small annoyances [that is, non-monetary transaction costs], coupled with the lack of immediate incentive, … add up to a deliberate decision by a parent that it is *not worth the trouble* of seeking registration. (p.898)

They argued that this phenomenon may be present in other developing countries too.

In order to improve compliance with birth registration system, LMICs have introduced late fees, fines, and even judicial procedures. Such negative mechanisms could incentivise parents to complete birth registration on time. However, they could also create a burden for economically, socially, and geographically marginalised families (UNICEF 2013). Moreover, in some countries, existing laws make it more difficult to register children born out of wedlock or when the father is absent. Hanmer and Elefante (2015) gave a

number of examples along these lines. In Egypt, the mother can register the birth of a child only if she provides proof of marriage. In Iran, both parents must appear before a civil registrar to register their child if their marriage has not been registered.

11.2 Interventions to improve birth registration in LMICs

In recent years, a variety of interventions have been introduced in LMICs to improve birth registration processes. They often include the use of digital technologies to transmit birth registration information from rural communities to local or regional administrative offices, and/or improving human resources available at the local government level for collecting and recording the information. We examine a number of examples from the literature, with a focus on innovations aimed at improving local institutional capacity, to illustrate both the range of solutions considered, as well as their potential pitfalls.

In Malawi, the government introduced a national registration system in 2007. This involved the use of paper-based village registers to record births and deaths as well as the number of people living in each village. The registers were maintained by the village head-persons, who were also responsible for obtaining and recording the required information for village members (Gadabu et al. 2014; Gadabu et al. 2018; Singogo et al. 2013). Although the system allowed the recording of births and deaths, it was impossible to collate and analyse the data from villages in a timely way due to poor infrastructure, limited human resources, and a poor transportation network. Paper registers were also easily damaged through manual handling or being eaten by termites.

In March 2013, a pilot project involving the use of electronic village registers (EVRs) was launched in a single Malawi village in an area without electricity and modern amenities (Gadabu et al. 2014). The EVRs were used to transmit data through wireless connections from the village head through a series of intermediaries to the District Commissioner. The EVR was designed to overcome challenges typical of rural communities in low-income countries: lack of electricity supply, low literacy levels, and lack of IT skills. In particular, the EVR set-up included a touchscreen computer to overcome the lack of IT skills, a solar panel to overcome the problem of lack of electricity supply, and a user interface in the local language to overcome the language barrier to using standard digital technologies. Based on the success of the pilot, the project was scaled up in 2016 to 83 other villages, with modifications to improve its user-friendliness and robustness (Gadabu et al. 2018).

Because of the low frequency of births and deaths at the village level, a village head in charge of an EVR typically interacted with the system just once every two to three months, which meant that operators had a low level of familiarity with the system, potentially leading to reporting errors. There were also cases of double registrations due to attempts to correct data entry errors, as well as under-reporting of births and deaths. Compared to the low

frequency of use, the EVR system also had a relatively high cost, at US$2,430 per village (Gadabu et al. 2018).

Tanzania's civil registration (CR) system is managed by the government's Registration, Insolvency and Trusteeship Agency (RITA) within the Ministry of Justice and Constitutional Affairs. The system is operated through district civil registrars (DCRs) and village executive officers (VEOs), who maintain in ledgers a record of births and deaths reported by households. Obtaining a birth registration certificate typically involves a series of visits by a relative to the VEO and the district civil registrar's office over the course of several weeks (Kabadi, Mwanyika, and de Savigny 2013). The system's lack of simplicity, coupled with lack of commitment from VEOs to regularly visit villages and households as required, is a potential reason why so few births were reported and registered.

The Swiss Tropical and Public Health Institute and the Ifakara Health Institute implemented a project in Tanzania between September 2012 and March 2013 to explore the potential of adding a mobile phone step to the CR system. The project, called 'Monitoring of Vital Events through the Use of Technology', or MOVE-IT, had its pilot in a rural setting and was developed to add a SMS technology process to the existing CR process. It aimed at improving the functioning of the CR system by enabling the village executive officers to electronically transfer the details of births and deaths to the district civil registrar through a cloud-based SMS platform. This would enable DCRs to effectively monitor households' compliance with the legally required reporting of births for registration and certification. It was expected that this would improve the rate of coverage of the CR system and lead to timely registration of births and deaths. The MOVE-IT project raised the rate of birth notifications by an impressive 86 per cent by the end of the intervention period. The change in the number of birth certificates issued was, however, less impressive, rising by just 9 per cent by the end of the intervention (Kabadi, Mwanyika, and de Savigny 2013).

The use of Tanzanian government civil servants as VEOs created conflicts between their routine jobs and CR duties, leading to few visits to households and villages to follow up on birth events. Some VEOs preferred not to pay visits to villages but required parents of newborns to make trips to their offices for the registration of births. This situation affected the reporting of births as well as the rate of registrations. Second, getting contractual agreements from mobile network providers to enable VEOs to use their mobile phones for reporting events was problematic, adding to the inefficiency of the system and lowering the impact of the MOVE-IT project. In terms of coverage, some villages could not participate in the project due to a lack of mobile phone network coverage (Kabadi, Mwanyika, and de Savigny 2013).

Birth registration in Ghana is a legal requirement under the Registration of Births and Deaths Act (1965). The country is divided into 170 registration districts, each with at least one registration office. These offices are usually within the premises of or near public health facilities. Despite this legal

framework, the registration of births in Ghana was plagued by a shortage of registration offices and a lack of trained personnel, and this problem was particularly severe in rural areas. In most cases, the distance to the nearest registration office added substantial indirect costs (such as time away from work and travel expenses) to the monetary cost of registering a child. Public awareness of the benefits of child registration seemed generally low (Fagernäs and Odame 2013).

To address some of these challenges, Plan International and UNICEF collaborated with the Ghana Births and Deaths Registry to launch a birth registration campaign between 2004 and 2005. The campaign aimed at extending the legal period for free registration of infants, incorporating birth registration in child health promotion weeks, training community health workers on how to register births quickly, using community registration volunteers, and registering children during celebrations (Fagernäs and Odame 2013). Over the campaign period, the registration of births increased substantially as birth registration services became easily accessible and the need to travel long distances to a registration centre was removed. While only 44 per cent of children younger than five years were registered in 2003, the rate had increased to 71 per cent by 2008. However, a full coverage of birth registration has yet to be achieved amid slowing progress.

A second initiative to boost the progress of birth registration in Ghana was the implementation of a low-cost 'real-time' vital registration system launched in 2006 in the Bonsaaso Millennium Village in the Ashanti Region. It integrated 'real-time' vital registration with a verbal autopsy system within an open-source electronic medical record to improve the coverage of maternal child health services. The project involved training community health workers (CHWs) to deliver health information and services to households, gather data on vital events (births and deaths), and transfer the information to the OpenMRS (a medical record system) using introspective data entry (Ohemeng-Dapaah et al. 2010).

The project led to a rise in the number of health facilities established, reducing the travelling distance for households. The number of professional health workers trained in the project area also rose, including skilled birth attendants and CHWs, and led to a shift in births from home delivery to delivery at health clinics. Thus, births became more visible and were registered more promptly (Ohemeng-Dapaah et al. 2010). The project was largely successful because birth registrations seemed accurate and easy to implement. It is worth noting here that a high level of community mobilisation as well as an awareness and appreciation of the work of the CHWs was essential to its success.

