

# **UNIQUE BIOMETRIC IDS**

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**GOVERNMENTALITY AND APPROPRIATION IN A DIGITAL INDIA**



# Unique Biometric IDs

Governmentality and Appropriation in a Digital India

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*To Samrat Schmiem*

## Abstract

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On a global scale, the usage of a variety of digital ID and surveillance technologies in both civic and security governance is increasingly taking place, leading to standardised forms and practices. India is implementing the largest biometric scheme in history. As part of a larger plan to digitalise the country's governance, the objective of the Unique Identification (UID) project is to enrol the entire populace, roughly speaking 20% of the world's population. This dissertation investigates the implementation of biometric IDs in India, asking what are the governmental rationales of biometric identification in India? How does national biometric identification shape the conditions of possibility for governing conduct? And, how do people utilise and appropriate digital, biometric IDs? Based on observation of enrolment sites, semi-structured- and narrative interviews of officials, as well as persons enrolled into the scheme, the dissertation shows how biometric IDs are imagined and experienced.

Analytically, the dissertation places the Indian project within the larger framework of governmentality in the post-colony. The concept of appropriation is developed to describe the processes by which governmental schemes are altered or modified to benefit local contexts. I investigate the identification of the homeless in Delhi, narratives on fraud by inhabitants in the northern Indian town of Vrindavan, and the daily utilisation of software by Indian bankers, to describe such processes of subversion. The dissertation shows that standardised biometric tools, albeit applicable to multiple contexts and usages, become enmeshed and appropriated in the contexts in which they are implemented.

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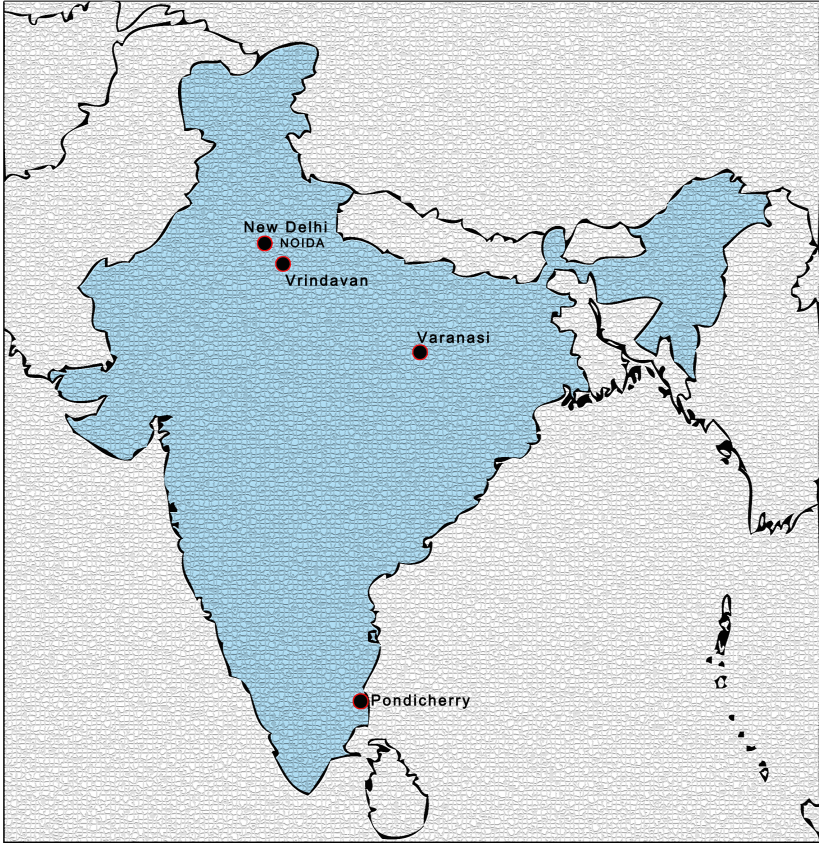
My family has been tremendously supportive throughout the dissertation period, especially since our move to New Delhi in 2014: To my parents Berit and Rolf, and my in-laws Renu and Kamal, thank you for all those tireless hours that you spent with us in India helping me finish this work.

