Chapter 3: Research design

In the previous sections, we introduced the knowledge gap regarding the inequitable maternal health outcome and its relation to accountability and we explained the theoretical perspectives used in this thesis, focusing on social determinants of health, accountability and social accountability. This section presents the research design and methodology of this thesis that aims to contribute to the knowledge gap.

3.1 Research questions

The overall research question of the study is:

*How does social accountability contribute to maternal health outcomes in selected districts of India and Nepal?*

The sub-questions that contribute to answering the overall research question are:

1. What are the factors that influence maternal health outcomes, and how are they related to each other and to the accountability of the health sector?

2. Which social accountability mechanisms exist for maternal health in the study sites and how do they function?

3. What influence do the existing social accountability mechanisms in the study sites have on the factors of maternal health and maternal health services?

3.2 Research approach

The study takes a multidisciplinary and system approach, which means that the maternal health inequities are assumed to be the result of the simultaneous and complex interactions of multiple actors in the health sector. The exploration of the detailed interactions led to an emerging research design through an iterative process, which started with understanding accountability and social accountability in maternal health services through literature reviews. This phase guided the successive empirical research phase in terms of providing a framework for data collection and analysis. This is explained in more detail below.

**Phase 1.** The overall research process started with two literature reviews to construct an integrated, multidisciplinary, conceptual model containing a list of relevant factors leading to maternal health inequities.

The *first review was a scoping review (Chapter 4).* It was conducted to identify the factors influencing maternal health inequities in India and explain their influence. We constructed a “Social
Determinants of Maternal Health Framework” by integrating several existing frameworks to explore factors specific to maternal health inequities. This review revealed the relevance of social accountability mechanisms in addressing maternal health inequities in India, and it confirmed that in India power asymmetry between different social groups is a crucial factor producing the inequities in India.

The second review was also a scoping review (Chapter 5). This one was conducted to trace empirical data showing contextual causal relations in India, for example how accountability problems in the health sector influenced maternal health inequities. For this review we employed a narrative and interpretative synthesis approach to analyze:

i. factors influencing maternal health outcomes in India using the 1994 Thaddeus and Maine’s “three-delay model”. This analysis provided a narrative account of causes of the maternal health service use and maternal deaths in India. It particularly highlighted the influence of health sector performance.

ii. how accountability problems in the Indian public health sector influenced maternal health outcomes using the “Framework to Analyze Issues of Accountability” that we developed linking existing frameworks on health sector accountability and maternal health.

The two scoping reviews guided the empirical research process.

Phase 2. This step consisted of an empirical component using a case study approach. Through primary data collection in two districts in India and three districts in Nepal, we explored the functioning of social accountability mechanisms for maternal health and their perceived influence on maternal health outcomes. The frameworks in Phase 1, the Social Determinants of Maternal Health and the functional aspects of accountability in particular (i.e. answerability and enforceability), and the elements of social accountability from George¹ (information, dialogue and negotiation) were used for the data analysis.

Case study approach

This was used mainly to explore how the complex multi-stakeholder constellation structures the social accountability functions in maternal health services. It enables exploration of complex phenomena within their contexts². The Gujarat state of India and Nepal were deliberately selected. India and Nepal are democratic countries in South Asia, which have constitutionally and in health policies and programs recognized health, including maternal health, as a fundamental human right and the responsibility of the government, both constitutionally and in health policies and programs³–⁶. Both countries promote community participation in the planning and monitoring of health activities of the public sector as a crucial part of governance of health sector⁷–⁹. Instances from the literature show that India has a relatively strong civil society engagement in making the public sector accountable for
health services, including maternal health services\textsuperscript{6,10–12}, while institutional social accountability activities seem to be limited in Nepal\textsuperscript{13} and particularly in the health sector to a few activities such as social audits and citizen charters\textsuperscript{9,14}. The institutional social accountability activities were strongly promoted by the World Bank from 2010 to 2013\textsuperscript{13}.