In Liberia, after the second civil war (1999–2003), birth registration was reinstated as part of the government's post-reconstruction and development efforts. It was recognised that every child had a right to be registered and efforts were made by the government to ensure that the country had a well-functioning and sustainable CR system. The process of birth registration was centrally managed by the Ministry of Health and Social Welfare (MoHSW) from offices in the capital city, Monrovia (Virhiä et al. 2010). This

centrally controlled process proved very inefficient because most of the citizens found it difficult to travel to the capital city to register a child's birth. As a result, only about 5 per cent of children under the age of five were registered in 2007 (Toivanen et al. 2011).

The government eventually embarked on a decentralisation of the birth registration process. This involved the establishment of health districts across the country, appointing county registrars (CRs), district health officers (DHOs), and general town chiefs (GTCs) to provide birth registration services at their respective levels of jurisdiction. The process of registering a birth now began with a visit by the DHO to the village or community to collect already-filled registration forms from the GTCs. These were forwarded as was by the DHOs to the county registrar's office and then to the national office of the MoHSW in Monrovia for processing. Birth certificates would then be printed at the central level and sent back to households through the DHOs and local chiefs. Although easy to implement, this paper-based decentralisation had several drawbacks including the possible loss of information through the manual handling of forms, the difficulty of interpreting handwritten information among third parties, and the need to transfer information from paper-based forms to a digital database. These issues often created huge pressure on the central office personnel, leading to long delays in the registration process (Virhiä et al. 2010).

A mobile birth registration (MBR) project was launched in 2009 as part of the Liberian government's Crisis Management Initiative, to complement the manual registration process (Virhiä et al. 2010; Toivanen et al. 2011). The MBR was designed to facilitate the collection of birth registration data in rural communities, minimise the need for households to travel long distances to provide registration information, and reduce the issuing time for birth certificates. The project utilised the Nokia Data Gathering (NDG) solution in gathering information on births from households. This was then transmitted to the central birth registration database. At the same time, county registrars could download files to their electronic devices and print corresponding birth certificates for households within their respective counties. The pilot scheme, launched in a single county, achieved its goal of making birth registration services easily accessible to rural households in its area, which then informed the government's plans to scale up the mobile birth registration project to all the counties in the country.

The discussion above illustrates how interventions in LMICs aimed at decentralising birth registration have had mixed results. In instances where the decentralisation process has been accompanied by comprehensive capacity-building and mobilisation at the local level (for example, in Ghana and Liberia) the results have been impressive. But there have also been cases where local authorities lacked the capacity to adopt the innovations introduced (as in Malawi and Tanzania), so that the interventions ultimately did not realise their objective of improving birth registration rates in the long run. Yet, in addition to local administrative capacity, the existing literature also highlights a range of factors that lead to low registration in LMICs including lack of

public awareness of the process; the distance to and difficulty in accessing registration offices; the monetary cost of registration; the limited autonomy of mothers and often the absence of the father; and parents perceiving only small benefits from registration.

11.3 Birth registration in Bangladesh's rural areas

The authority responsible for birth registration in Bangladesh is the LGD, Local Government Division (and its associate agencies), while oversight of the process is done by the Civil Registration and Vital Statistics (CRVS) secretariat under the government's Cabinet Division (PLAN-Bangladesh and EATL 2020). The LGD's registration activities are governed by the 'Birth and Death Registration Act 2004' and operated by the Registrar General Office under LGD. LGDs operate in each of the eight divisions in Bangladesh, covering all 64 districts of the country. At the district level, birth registration is predominantly done by the union parishad (UP), the lowest tier of local government administration in Bangladesh – except for urban areas and cities where the birth registration is done by the municipality or the city corporation, respectively. The UP is headed by an elected representative who works under the subdistrict administration, known as 'upazila parishad'. As part of the 'Digital Bangladesh' mandate introduced in 2008, the Bangladesh government established union digital centres (UDCs) in almost all the UPs in Bangladesh, operated under a public–private partnership model, combining a government facility and a local entrepreneur as a service delivery agent. UDCs are equipped with computers and internet connections, facilitating one-stop service delivery for various services, including birth certification digitisation.

According to the current law (Birth and Death Registration Act 2004), it is mandatory to register birth for anyone born in the country irrespective of race, religion, or nationality. The rule specifies that the birth registration of newborns should be completed within 45 days of birth (UNICEF2015). If the registration is completed within two years of birth, there are no fees associated with this process. However, registration after two years entails paying various fees based on the fee structure depicted in Table 11.1. (The detailed application and verification processes are described in Table A1 and Figure A1 in this chapter's Supplementary Materials.[5])

According to the 2004 Birth and Death Registration Act, a birth certificate is required documentation for enrolment in the government primary schools, registering marriages, and obtaining passports and national ID cards. Although a birth certificate is, officially, a document required for admission into schools, the rule may not be universally enforced. Hence the compliance rate is imperfect, especially in rural areas (see below). The 2004 Birth and Death Registration Act came into force in 2006 and, over the next five years, the birth registration rate for children under five increased sharply from 12 to 31 per cent (UNICEF 2013). However, the registration rate declined thereafter, reaching 20 per cent in 2014 before increasing again to

Table 11.1: The fee structure for birth registrations in Bangladesh

Date when registered	Union parishad and municipality	City corporation
Within 2 years of birth	None	None
For every year, after 2 years of occurrences	5	10
For duplicate copies of Birth Certificates	25	25
For the correction of any clerical mistake	10	10

Source: UNICEF (2015).
Note: Figures are for Bangladesh Taka (BDT) charged. BDT 94 = US$ 1 (as of 5 July 2022).

25 per cent in 2017–18 (NIPORT 2020). There is significant regional variation in registration rates, from 17 per cent in Rajshahi Division to 34 per cent in Sylhet Division.

Focusing down specifically on rural Bangladesh, we next provide evidence on birth registration patterns based on a purposefully designed survey conducted in 2020 called the Gaibandha Birth Registration and Helplines Survey. Survey data on birth registration of children is presently available for a wide range of countries. In particular, the MICS (Multiple Indicator Cluster Surveys) have collected birth registration data since 1999 and the DHSs (Demographic and Health Surveys) have collected birth registration data since 1993. What makes the present survey in rural Bangladesh distinctive is that it includes not only self-reported data on birth registration but also independent checks on birth certificates against the national birth registration database for a particular demographic group, namely unmarried adolescent girls, for whom certificates numbers were recorded during the survey.

Our survey and descriptive statistics

The study sample for the 2020 Gaibandha Birth Registration and Helplines Survey was drawn from 240 communities (specifically subunits of villages called '*paras*') in the district of Gaibandha in northern Bangladesh.[6] The communities are spread across five unions that are broadly similar in terms of population and geographic size as reported in Table 11.2.

The process of identifying sample households was as follows. In late 2019, for each village included in the study, the research team requested community elders to identify households within the village with unmarried girls in the age group 13 to 17 years. This exercise produced an initial listing of 2,498 households with unmarried adolescent girls in the 240 communities. The rationale for this sampling strategy is that the data collection was linked to a subsequent invention aimed at reducing the incidence of female early marriage in the study communities.

A household survey was conducted in the listed households between February and March 2020, which provided two key types of information. First,

Table 11.2: The areas, populations and households in the five unions used for the study sample

	Union				
	Gojaria	Kanchipara	Udakhali	Uria	Vorotkhali
Area (in acre)	7,120	6,610	5,170	5,840	3,520
Population	19,320	27,070	25,300	17,060	23,290
Number of households	4,890	6,950	6,380	4,290	5,840

Note: Taken from Bangladesh Population Census 2011. Numbers rounded to nearest 10.

the household head reported on the birth registration status of each member of the household. Second, for unmarried adolescent girls in the household, the enumeration team verified whether the girl had a birth certificate, and subsequently checked whether the certificate with that number had a digital record in the national birth registration database. The survey also included questions aimed at testing knowledge and understanding of the birth registration process among the mothers of unmarried adolescent girls.