Dear Radhika, thank you for showing me that life is a journey of the heart. Dear Samrat Schmiem, this dissertation would never have happened without you. Thank you for all the warmth, love, generosity, support, patience and humor you abundantly share on this joyful walk of life.

New Delhi, 15 April 2015

# Map of India

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## List of abbreviations

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BPL	Below Poverty Line
CCTNS	Crime and Criminal Tracking Network and Systems
CCTV	Closed-circuit television
CMS	Centralised Monitoring System
FATF	Financial Action Task Force on Money Laundering
KYC	Know Your Customer
MNREGA	Mahatma Gandhi National Rural Employment Guarantee Act
NATGRID	National Intelligence Grid
NeGS	National e-Governance Scheme
NGO	Non Governmental Organisation
NOIDA	New Okhla Industrial Development Authority
NPR	National Population Register
TCIS	Telephone Call Interception System
UID	Unique Identification System
UIDAI	Unique Identification Authority India
UNDP	United Nations Development Programme
UPA	United Progressive Alliance



*Ranjana Sonawne is now a 12 digit no.*

The Times of India 2010

## Introduction

India is becoming digitised. The primary symbol of the on-going exercise of connecting the diverse urban and rural milieus of the country into a digital network is its national biometric Unique Identification (UID) scheme. A 39-year-old woman from a village in Maharashtra, Ranjana Sonawne, was the first person to be biometrically enrolled under the UID. Since her enrolment more than 900 million Indians have been biometrically registered. The national biometric system is a new and long-term investment in the landscape of a changing India. Unique ID numbers are to be lifetime proofs of individual identities in the meeting of an increasingly digitalised state with private agencies. This understanding of biometric-based IDs, that they scientifically verify the individual subject, that they transgress boundaries of time and place - beyond disparities in geography and the social-economic status of the populace - give rise to the scheme that is to be used for multiple purposes. An enormous assemblage of private and public agencies, software companies, post-offices, biometric machines and technological tools, and individual bodies constitute this ground breaking project that is to radically transform the way India practices government.

The digital registration of peoples' iris scans, fingerprints and facial images takes place in enrolment centres across the country- in localities as dispersed as banks, run down schools and open air parks. Since Ranjana's registration, millions have had their fingerprints digitalised, irises scanned, and facial images captured. These digitalised imprints are coded and stored in the largest biometric database in the world, hosted at the Unique Identification Authority of India (UIDAI). Ranjanas UID number - 782474317884 (Byatnal 2011; see also Thomas 2014) - will be a unique identifier, which will follow her in her relationship with private and public bodies, in her meeting with hospitals, schools and insurance agencies. Central to the practice of connect-

ing the wide geographical and demographical vastness of India to a digital network is the need for each individual subject to be correctly identified. Thus, as Ranjana Sonawane got her Unique ID, Hindustan Times (2010) could report that as a result, “if anyone decides to masquerade as Ms Sonawane — and such matters of proxy, we are told, do happen in India — her attempt will come to nought.” The ability to prove ones identity is at the heart of this gargantuan undertaking.

For Ranjana, the new digital “identity” might not cause much change in her everyday life. She lives in a small rural village of about 1000 inhabitants, there are no schools, scarce infrastructure and she probably seldom uses the services that the UID will enable. She might, in her casual work at construction sites and on farms (Rabade 2010) have to open a bank account and give her fingerprints in order to claim wages under the National Rural Employment Guarantee Scheme (NREGS) (Rajshekhhar 2011). If she will claim her Below Poverty Line (BPL) subsidies, she will do so through the UID number, and in the future she might – instead of direct subsidies such as rice- get cash transferred at her “fingertips” (Gelb and Decker 2011). Her unique ID will also allow for the tracking and tracing of her records, a compilation of her profile, as she moves between different government and private spaces – such as hospitals or banks - profiles that can be used in risk assessments if she applies for life insurance, or as part of the Know Your Customer (KYC) norms procedures when opening a bank account.