Districts were the unit of analysis within the state/country in both cases, which formed embedded units within the cases\textsuperscript{2}. Two districts – Dahod and Panchmahal – were selected in Gujarat and three districts – Doti, Kailali and Baglung – in Nepal (Fig. 2 & 3). The districts were selected in consultation with civil society organizations (CSOs) or a public health institution that worked in the districts and facilitated the study. All of the selected districts have a high proportion of a poor, rural and illiterate population. The two districts in Gujarat and two districts in Nepal (Doti and Kailali) were considered a single cluster for analysis in each state/country as they are adjoining districts with similar socioeconomic and maternal health status; they are presented in the related studies/chapters in detail.
Figure 2: Map of study sites of Nepal

Source: Nepal Map - localnepaltoday.com, 2015; District Maps - Ministry of Federal Affairs and Local Development (MoFALD), 2014
Figure 3: Maps of study sites in Gujarat state in India

Source: India Map - Open Governance India, 2017; Gujarat District Map - Bricks Making Machine, 2018
3.3 Study sites

Case 1: Gujarat, India

India has one of the highest maternal mortality ratios in the world\textsuperscript{15}. The MMR of the country was estimated at 174 (per 100,000 live births). National estimates show large in-country differences in the MMR, particularly in the northern states, such as Assam, Uttar Pradesh, with a high MMR (328 and 292, respectively), and in the southern states, such as Kerala, Tamil Nadu, with a low MMR (66 and 90, respectively)\textsuperscript{16}. Large disparities are also evident between and within these states in maternal deaths and the utilization of maternal health services (antenatal and maternity care) among the various population groups. The indicators demonstrate a poor status among rural, poor, illiterate and certain caste groups, such as scheduled castes (SCs) and scheduled tribes (STs)\textsuperscript{17–20}.

Gujarat state lies in the western part of India and is economically one of the most highly developed states, with a high proportion of the population living in urban areas (>42\%)\textsuperscript{21}. Although Gujarat had a lower MMR (122) than the national average (178) in 2010–2012, it’s MMR is higher than other Indian states such as Kerala (66) and Tamil Nadu (90)\textsuperscript{16}. Dahod and Panchmahal districts lag behind in socioeconomic status in terms of a higher proportion of the poor, rural and illiterate population compared to the state average\textsuperscript{22–24}. These groups along with the SC/ST also have lower rates of the utilization of maternal health services such as antenatal care (ANC), institutional delivery and postnatal-care (PNC) in Gujarat\textsuperscript{25,26}.

Case 2: Nepal

Despite remarkable progress towards achieving the Millennium Development Goal (MDG) of reducing maternal mortality, the country still has a high MMR (258) compared to neighboring countries, such as Bangladesh (176), Bhutan (148) and India (174)\textsuperscript{15}. Nepal also demonstrates disparities in MMR\textsuperscript{27} and the use of the maternal health services\textsuperscript{28} among population groups with poor status among rural, poor, and some caste/ethnic groups such as Muslims, Terai/Madhesi and Dalits.

Doti and Kailali districts are situated in the far-western region of Nepal, while Baglung district is situated in the mid-western hills of the country. Studies on maternal mortality show relatively high MMR in the far-western region\textsuperscript{27,28}. The 2011 survey showed that the far-western and mid-western regions had the lowest proportions of institutional deliveries (29.0\% and 29.1\%, respectively) compared to the national average of 35.3\%\textsuperscript{30}. The same survey also showed that the mid-western hill region had a low use of maternal health services (for example, ANC – 43.3\%, institutional delivery – 24.5\% and PNC 33.2\%) compared with the national average (58.3\%, 35.3\% and 44.5\%, respectively).
3.4 Study participants and sampling

The sample selection was guided by the World Bank’s accountability framework\textsuperscript{31} to include study participants among all sets of actors in accountability relationships in public service delivery, namely \textit{policymaker, organizational healthcare provider, frontline healthcare provider} and \textit{client/citizens} (Table 1). The participants in these categories were deliberately selected in each study site in consultation with the CSOs (e.g. Gujarat in India and Doti and Kailali districts in Nepal) and the public health institution (e.g. Baglung district in Nepal) to include key-informants. Coyne explains that “one can learn a great deal about issues of central importance to the purpose of the research” by choosing information-rich cases\textsuperscript{32}. They were selected from the same area of service delivery to get a complete understanding of that particular site and facilitate triangulation of the collected information.
Table 1: Overview of study samples