In addition to the quantitative survey, we conducted qualitative interviews and focus-group discussions with local stakeholders to understand the local administrative capacity. We also conducted semi-structured interviews with the UDC private sector entrepreneur responsible for birth registration in each of the five unions covered in the survey and collected the information that they follow during birth registration and digitisation of existing birth records. We checked the IT and other equipment available for birth registration work within the office, and the interviewer also noted observations on the available equipment and office set-up. We report on the additional findings gathered in this way after reporting the findings from the quantitative analysis.

Table 11.3 presents summary statistics on the characteristics of the survey households. On average, households had 4.9 to 5 members and about 79 per cent of them owned land. The household head averaged 45 years with 3.15 years of education, and about 11 per cent of household heads were women. These characteristics make the sample households typical of rural households in Bangladesh.[7] However, due to our focus and sampling strategy, the households had more than twice as many girls as boys (on average 1.6 girls and 0.7 boys below age 18). The marriage rate was about 1.8 per cent among adolescent girls aged 13–17 years, much lower than the national average.[8] Nevertheless, the survey data can provide important insights about birth registration patterns in rural Bangladesh and their determinants.

Birth registration status and knowledge

Table 11.4 presents summary statistics for *each household member* recorded in our survey. The third row of the table shows that household heads reported

Table 11.3: Characteristics of households in our survey

Variable	Count	Mean	SD	Range	Median
Age (years) of household head	2449	44.5	9.32	14–95	44
Household annual income (000 BDT)	2494	117.3	117.4	0–4000	96
Household size	2499	4.898	1.327	1–12	5
Number of boys in household		0.709	0.719	0–4	1
Number of girls in household		1.557	0.749	0–5	1
Number of girls married before age 18		0.018	0.140	0–2	0
% girls married before 18		0.944	7.671	0–100	0
Household owns any land		0.792	0.406	0–1	1
Female household head		0.115	0.319	0–1	0
Education level of head:					
Never been to school	2449	0.312	0.464	0–1	0
Class 1–10		0.379	0.485	0–1	0
Pre-sch/adult education		0.194	0.395	0–1	0
High school/college		0.096	0.295	0–1	0
Degree/higher education		0.019	0.136	0–1	0

Source: 2020 Gaibandha Birth Registration and Helplines Survey and authors' calculations. See Section 11.3 for further details about the survey.
Note: In 51 households, no member present is designated as the head. SD: Standard deviation. The range shows minimum to maximum. Categorical variables were coded either 0 or 1.

birth registration had been done for 67 per cent of the household members. But there was significant variation in birth registration by demographic group. Figure 11.1 shows the birth registration rate by sex and age for children up to age 18. For children aged 24 months or younger, the number was 58 per cent for boys and 45 per cent for girls. The registration rate increased to about 60 per cent for children aged three to six years, with girls in this age nearly catching up but still lagging behind boys. For children aged seven to 12 years, the number was 85 per cent for boys and three points higher for girls. This suggests that a significant proportion of birth registration takes place at when a child enters school. Within the same age group, only one in 100 have never been to school, implying that more than one in eight boys and girls aged seven to 12 had enrolled in school without a birth certificate. So, there is still imperfect compliance with the legal requirement that a birth certificate is shown when a child is enrolled in school. Household heads reported that birth registration had been done for 95 per cent of adolescent girls aged 13 to 17 years.

Table 11.4: Summary statistics on household members

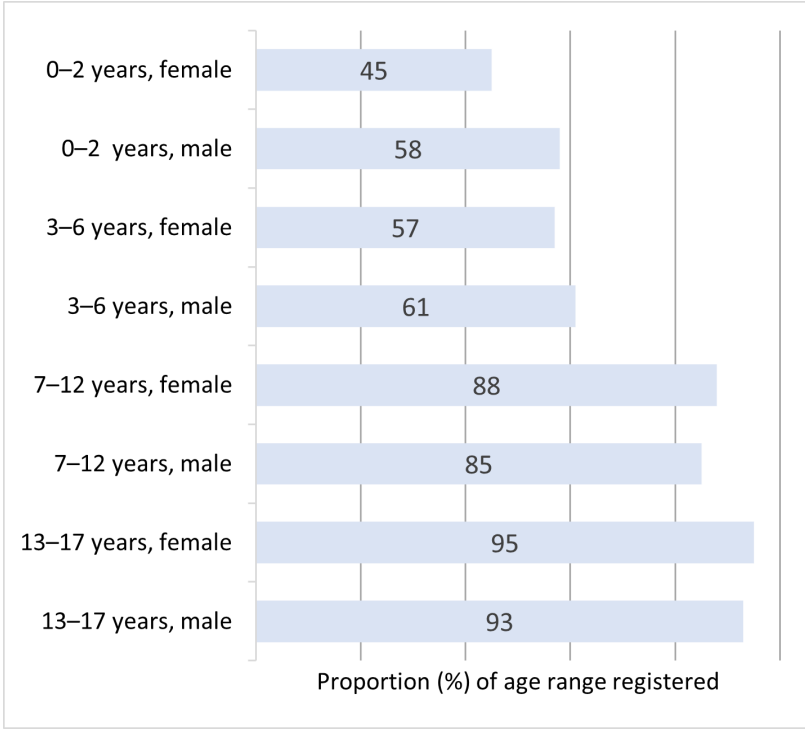
Variable	Mean	SD	Median	Range
Age (years)	26.30	17.42	19	0–120
Female member	0.60	0.49	1	0–1
Birth registration	0.67	0.47	1	0–1
Education classification:				
Never been to school	0.205	0.404	0	0–1
Class 1–10	0.581	0.493	1	0–1
Pre-sch/adult education	0.113	0.317	0	0–1
High school/college	0.086	0.281	0	0–1
Degree/higher degree	0.014	0.119	0	0–1
Occupation type:				
No occupation	0.749	0.434	1	0–1
Wage labourer	0.117	0.321	0	0–1
Self-employed	0.033	0.179	0	0–1
Trader	0.033	0.178	0	0–1
Salaried	0.025	0.155	0	0–1
Other	0.044	0.206	0	0–1
Marital status:				
Unmarried	0.517	0.50	1	0–1
Married	0.441	0.497	0	0–1
Widowed	0.038	0.191	0	0–1
Divorced	0.002	0.049	0	0–1
Separated	0.001	0.037	0	0–1

Source: 2020 Gaibandha Birth Registration and Helplines survey and authors' calculations.
Note: SD: Standard deviation. The range shows minimum to maximum. Categorical variables were coded either 0 or 1.