### Aim and research questions

The main aim of the dissertation is threefold: to study the strategic governmental rationales for biometric identifications; the potentialities that such identification practices contain (e.g. the productive effects and conditions of possibility of national biometric IDs); and the various localized contexts of biometric practice. The dissertation therefore interrogates the emergence of the scheme, its targets and classifications (kinds of subjects), its ‘productive’ nature and strategies of intervention, and the ways in which the governmental practice of biometric identification translates in the context of India. It does so through posing three primary research questions. Firstly, in investigating the development of the national biometric scheme, how it emerged, and the various contexts of its (actualised and planned) implementation, I ask, *what are the governmental rationales of biometric identification in India?*

The rationales, discourses and practices of biometric identification are enacted because of the inbuilt understanding of what biometric IDs do, and as such the materiality of how biometric tools enable or constrain different governmental techniques. Introducing digitalised biometric tools in national



identification schemes generates potentialities, such as tracing individual IDs through a large networked system, utilisation in multiple governmental domains and a closer overview of individual movement and behavioural patterns. I thus secondly ask, *how does national biometric identification shape the conditions of possibility for governing conduct?*

A central question to emerging studies of digitalised, standardised systems that enable tracking and tracing of individual movements is the extent to which such practices are leading to a uniform global “surveillance society” (Marx 2012). If not, then what follows is the question if and how such practices are appropriated in locally differing narratives and users. A mere attention to rationales and conditions of possibility might lead to the misguided conclusion that national biometric IDs are implemented in a straight-forward manner, without any interference, and according to the rationales laid out in the various documents and discourses founding their development (see also Bachman 2010).

This query is essential to the third research question of the dissertation, which focuses on the localised and contextualised practices and uses of biometric identification. I ask, *how do people utilise and appropriate digital, biometric IDs?* Despite the seemingly coherent relation between the rationales of government and the ways in which governmental technologies are being used to classify, identify and discipline subjects, there is arguably intrinsic room for negotiation and appropriation in the varied contexts of application (Jacobsen 2012; Rajshekhar 2011; Rao 2013). The latter inquiry places emphasis on the potential to appropriate governmental logics and the ways in which such appropriation takes place in India.

## Significance of topic

The Unique ID project in India follows a worldwide transformation in the way in which the state and private agencies relate to citizens through digital means. The usage of a variety of digital tools to identify individuals in both civic and security governance is increasingly taking place on a global scale. Biometrics identification systems, CCTV cameras, drones, and mobile phone applications for a variety of e-governance schemes are rapidly becoming part of peoples’ everyday life (Alterman 2003; Amooore 2006; Broeders 2007; Epstein 2008; Lyon 2009, 2010).

The demand for biometric identification tools in particular is rapidly gaining significance (Bennett and Lyon 2008; Breckenridge 2005, 2014; Gelb and Decker 2011; Lyon 2007, 2009, 2010). The political rationale of the wide application of biometric technologies is based on two interlinked factors. First of all, the technology enables a seemingly accurate and precise over-

sight over people's movement through the interlinking of biometric data with large networks of databases. Digitalised national biometric IDs enable an oversight of residents, the means to define insiders from outsiders, and making populations knowable (Lyon 2005; 2010). Secondly, biometric identification tools in information systems facilitate rapid identity verification and efficient and real-time flow of digitalised information (Broeders 2007). Individuals' health records, welfare status, educational records can be virtually traced and shared, and assets transported through large-scale interconnected (banking) systems, thereby securing (national) growth trajectories (Alterman 2003).