<table>
<thead>
<tr>
<th>Sample category</th>
<th>Gujarat, India</th>
<th>Nepal</th>
<th>Total (India &amp; Nepal)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Dahod and Panchmahals districts</td>
<td>Doti and Kailali districts</td>
<td></td>
</tr>
<tr>
<td>Policymakers</td>
<td>2 from civil society organizations (CSOs)</td>
<td>(at national level)</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4 from government</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>4 from CSOs</td>
<td></td>
</tr>
<tr>
<td>Organizational healthcare providers</td>
<td>1 Block Health Officer</td>
<td>5 district healthcare officials</td>
<td>33</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5 health facility in-charges</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 health facility management committee member</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2 district healthcare officials</td>
<td>2 health facility in-charges</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>18 health facility management committee members</td>
<td></td>
</tr>
<tr>
<td>Frontline healthcare providers</td>
<td>1 Medical Officer</td>
<td>2 Medical Officers</td>
<td>16</td>
</tr>
<tr>
<td></td>
<td>1 Female Health Worker</td>
<td>5 Auxiliary Nurse Midwives (ANM)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1 Accredited Social Health Activist (ASHA)</td>
<td>5 Female Community Health Volunteers (FCHV)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>2 ANMs</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>2 FCHVs</td>
<td></td>
</tr>
<tr>
<td>Clients/citizens</td>
<td>2 locally elected representatives</td>
<td>3 from CSOs</td>
<td>67</td>
</tr>
<tr>
<td></td>
<td>4 from CSOs</td>
<td>54 pregnant and new mothers</td>
<td></td>
</tr>
<tr>
<td></td>
<td>15 women group members</td>
<td>2 from CSOs</td>
<td></td>
</tr>
<tr>
<td></td>
<td>11 pregnant and new mothers</td>
<td>8 pregnant and new mothers</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>38</td>
<td>80*</td>
<td>124</td>
</tr>
<tr>
<td></td>
<td></td>
<td>36*</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>162</td>
<td></td>
</tr>
</tbody>
</table>

Note: * - does not include national level policymakers
3.5 Research methods

The data collection methods for the case studies included focus group discussions (FGDs) and in-depth interviews. FGDs were conducted with the pregnant and new mothers and women group members to gain an understanding of their experiences and perspectives about existing social accountability mechanisms for maternal health. They were conducted in small groups and in an environment that participants felt comfortable to express their views. They are considered helpful to uncover a variety of and unique perspectives on the study issues through the interaction and exchange of information between participants in a short space of time\textsuperscript{33,34}. In-depth interviews were conducted with the remaining key study participants – policymakers, healthcare officials, frontline healthcare providers and CSO members/staff. In Baglung, FGDs were also conducted with the health facility management committee members. Detailed accounts of the methods are also provided in Chapters 4 to 8.

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Research sub-question(s)</th>
<th>Method</th>
<th>Data analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>1</td>
<td>Scoping review</td>
<td>Thematic analysis based on Social Determinants of Maternal Health Framework</td>
</tr>
<tr>
<td>3</td>
<td>1</td>
<td>Scoping review</td>
<td>Narrative and interpretive synthesis</td>
</tr>
<tr>
<td>4</td>
<td>2,3</td>
<td>Qualitative – in-depth interview and focus group discussion</td>
<td>Thematic analysis based on Social Determinants of Maternal Health Framework, and Information and Dialogue and Negotiation Framework</td>
</tr>
<tr>
<td>5</td>
<td>2</td>
<td>Qualitative – in-depth interview and focus group discussion</td>
<td>Thematic analysis based on Information and Dialogue and Negotiation Framework</td>
</tr>
<tr>
<td>6</td>
<td>2</td>
<td>Qualitative – in-depth interview and focus group discussion</td>
<td>Thematic analysis based on Information and Dialogue and Negotiation Framework</td>
</tr>
</tbody>
</table>

3.6 Research validity

Validity (or trustworthiness, in qualitative research) consists of the concepts of credibility, confirmability, transferability and dependability of the research\textsuperscript{35}. This study employed a number of procedures to ensure validity. The procedures confirmed that the research process and outcomes were examined for trustworthiness through the lenses of the researchers, participants and individuals external to the study\textsuperscript{36}.