However, information from the validity checks on the birth certificates of adolescent girls paints a somewhat different picture. Table 11.5 presents summary statistics for the 2,643 unmarried adolescent girls aged 13–17 included in the households in our survey. In contrast to the figure provided by the household head, a birth certificate could be produced for only about four-fifths of the girls.[9] Only 58 per cent of adolescent girls had a birth certificate that passed the research team's validity check, that is, a certificate with a digital record in the national birth registration database.[10]

We found some variation by union in the proportion of adolescent girls for whom a birth certificate could be produced, ranging from 85 per cent

Figure 11.1: The birth registration of children in our sample, by sex and age



Source: 2020 Gaibandha Birth Registration and Helplines survey and authors' calculations.

in Vorotkhali union to 74 per cent in Uria union. But the differences in *validated* birth certificates across unions are more pronounced, ranging from two-thirds in Gojaria union to under two-fifths in Udakhali union. The differences in our two measures of birth registration across the 240 communities in the sample are even more striking: there are four communities where *all* adolescent girls have validated birth certificates and several where *none* of them do. Figure 11.2 shows a scatterplot by community of the proportion of adolescent girls for whom birth certificates could be shown and validated – with wide variation in both measures across the communities.[11]

In Table 11.6 we present summary statistics on an adult household member's knowledge about birth registration. These questions were intended for the mother of the adolescent girls in the household but, in cases where the mother was unavailable (about 16 per cent of cases), the question was asked of the father. Almost all respondents had heard about birth registration (99 per cent), knew where to go to register a child (94 per cent), and that a child could be registered once only (92 per cent). But less than half knew that the registration had to be done within 45 days of birth, and less than a quarter

Table 11.5: Summary statistics for adolescent girls in the survey

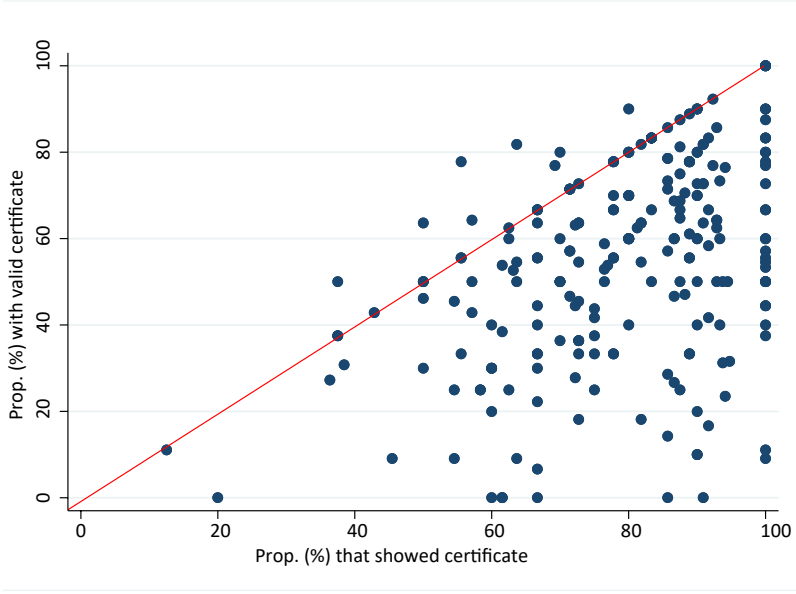
Variable	Count	Mean	SD	Range	Median
Age of girl	2643	15.1	1.19	13–17	15
Girl enrolled in school/college	2624	0.96	0.20	0–1	1
Girl current grade	2514	8.25	1.79	1–13	8
Girl birth registration status	2620	0.96	0.19	0	1
Showed birth certificate	2620	0.79	0.40	0	1
Validated birth certificate	2643	0.54	0.50	0	1
Father's age	2223	45.1	8.17	17–95	45
Mother's age	2511	36.7	6.59	18–70	35
Father's education:					
No education	2223	0.318	0.466	0–1	0
Incomplete primary		0.305	0.461	0–1	0
Primary education		0.103	0.305	0–1	0
Incomplete secondary		0.121	0.326	0–1	0
Secondary/higher		0.152	0.360	0–1	0
Mother's education:					
No education	2511	0.261	0.439	0–1	0
Incomplete primary		0.356	0.479	0–1	0
Primary education		0.114	0.318	0–1	0
Incomplete secondary		0.180	0.384	0–1	0
Secondary/higher		0.089	0.285	0–1	0

Source: 2020 Gaibandha Birth Registration and Helplines Survey and authors' calculations.
Note: SD Standard deviation. The range shows minimum to maximum. Categorical variables were coded either 0 or 1.

could mention a correct way of checking the validity of a birth certificate. On average, the respondents could mention about 2.9 reasons for, or advantages of, registering a child, with the number of reasons provided ranging from 0 to 7.

We find some improvement in knowledge about birth registration by the level of education. Figure 11.3 shows the values of two of the knowledge variables by level of education, for adult female respondents only. The proportion who were able to mention at least one correct method for checking for birth registration validity increased with respondents' level of education, from about 15 per cent among women with no education to about one-third for women in the sample who have completed secondary or higher education. Knowledge about when to register a child showed an increase with secondary education or above. We did not find a relation for the other knowledge variables (numbers not shown here).

Figure 11.2: The proportion (%) of validated birth certificates in communities by the proportion (%) showing a certificate



Source: 2020 Gaibandha Birth Registration and Helplines Survey and authors' calculations.

11.4 Determinants of birth registration among adolescent girls

To better understand the factors behind the invalid birth certificates discussed in the previous section, we explore the determinants of birth registration status of adolescent girls in our survey sample within a regression framework. Specifically, we estimate linear probability models of the following form:

$$BHS_{ihvu} = \alpha + \boldsymbol{X}'_{ihvu}\beta + \boldsymbol{Z}'_{hvu}\gamma + \boldsymbol{N}'_{vu}\eta + \in_{ihvu} \quad [1]$$

where BHS_{ihvu} is a binary variable indicating the birth registration status of person i in household h, community v, union u; $\boldsymbol{X}_{ihvu}$ is a vector of individual characteristics; $\boldsymbol{Z}_{hvu}$ is a vector of household characteristics; $\boldsymbol{N}_{vu}$ is a vector of gender norms measured at the community level and $\in_{ihvu}$ is the error term. Finally, α, β, γ and η are vectors of parameters to be estimated. In a second specification, we add fixed effects at the level of the union as follows:

$$BHS_{ihvu} = \alpha + \boldsymbol{X}'_{ihvu}\beta + \boldsymbol{Z}'_{hvu}\gamma + \boldsymbol{N}'_{vu}\eta + \boldsymbol{d}'_{u}\,\delta + \in_{ihvu} \quad [2]$$

where $\boldsymbol{d}_{u}$ is a vector of union dummies in registering births and issuing certificates. As each union falls under the jurisdiction of a different UDC that registers births and issues certificates, sizeable union-level fixed effects may

Table 11.6: Summary statistics on adult knowledge

	Count	Mean	SD	Range	Median
Age in years	2485	38.2	9.086	13–90	35
Female respondent		0.844	0.363	0–1	1
No education	2485	0.260	0.439	0–1	0
Incomplete primary		0.344	0.475	0–1	0
Primary education		0.115	0.319	0–1	0
Incomplete secondary		0.171	0.377	0–1	0
Secondary/higher		0.110	0.313	0–1	0
Head	2485	0.251	0.434	0–1	0
Spouse		0.697	0.460	0–1	1
Other relation to head		0.052	0.223	0–1	0
Heard about birth registration	2497	0.992	0.087	0–1	1
Knows when to do birth registration		0.433	0.496	0–1	0
Knows where to do birth registration		0.937	0.243	0–1	1
Knows # times birth registration can be done		0.922	0.269	0–1	1
Knows how to check validity		0.237	0.425	0–1	0
# Advantages of birth registration are mentioned		2.92	1.05	0–1	3

Source: 2020 Gaibandha Birth Registration and Helplines Survey and authors' calculations.
Note: SD: Standard deviation. The range shows minimum to maximum. Categorical variables were coded either 0 or 1.