In Asia and Africa biometric identification is emerging as a central feature in national ID schemes for a variety of purposes, including welfare and development agendas (Breckenridge 2014; Lyon 2007; Dass and Pal 2009; Whitley and Hosein 2010). Biometric tools and databases are also increasingly utilised in warfare, and have been instrumental to recent U.S. military strategies in Afghanistan and Iraq (see Hristova 2014). They have furthermore to date been used in a variety of UN humanitarian and development programs in particular for cash transfers and food distribution (Gelb and Decker 2011; L-I Solutions 2010). In Europe and the USA, such tools are primarily used in travel documents and as means to separate citizens from non-citizens, and for security governance (Amoore 2006; Broeders 2007; Epstein 2008; Häkli 2007; Muller 2011), thus in specific localised applications (borders, welfare schemes), and not on a national level. In fact, plans to introduce biometric national identity cards have been heavily contested, and even vetoed, in countries such as the UK (LSE 2005), Australia (Wilson 2007) and the U.S.A. (Kruger et.al. 2008).

Analysts predict that a number of countries will seek to integrate biometrics into their national ID systems (see Breckenridge 2014). In India, the introduction of biometric ID is, on the one hand, a national strategy, and on the other, a multilateral development and inclusion strategy, in which India is taking the lead in a rapidly growing software industry. The Indian Unique ID project can be seen as a congregation of discourses and practices of various fields, including security, commerce and welfare (see Article 1 and 3). The relationship with the Indian state and the multiple public and private entities that form the network of UID authorities, enrollers, users and recipients, shows the complexity of contemporary forms of governance, and the shifting relations of power as a result of privatisation, commercialisation and increasing reliance on technology.

The contemporary story of biometric registration in India- the Unique Identification system, is becoming the template that other countries will use

and learn from in the large-scale national registration of residents/citizens (see Breckenridge 2014). The UID scheme in operation serves as a pilot project for similar developments in other countries, as one of the first of its kind to place secure IDs at the heart of an ambitious development agenda (UIDAI 2010a).<sup>1</sup> The project has already drawn serious attention from the USA, China, and international organisations including the World Bank and United Nations (UN), with international delegations visiting India on a frequent basis. India is already assisting Papua New Guinea with establishing a UID scheme, and has advised Mauritius and Australia (Chauhan 2012). The Indian scheme is expected to have an important impact on governance practices in the region and beyond, with Pakistan, Bangladesh and Malaysia already biometrically identifying citizens, and Nepal, Sri Lanka and Indonesia debating the designs of their national biometric ID schemes.

## Overview of the dissertation

The Dissertation consists of the overall framework - the Kappa - and six articles. Chapter 2 of the Kappa outlines the theoretical framework of the dissertation, where the concepts of governmentality, biopower and appropriation are explained. In Chapter 3, I elaborate on the methodological basis of the fieldwork that was conducted in several longer stays in India between 2011 and 2014, the methods I used in my fieldwork, and my methodology for reading the document and interview texts.

The first article of the dissertation (Article 1) *Unique Identification: Inclusion and surveillance in the Indian biometric assemblage* was published in 2012 in the journal *Security Dialogue*, Special Issue: "Governing (in)security in the postcolonial world", guest edited by Hönke, Jana and Markus-Michael Müller. The article addresses the first research question of the dissertation, as it focuses on the rationales of biometric identification practice in India. Here, I investigate how and in what contexts the practice of biometric identification is produced as a solution to a wide array of problems of governance, both as a means of financial inclusion and as a method of surveillance. In particular, the article examines the various targets of intervention constructed in the discourses and practices of the national ID scheme.