The credibility and confirmability of the studies were mainly achieved through triangulation, peer review and member checking\textsuperscript{35}. Triangulation involved the convergence, consistency and diversity of data from multiple data sources and investigators\textsuperscript{35-37}. Data collected from multiple sources, including the scientific literature, policy documents, etc. and different actors in health service delivery, such as policymakers,
healthcare officials, healthcare providers and clients/citizens/mothers, were assessed against one another to
cross-check data and interpretations. The data collected by the researchers were also subject to cross-
checking process by each other and the PhD supervisors. The supervisors had different disciplines, which
also included a multidisciplinary perspective in the study. The study outcomes were sent to some study
participants for member checking\textsuperscript{36,37} to obtain their feedback on the data, interpretations and conclusions.
Finally, the results of the studies underwent a peer-review process provided by the journals to which they
were submitted. This confirmed the credibility of the data and research process by someone external, but
familiar with the research or the phenomenon being explored\textsuperscript{36,37}.

The entire research was guided by concepts, theories and frameworks from the existing literature, for
example the framework related to maternal health, social determinants of health, accountability,
institutionalist paradigm, etc. They informed the initial concepts, theories and frameworks, which further
guided the overall research in terms of defining contexts and selecting research approach, cases, methods
and tools. Researchers also employed other techniques to minimise their bias such as audio-recording of
interviews and FGDs, transcribing verbatim, quality check of the translation of transcripts, and review of
data coding and analysis by other researchers and team members.

The case study approach using multiple cases helped to strengthen the transferability of the research as it
facilitated an analysis of the functioning of social accountability mechanisms across the three cases.

For dependability or methodological trustworthiness, the researchers ensured a standard procedure of data
collection by uniformly training the researchers and research assistants, using research protocol and
interview guides and FGD checklists that underwent critical reflections and adaptations after pilot testing,
and explicit documentation and description of all research processes. The empirical data were analysed
using qualitative software such as MAXQDA 11 and 12 versions and ATLAS.ti, which checked for data
consistency.

3.7 Research team

The research was conducted by the PhD student with the support of four master students and research
assistants. The overall research process was supervised by four expert researchers: two from Vrije
Universiteit Amsterdam (VU Amsterdam) (the Netherlands), and one each from the Institute of Tropical
Medicine (ITM) (Belgium) and University of Barcelona (Spain).

The investigators and research assistants for each study varied. The PhD student conducted the scoping
reviews. The study in Gujarat (India) was conducted by the PhD student with assistance from two local
research assistants. The PhD student lead the conceptualization and design, and supervised the study in
Doti, Kailali and Baglung districts (Nepal), including preparing the students to go to the field and working
closely with the students in data-collection and analysis. The field research in Nepal was conducted by four master students from the Athena Institute (VU Amsterdam, the Netherlands) with the help of four local research assistants. Two students independently collected data in Doti and Kailali districts during April-May 2016, while the third student collected data from both the districts during April-May 2017. The fourth student collected data in Baglung district (Nepal) during April-May 2017.

3.8 Ethical considerations

Prior to the data collection, approval was obtained from the research ethics authorities of the studied countries, namely the SAHAYOG Ethics Protocol and Policies Pertaining to Human Subjects Research Committee, Lucknow, India and the Nepal Health Research Council (NHRC) in Nepal. Technical approval for the study was also received from the Science Committee of the VU University Medical Center (VUmc) EMGO+ Institute in the Netherlands.

The researchers followed different procedures to adhere to ethical guidelines. Prior to the interviews or FGDs, participants were provided with consent forms translated into their local language to assure them of their privacy and confidentiality, and to confirm their consent to voluntary participation either verbally or written. The participants were either given sufficient time to read the forms or the forms were read out loud by local research assistants in their local languages. There were no major risks for individuals participating in the study. However, the questions covered sensitive issues such as adverse personal experiences about healthcare or comments on the performance of the health sector actors. Thus, the participants were assured about the anonymity and confidentiality of their responses. The research assistants were also trained for such situations and instructed to refer participants expressing any signs of distress during the interviews and FGDs to local institutions for support. The anonymity of the participants was maintained in the transcriptions and the publication of the results. Research recordings and transcripts were kept in password-protected computers. The respondents did not directly benefit from the study. They were provided with refreshments and reimbursed for their transportation expenses in coordination with the local CSOs, while adhering to their organizational norms for such provisions during research and community-based activities.
References


10. Global Health Visions. *Country Case Study: India. In-Depth Landscape Analysis of Accountability for Maternal and Newborn Health in India*. Available at:
http://globalhealthvisions.com/India_Country_Case_Study_MNH_Accountability.pdf.