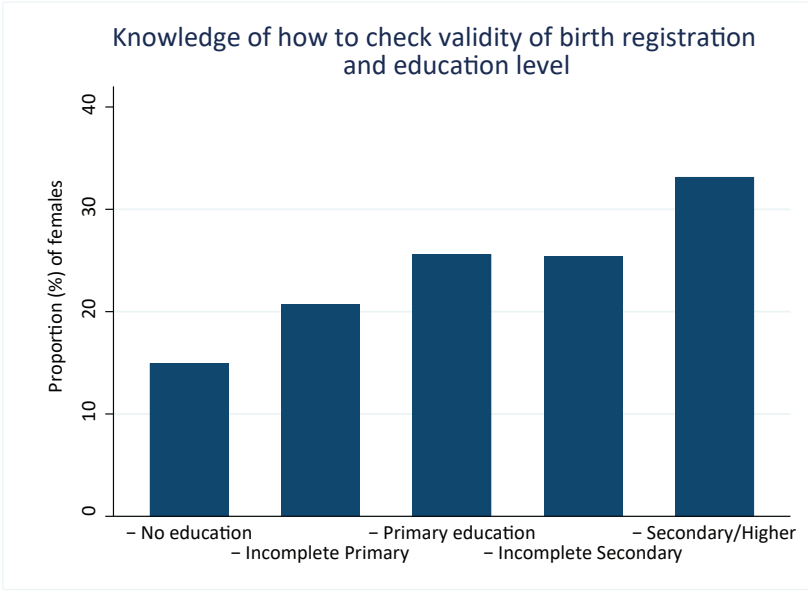
indicate variation in local administrative capacity in registering births and issuing certificates. In a third specification, we replace the union fixed effects with community fixed effects (and drop the community-level gender norms) as follows:

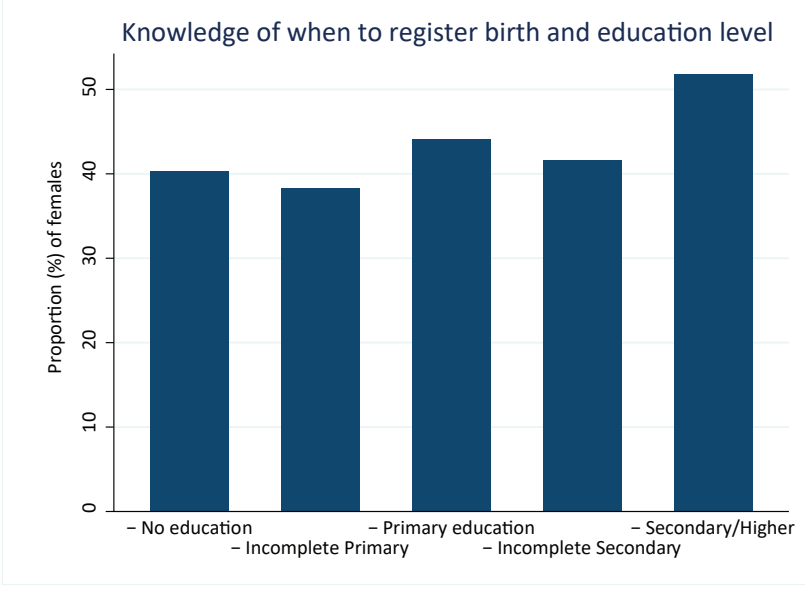
$$BHS_{ihvu} = \alpha + \boldsymbol{X}'_{ihvu}\beta + \boldsymbol{Z}'_{hvu}\gamma + \boldsymbol{c}'_{vu}\delta + \in_{ihvu} \quad [3]$$

where $\boldsymbol{c}_{vu}$ is a vector of community dummies. Although all communities within the same union are covered by the same UDC, there may be significant differences between them because of local transmission of information and attitudes, and imitation of good or bad practices across neighbours. There may also be systematic variation across communities in terms of wealth and occupational composition of households, as well as attitudes towards child marriage and female schooling. Sizeable community-level fixed effects would indicate that at least some of these factors are important determinants of birth registration.

Table 11.7 reports on estimates of Equations [1] to [3] using the availability of *any birth certificate* as the dependent variable. The explanatory variables

Figure 11.3: Knowledge of birth registration versus education





Source: 2020 Gaibandha Birth Registration and Helplines survey and authors' calculations.

Table 11.7: Determinants of any birth certificate for unmarried girls in the household

Explanatory variables	Dependent variable = Any birth certificate					
	Model 1		Model 2		Model 3	
Age of girl	–0.006	*(0.008)*	–0.007	*(0.008)*	–0.008	*(0.008)*
# Siblings	0.006	*(0.017)*	0.013	*(0.016)*	0.013	*(0.018)*
Birth order	–0.004	*(0.013)*	–0.005	*(0.014)*	–0.008	*(0.015)*
Household size	–0.008	*(0.010)*	–0.011	*(0.010)*	–0.012	*(0.011)*
Log of household income	0.019	*(0.016)*	0.011	*(0.015)*	0.008	*(0.016)*
Female h'head	0.020	*(0.030)*	0.012	*(0.030)*	–0.006	*(0.036)*
Household owns land	–0.001	*(0.022)*	–0.001	*(0.023)*	–0.003	*(0.027)*
Muslim	–0.038	*(0.042)*	–0.042	*(0.043)*	–0.002	*(0.043)*
H'head education = 1, incomplete primary	–0.002	*(0.028)*	–0.007	*(0.027)*	–0.017	*(0.030)*
H'head education = 2, primary education	0.062**	*(0.031)*	0.065**	*(0.031)*	0.048	*(0.033)*
H'head education = 3, incomplete secondary	–0.023	*(0.035)*	–0.024	*(0.034)*	–0.021	*(0.037)*
H'head education = 4, secondary/higher	–0.010	*(0.035)*	–0.011	*(0.035)*	–0.021	*(0.037)*
Mother's education = 1, incomplete primary	–0.004	*(0.027)*	–0.001	*(0.027)*	0.016	*(0.030)*
Mother's education = 2, primary education	0.007	*(0.037)*	0.005	*(0.037)*	0.000	*(0.039)*
Mother's education = 3, incomplete secondary	0.002	*(0.033)*	–0.008	*(0.033)*	0.000	*(0.036)*
Mother's education = 4, secondary/higher	–0.096**	*(0.044)*	–0.104**	*(0.043)*	0.078*	– *(0.047)*
Age (yrs) of h'head	–0.002	*(0.001)*	–0.001	*(0.001)*	–0.001	*(0.002)*
Mother's age	–0.002	*(0.002)*	–0.002	*(0.001)*	–0.003	*(0.002)*
Heard about birth reg	–0.065	*(0.131)*	–0.027	*(0.127)*	–0.009	*(0.130)*
Knows when to do birth reg	–0.009	*(0.020)*	–0.004	*(0.020)*	0.000	*(0.023)*
Knows where to do birth reg	0.018	*(0.049)*	–0.014	*(0.049)*	0.021	*(0.054)*
Knows # times birth reg can be done	0.063	*(0.039)*	0.064	*(0.040)*	0.038	*(0.044)*
Knows how to check validity	–0.026	*(0.023)*	–0.016	*(0.024)*	–0.010	*(0.028)*
# Advantages of birth reg mentioned	0.016*	*(0.010)*	0.014	*(0.010)*	0.017	*(0.012)*

(Continued)