Beginning with the observation that both in Europe and beyond there has in the last years been an increased focus on secured forms of identification in security governance, I argue that there has been a massive growth and standardisation in the application of biometric technologies globally. Approaching the Indian scheme as a discursive/practical assemblage of multiple actors and rationales, the article investigates three contexts within which the biometric

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<sup>1</sup> Although Breckenridge (2014) demonstrates that South Africa is the first country to make national biometric

project emerged: India's Home Ministry, the Unique Identification Authority of India and a project focusing on the biometric identification of homeless people in Delhi. The article furthermore places emphasis on the importance of investigating the postcolonial contexts of governance in which biometric technologies are currently being applied, especially because such technologies were vastly developed and employed in the colony. This line of inquiry enables an analysis of the biometric enrolment of the homeless in Delhi, which is an example of the rationales and targeted subjectivities of the Indian biometric scheme.

Article 2 continues the inquiry of research question one regarding the governmental rationales of biometric identification, as I analyse the rationality and effects of risk in the Indian national ID project. It furthermore responds to research question two in focussing on the conditions of possibility of national biometric IDs. The book chapter *Preventing, Predicting or Producing Risks? National Biometric IDs in India* was presented at a workshop in Kathmandu, Nepal, in March 2012 and subsequently published in 2013 in the edited volume "India's Human Security: Lost Debates, Forgotten People, Intractable Challenges", edited by Mikilan, Jason and Åshild Kolås. The main focus of the chapter is on the effects (in terms of security governance/practices that are enabled, animated, generated) through the implementation of surveillance and tracking technology in India. Secondly, I focus on how the biometric scheme shapes conditions of possibility for directing conduct of the population and individuals (research question two) and investigate what such a large-scale biometric project "does" (i.e. how it affects security practice as well as includes new vulnerabilities to the governing system). I argue that advances in surveillance and tracking technology reformulate the notion of security threats in the internal environment of the Indian state.

Following the analysis of the governing rationalities and conditions of possibility generated by biometric systems, Article 3 investigates the methodological positioning of surveillance scholars in relation to identification schemes, and at the same time the methodological bias of such systems. This combination answers to the dissertation's first and second research questions, as it probes the discourses that underpin the national biometric project and asks questions relating to the strategies of government that Unique IDs can be situated within. The article *Surveillance as method: The challenge of studying the Unique Identification System (UID) in India* (co-authored with J. Peter Burgess) was presented at the 2013 workshop 'Doing Surveillance Studies: Critical Approaches to Methods and Pedagogy' at Queen's University in Ontario, Canada. It is currently under review for a Special Issue on Surveillance of the journal *Media and Communication*. By analysing the

various ways in which identity as a social and scientific category is made known and constructed in the implementation of the UID, Burgess and I examine how surveillance schemes employ social science methodologies and bring to the fore the implications this has for research.

The fourth article of the compilation dissertation (Article 4) zooms out a bit from the context of the national biometric ID scheme and India, and looks at larger questions regarding a global standardisation of norms and technologies, and the local contexts of application. The main focus of the article *List as a disciplinary and discriminatory device: Financial policing in Europe and India* (Submitted as part of a Special Issue of the journal *Environment and Planning D: Society and Space* on “The Politics of the List: Law, Security, Technology” edited by Marieke de Goede, Anna Leander and Gavin Sullivan. Co-authored with Anthony Amicelle, Université de Montréal) is on the one hand, how technologies influence (discipline) behaviour of Indian and European bankers and on the other how bankers themselves re-appropriate such technologies. It thereby links the three research questions of the dissertation by focussing on rationales, potentialities and the contexts in which digitalised tools are utilised and appropriated.

By firstly inquiring into what biometric IDs enable and secondly into how people utilise and appropriate biometric IDs (research question three), in Article 5 *Biometric registration in India: a story of boomerang effects*, I present the story of Ananya and Polas. They have both tried to be registered in the Indian national biometric scheme, as they see it as a means to prove their identity vis-à-vis the state and private agencies. This short tale from the field, submitted for consideration in a book on *Translations of Security* (forthcoming 2015), by Ole Wæver, Karen Lund Pettersen, Ulrik Pram Gad and Trine Villumsen Berling, gives a glimpse of the parallel realities of biometric enrolment in Vrindavan, India, with an excursion to Afghanistan. The tale highlights the transnational dimension of biometric identification practices and demonstrates the perplexing and localised ways in which such tools are utilised.