Table 11.7: Continued

Explanatory variables	Dependent variable = Any birth certificate				
	Model 1		Model 2		Model 3
Norm – man should be sole decision maker	–0.132***	*(0.046)*	–0.136***	*(0.042)*	
Norm – woman should not work outside	0.008	*(0.040)*	0.020	*(0.038)*	
Norm – woman should not work outside 2	0.047	*(0.030)*	0.059**	*(0.028)*	
Norm – household work for all	–0.083	*(0.062)*	–0.077	*(0.058)*	
Norm – woman should give income to man	0.075*	*(0.039)*	0.053	*(0.035)*	
Norm – Woman to ask permission to work	0.107*	*(0.059)*	0.091	*(0.059)*	
Norm – Girls to marry before 18	–0.072*	*(0.040)*	–0.074*	*(0.038)*	
Norm – Girls only schools	0.013	*(0.032)*	–0.008	*(0.030)*	
Norm – Girls should finish secondary school	0.029	*(0.070)*	0.069	*(0.066)*	
Norm – Boys should finish secondary school	–0.040	*(0.055)*	–0.080	*(0.054)*	
Norm – Sec school more important for boys	–0.100***	*(0.031)*	–0.077***	*(0.028)*	
Norm – Boy more desirable as successor	0.035	*(0.024)*	0.027	*(0.024)*	
Union = 2, Kanchipara			0.035	*(0.030)*	
Union = 3, Udakhali			–0.002	*(0.030)*	
Union = 4, Uria			–0.111***	*(0.040)*	
Union = 5, Vorotkhali			0.081***	*(0.030)*	
Observations	2,440		2,440		2,440
R-squared	0.040		0.058		0.171
Union FE			Yes		
Community FE					Yes

Source: 2020 Gaibandha Birth Registration and Helplines Survey and authors' calculations.
Notes: Standard errors are in parentheses and italics. ***p < 0.01, **p < 0.05, *p < 0.1. The abbreviation h'head means head of household. Errors are clustered at the community level. The dependent variable indicates whether the adolescent girl has any type of birth registration whether valid or invalid. The sample includes all unmarried adolescent girls in the study area. In the third column the reference union is Gojaria.

include the age of the girl, household demographic characteristics, education level of the mother and the household head, the mother's knowledge about birth registration, and 12 distinct measures of community gender norms. We interpret the estimated coefficients not as causal effects but as indicating the predictive ability of a range of predetermined characteristics.

Before discussing the results, it is also worth noting that, because the sample includes *unmarried* adolescent girls only, the estimated coefficients may be affected by selection bias. In particular, if certain socio-economic characteristics reduce risk of early marriage as well as positively affect birth certification, this will lead to a downward bias in our point estimates. For this reason, in the following discussion we focus primarily on the community-level and union-level variables: as community and union-level factors are less likely to affect marriage timing than household and individual-level factors.

Of the explanatory variables, the only one that 'affects' the probability of having a birth certificate across all three specifications is the mother's level of education. In fact, other things equal, if the mother has secondary or higher education, the girl is about 8 to 10 percentage points *less likely* to have a birth certificate than one whose mother has never attended school. We also find that three of the gender norm variables have predictive power regarding the presence of a birth certificate in both specifications that they are included: the proportion of respondents in the community who agree with the statements that 'A man should be the sole decision maker', 'Girls should marry before 18', and 'Secondary school education is more important for a boy than for a girl'. Increased agreement with any of these statements within the community decreases the probability that a girl has a birth certificate.

The individual, household, and community characteristics explain just 4 per cent of the variation in birth certificates among adolescent girls, as indicated by the R-square in column 1 of Table 11.7. The inclusion of union fixed effects in column 2 improves the R-square only slightly to 0.058. The estimated coefficients for the union dummies indicate some variation in the birth certification rate across unions: in Uria, the rate is about 11 percentage points lower than in the reference union (Gojaria) and about 19 percentage points lower than in Vorotkhali. The inclusion of community fixed effects improves the R-square to 0.171. Thus, a significantly larger part of the variation in birth certification is explained by differences across communities (that, within union boundaries, are served by the same local authority) rather than at the union level.

Table 11.8 reports on estimates of Equations [1] to [3] using the availability of a *valid* birth certificate as the dependent variable. The explanatory variables are identical to those in Table 11.7. Again, we find that the only explanatory variable that 'affects' the probability of having a valid birth certificate across all three specifications is the mother's level of education, but in a perhaps surprising way (see below): an adolescent girl whose mother has secondary or higher education is about 10–12 percentage points *less likely* to have a birth certificate than one whose mother has never attended school. Unlike the case

Table 11.8: Determinants of valid birth certificate for unmarried girls in the household

Explanatory variables	Dependent variable = Valid birth record certificate					
	Model 1		Model 2		Model 3	
Age of girl	−0.007	*(0.009)*	−0.003	*(0.009)*	−0.003	*(0.009)*
# Siblings	0.012	*(0.019)*	0.002	*(0.018)*	0.000	*(0.019)*
Birth order	−0.000	*(0.016)*	0.010	*(0.016)*	0.005	*(0.017)*
Household size	−0.007	*(0.012)*	−0.004	*(0.012)*	−0.005	*(0.013)*
Log of household income	−0.001	*(0.017)*	0.004	*(0.017)*	0.011	*(0.018)*
Female household head	−0.032	*(0.039)*	−0.004	*(0.038)*	0.019	*(0.041)*
Household owns land	−0.035	*(0.029)*	−0.012	*(0.028)*	−0.029	*(0.031)*
Muslim	−0.052	*(0.052)*	−0.048	*(0.047)*	−0.035	*(0.050)*
Household head education = 1, incomplete primary	−0.003	*(0.032)*	−0.012	*(0.031)*	−0.029	*(0.033)*
H'head education = 2, primary education	0.029	*(0.041)*	0.020	*(0.038)*	0.018	*(0.040)*
H'head education = 3, incomplete secondary	0.004	*(0.040)*	−0.002	*(0.040)*	−0.005	*(0.041)*
H'head education = 4, secondary/higher	−0.008	*(0.046)*	−0.010	*(0.044)*	−0.020	*(0.044)*
Mother's education = 1, incomplete primary	−0.005	*(0.030)*	−0.002	*(0.030)*	−0.003	*(0.031)*
Mother's education = 2, primary education	−0.007	*(0.043)*	−0.005	*(0.041)*	−0.009	*(0.043)*
Mother's education = 3, Incomplete secondary	−0.046	*(0.041)*	−0.036	*(0.039)*	−0.030	*(0.040)*
Mother's education = 4, secondary/higher	−0.110**	*(0.050)*	−0.103**	*(0.049)*	−0.121**	*(0.051)*
Age (yrs) of h'head	0.001	*(0.002)*	0.000	*(0.002)*	0.001	*(0.002)*
Mother's age	−0.003	*(0.002)*	−0.004**	*(0.002)*	−0.004*	*(0.002)*
Heard about birth reg	−0.178	*(0.146)*	−0.140	*(0.141)*	−0.162	*(0.146)*
Knows when to do birth reg	0.003	*(0.023)*	−0.008	*(0.022)*	−0.000	*(0.023)*
Knows where to do birth reg	0.034	*(0.052)*	0.001	*(0.050)*	0.017	*(0.056)*
Knows # times birth reg can be done	0.057	*(0.046)*	0.066	*(0.046)*	0.040	*(0.047)*
Knows how to check validity	0.001	*(0.028)*	−0.011	*(0.028)*	0.026	*(0.031)*

(Continued)

Table 11.8: Continued

Explanatory variables	Dependent variable = Valid birth record certificate					
	Model 1		Model 2		Model 3	
# advantages of birth reg mentioned	0.014	*(0.011)*	0.014	*(0.011)*	0.017	*(0.013)*
Norm – Man should be sole decision maker	–0.042	*(0.064)*	–0.030	*(0.057)*		
Norm – Woman should not work outside	–0.021	*(0.058)*	–0.022	*(0.052)*		
Norm – Woman should not work outside 2	–0.031	*(0.041)*	–0.027	*(0.038)*		
Norm – Household work for all	–0.081	*(0.095)*	–0.051	*(0.083)*		
Norm – Woman should give income to man	0.050	*(0.054)*	0.068	*(0.048)*		
Norm – Woman to ask permission to work	0.134	*(0.090)*	0.075	*(0.080)*		
Norm – Girls to marry before 18	0.008	*(0.053)*	–0.019	*(0.049)*		
Norm – Girls only schools	0.011	*(0.047)*	0.037	*(0.041)*		
Norm – Girls should finish secondary school	0.081	*(0.114)*	0.011	*(0.104)*		
Norm – Boys should finish sec school	–0.046	*(0.100)*	0.010	*(0.088)*		
Norm – Sec school more imp. for boys	–0.028	*(0.047)*	–0.063	*(0.043)*		
Norm – Boy more desirable as successor	–0.042	*(0.038)*	–0.038	*(0.035)*		
Union = 2, Kanchipara			–0.017	*(0.038)*		
Union = 3, Udakhali			–0.284***	*(0.043)*		
Union = 4, Uria			–0.082*	*(0.046)*		
Union = 5, Vorotkhali			–0.222***	*(0.038)*		
Observations	2,440		2,440		2,440	
R-squared	0.020		0.070		0.221	
Union fixed effect			Yes			
Community fixed effect					Yes	

Notes: Standard errors in parentheses. ***p < 0.01, **p < 0.05, *p < 0.1. Errors are clustered at the community level. The dependent variable indicates whether or not the adolescent girl has a birth certificate identified as 'valid' by enumerator. The sample includes all unmarried adolescent girls in the study area. In the third column the reference union is Gojaria.

of any birth certification, none of the gender norm variables consistently predicts valid birth certification.

The individual, household, and community characteristics explain just 2 per cent of the variation in valid birth certificates among adolescent girls. The inclusion of union fixed effects improves the R-square substantially to 0.07. And we obtained larger differences in the rates of valid birth certification across unions compared to the case of any birth certification discussed above. In the Udakhali and Vorotkhali unions, the rates were 28 and 22 percentage points, respectively, lower than in the reference union, Gojaria. In another union, Uria, the valid birth certification rate is also lower than in the reference union by eight percentage points. The inclusion of community fixed effects improves the R-square further to 0.22.

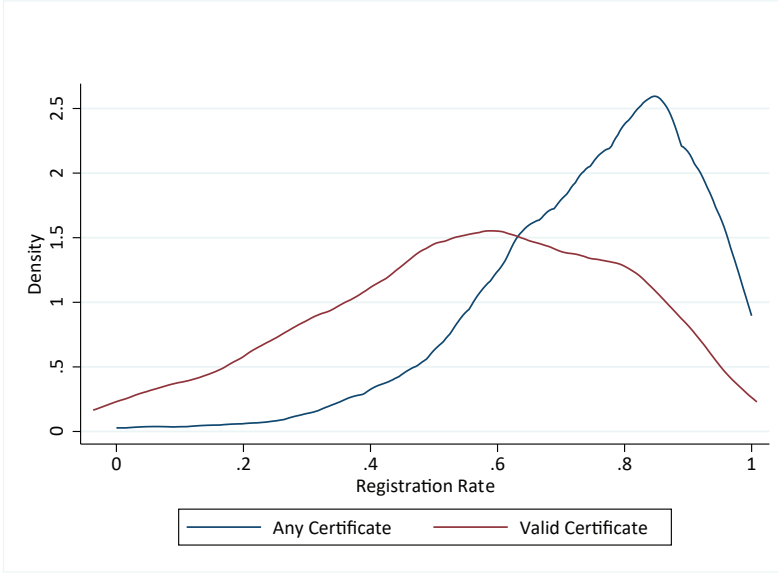
The persistently negative coefficient in Tables 11.7 and 11.8 for the dummy variable corresponding to the attainment of secondary or higher education by mothers merits further comment. At first sight, the pattern is puzzling since women with secondary education appear to have better knowledge about birth registration (Figure 10.3). But recall that the sample used for the regression analysis includes only *unmarried* daughters. Mothers with less education are more likely to have *married* adolescent girls (confirmed in our data), who are, thus, absent from the sample. If married adolescent girls have a lower birth registration rate (which we cannot confirm on the basis of our data as reliable birth certification data was collected for unmarried adolescent girls only but is a plausible hypothesis), this would inflate, within the sample, the birth registration rate for girls whose mothers have less education compared to girls whose mothers have completed secondary education.[12]

Conclusions

Using the estimates in column 3 of Tables 11.7 and 11.8, we can calculate the predicted probability of having any birth certificate and a validated birth certificate by community. Figure 11.4 shows the distribution of these predicted probabilities across communities using sample mean values of all other covariates in the respective models. Both distributions are single-peaked and, as expected, the mode of the distribution of the predicted probabilities of validated birth certificate was lower than that for any birth certificate. More strikingly, we observed a much wider spread in predicted probabilities across communities in the case of validated birth certificates. This pattern was also reflected in the predicted probabilities calculated at the level of the union shown in Table 11.9.

These patterns raise the question whether the differences in valid birth certification among adolescent girls across unions could be attributed to local institutional capacity to register births and maintain birth records. In focus-group discussions on birth registration with local stakeholders, participants highlighted a number of governance issues leading to low compliance:

Figure 11.4: Predicted birth registration probability for adolescent girls by community



Notes: The probability density function is used to specify the probability of the variable falling within a particular range of values, as opposed to taking on any one value. It need not fall in the range 0–1. The probability is given by the area under the curve.

Table 11.9: Predicted probabilities for a birth registration certification (BRC) of adolescent girls in our sample across unions

Union	Valid birth certificate	Any birth certificate
Gojaria	0.683	0.749
Kanchipara	0.665	0.785
Udakhali	0.399	0.747
Uria	0.601	0.638
Vorotkhali	0.461	0.831

Source: 2020 Gaibandha Birth Registration and Helplines Survey and authors' calculations.
Notes: The table shows the predicted birth registration probabilities for adolescent girls by union based on the estimates in column 2, Tables 11.7 and 11.8. Sample mean values are used for all other covariates.

- lack of education and awareness within the local union parishad leadership,
- lack of experience among the union digital centre (UDC) staff in registering births,
- corruption and nepotism leading to lack of appropriate equipment for registering births in the UDC, and

- unqualified persons being assigned to the UDC, and unrealistic targets set by the Bangladeshi government to process birth registrations within a set time frame without sufficient investment in capacity-building.

The semi-structured interviews with the five UDC private sector entrepreneurs also revealed a lot of variation in their technical and management capacity, in terms of educational qualifications, IT training, training on digitisation of birth registration records, and practices in terms of documentation, security, file management, and archiving records.[13]

In the absence of systematic large-scale data on local institutional capacity, it is difficult to verify to what extent the issue of invalid birth certificates is due to local institutional capacity. However, we highlight here some suggestive evidence in line with this hypothesis. There are large differences in the *overall* self-reported birth registration rates (more precisely, as reported by the household head) across the five unions covered in our survey: the percentage rates were 86 in Gojaria, 77 in Uria, 66 in Vorotkhali, 65 in Udakhali, and 52 in Kanchipara. Given that these unions are broadly similar in terms of their demographic composition, and that there is little reason to expect systematic differences in reporting errors across unions, these numbers can be interpreted as rough indicators of local institutional capacity relating to the creation and maintenance of birth registration records.[14]

The variation in birth registration rates across unions suggests that there are large differences in local institutional capacity. Moreover, the ordering of the unions in terms of their overall birth registration rates is similar to the ordering implied by the predicted valid birth registration probabilities in Table 11.9 – albeit with the exception of the Kanchipara union. This pattern suggests that variations may be due to differences in local institutional capacity. More precisely, the differences in the technical and management capacity of UDC entrepreneurs observed through the semi-structured interviews (in terms of IT training, training on digitisation of birth registration records, and the adoption of practices for documentation, security, file management, and archiving records) are plausibly responsible for at least part of the variation in validated birth registration certificates across unions.

In theory, decentralisation should improve efficiency in governmental activities that require reliable local information. Well-known examples are real estate and property tax collection (since tax assessment requires property valuation), which can be done far more accurately at the local level rather than by a central administration. Similarly, conducting vital registration (including birth registration and the digitisation of birth records) at the lowest administrative level allows the use of localised information support and lowers transaction costs. Although decentralisation should make these processes more cost-effective, weaker administrative capacity due to supply-side issues (such as corruption, nepotism, inadequate infrastructural support, and inexperienced service providers) could dilute decentralised efforts of providing birth registrations locally. Such problems can make the compliance standard

of such activities questionable, with potentially important consequences on public policy responses in other vital areas.

We have explored this issue in a setting where valid birth registration could potentially help to reduce the incidences of female early marriage. Bangladesh has one of the highest rates of female early marriage in the world. The latest figures indicate that about 59 per cent of women marry before reaching the age of 18 (Amin et al. 2019). The practice is strictly prohibited by the Child Marriage Restraint Act 2017. But law enforcement agencies require a valid documentation of age to take necessary action against the practice, while the current birth registration rate in Bangladesh is far from universal. Although there are demand driven issues – for example, lack of awareness on the importance of the birth registration by rural parents (many of them are low-educated and often illiterate) – we provide suggestive evidence of substantial supply-side constraints.

Evaluating the birth registration issues of a rural district in Bangladesh, we documented that nearly one-third of the sample did not have their birth registered at the time of the survey, with a sizeable gender gap for children aged 0–24 months (58 per cent of boys were registered compared to 45 per cent of girls). For girls aged 13–17 years (an age group that is highly susceptible to female early marriage), the household was able to show the birth registration document in 80 per cent of cases. However, the research team's validity check against records in the national database revealed that, of the birth registration documents produced by the households during the survey, 46 per cent were, in fact, invalid.

The survey also revealed that, while most rural households have basic knowledge about birth registration, fewer than half knew the deadline for completing the registration without incurring a registration fee, and less than a quarter knew how to check the validity of a birth certificate. What is more striking is the local-level variation in compliance rates. Our estimates indicate that there are statistically significant discrepancies in the local government's ability to produce valid birth certificates, ranging from 39 per cent to 67 per cent across five local authorities within a single district in Bangladesh. Relatedly, using data drawn from semi-structured individuals with the entrepreneurs responsible for birth registration at the union-level, we find large differences in terms of educational qualifications, IT training, training on digitisation of birth registration records, and practices (data security, file management, archival procedures) across the UDCs. And differences across unions explain a much larger fraction of the variation in *validated* birth certificates than the presence of any certificate. We argue that the issue of invalid certificates is a problem stemming from limited administrative capacity at the level of the local authority.

We conclude with two policy implications of our findings. The differences in qualifications, resources, and processes across union digital centres were evident from our engagements with UDC entrepreneurs. So, the provision of up-to-date training (and refresher courses) and equipment would help to

improve the quality of birth registration process in rural Bangladesh. Birth certificate validity checks along the lines conducted for this study can easily be replicated by schools, and can help identify unions with high rates of invalid certificates, and thus the UDCs that could benefit from such training and investments. Although the institutional set-up for birth registration differs across countries, this two-pronged strategy may also help improve birth registration rates and the reliability of birth registration records in other developing countries. In turn, digitisation of birth registration records (and allocating resources and training to ensure that the birth registration system is effective) can significantly improve state capacity to deliver a range of public services to citizens, similar to the effects of biometrically authenticated payment infrastructures obtained by Muralidharan, Niehaus, and Sukhtankar (2016).

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Endnotes

Supplementary material for this chapter is available on LSE Press's Zenodo site (https://zenodo.org/communities/decentralised_governance/). See: *Supplementary material for*: Abu S. Shonchoy and Zaki Wahhaj (2023) 'Birth registration, child rights, and local governance in Bangladesh', in Jean-Paul Faguet and Sarmistha Pal (eds) *Decentralised Governance: Crafting Effective Democracies Around the World*, London: LSE Press. https://doi.org/10.5281/zenodo.7920630

[1] The Convention, which was signed in 1989 and became effective in 1990, is an international human rights treaty that sets out the civil, political, economic, social, and cultural rights of children. States that have ratified the Convention are bound to it by international law. As of present, it has been ratified by all United Nations members except the United States. Source: https://www.Unicef.org.uk/what-we-do/un-convention-child-rights

[2] The full scaling-up plan is available here: https://www.worldbank.org/en/topic/health/publication/global-civil-registration-vital-statistics-scaling-up-investment

[3] For example, in February 2022, a BBC Bangla news article reported that several million individuals in Bangladesh who had previously registered their births would need to reregister online as their previous birth registration records had 'disappeared' from the system during a process of digitising birth records. See: https://www.bbc.com/bengali/news-60262339

[4] A 'union' is the lowest tier of the local government administration in Bangladesh.

[5] Supplementary material for: Abu S. Shonchoy and Zaki Wahhaj (2023) 'Birth registration, child rights, and local governance in Bangladesh', in Jean-Paul Faguet and Sarmistha Pal (eds) *Decentralised Governance: Crafting Effective Democracies Around the World*, London: LSE Press. https://doi.org/10.5281/zenodo.7920630

[6] Although the *para* has no administrative significance, the subdivision of villages into *paras* is widely practised in rural Bangladesh and residents tend to self-identify with the *paras* in which their homesteads are situated (White 1992).

[7] In the latest available Bangladesh Household Income and Expenditures Survey (2016–17), the average rural household size is 4.11 and the proportion of rural households that are headed by a woman is 11% (BBS 2017).

[8] Figures provided in the Bangladesh Demographic and Health Survey 2017–18 Final Report indicate a marriage rate of 43.1% among women aged 15–19 years, with 12.4% married by age (NIPORT and ICF 2020).

[9] The primary reasons that respondents gave for being unable to show the birth certificate were that the certificate was lost (36%), misplaced (38%), or kept at the girl's school (23%).

[10] There are two main reasons why there may be no digital record of the certificate in the national database. This may happen if the certificate is fake – that is, produced by someone other than the proper authorities – or if it was issued by the proper authorities but mistakes were made in the registration process.

[11] Note that in a small number of communities the proportion for whom birth certificate could be shown was lower than the proportion with validated birth certificates. This may be because the two checks were conducted on different days and some respondents could not show a birth certificate for the adolescent girl during the interview in spite of having a valid one.

[12] Consistent with this reasoning, the birth registration rate for adolescent girls in the sample whose mothers have completed secondary education is 9–10 per centage points lower than those whose mothers have less

education. This pattern holds both for any birth certificate and for validated birth certificates.

[13] As these interviews involved just five individuals, we do not provide further details on the responses to avoid disclosing personal information.

[14] Although the self-reported birth registration data is based on the household survey, recall from section 10.3 that it is based on a different question and procedures to that used to check for valid birth registration.

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