Lastly, Article 6 answers my third research question by investigating narrations of fraud and impersonation as a form of appropriation in relation to national biometric IDs. The article *A divine impersonation: Appropriation of governmental power in India* tells two stories, one of fraud as it emerges in the narratives of habitants of Vrindavan and New Delhi, and one of impersonation, as a means of appropriating governmental technologies that – by their biopolitical strategic nature (see Chapter 2)- target subjectivities. Through reading the text of different interviews where I asked people about their thoughts on the biometric ID scheme, what the benefits of enrolment

are, who it targets and what the purpose of the scheme is, I demonstrate that the main governmental rationales of the scheme are appropriated and utilised in differing ways by those primarily targeted by the scheme.

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# Theoretical Framework

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(B) “governmentality” I understand the ensemble formed by institution, procedures, analyses and reflections, calculations, and tactics that allow the exercise of this very specific, albeit very complex, power that has the population as its target, political economy as the major form of knowledge, and apparatuses of security as its essential technical instrument.

Foucault 2007:108

## Introduction

This chapter gives an overview of the theoretical and conceptual framework of the dissertation. On a conceptual level, I utilise governmentality as a framework for analysing biometric government in the post-colony, and relate the concept of biopower to literature on the biometric subject. Next, I relate the concept of risk to the discussion on biometric identities by arguing that biometric identities can be used for advanced forms of commercialised governance and risk calculation. This is followed by a discussion on the limits to a governmentality approach. Governmentality research arguably has two predispositions, first of all with regards to a preference for a focus on governmental strategies and technologies – and a subsequent lack of focus on the ways in which such techniques and practices are subverted and appropriated in contexts of enactment. Second, there are arguably limits to its ‘universal’ application in differing local contexts. The chapter advances a governmentality perspective through utilising the concept of appropriation to analyse the contextual forms of subversion and destabilisation of governmental logics.

## Governmentality

The dissertation investigates the relationship between rationalities of government and the strategic potential and contextual enactment and appropriation of biometric IDs. Governmentality studies have been useful for the analysis of the various ways in which conduct is directed through productive technologies of government, the emergence of liberal strategies for governing populations, and the ways in which moral and truth telling discourses work to

normalise certain regimes of power (Burchell et al. 1991; Foucault 2007; Walters 2012). A governmentality approach facilitates an inquiry of the rationales of the Unique ID scheme, how biometric IDs determine conditions of possibility for governing conduct and how such tools of government are appropriated.

Rather than a coherent theory, governmentality is a cluster of concepts - an “analytical toolbox” (Rose et al. 2006: 18) - that enables an investigation into the rationalities, techniques, programmes and subjectivities that give “form and effect” to governance (Walters 2012: 2). Such a theoretical framework enables a study of strategies, practices and technologies of government, rather than, for example, a focus on actors and institutions. This means that rather than focusing on the state as a locus of power, one focuses on the discursive and productive sites and landscapes in which conduct is governed.

Governmentality research studies the various disciplines, processes and techniques by which life is preserved and bodily conduct is governed (Prakash 1999). Central to this understanding of government is the notion that the productive nature of power, invested in life, carries normative goals- to modify and change personal conduct (Foucault 1990). Government shapes the conduct of individuals, in order to make productive members of society (Merlingen 2006). Networks of disciplinary power reach the most intimate space of the subject, and furthermore constitute the subject. Thus according to Foucault, “the individual is not a pre-given entity which is seized on by an exercise of power. The individual, with his identity and characteristics, is the product of a relation of power exercised over bodies, multiplicities, movements, desires, forces.” (Foucault, in Gordon 1980: 73-4). The art of governing and its relation to power is found in any form of strategic relationship, stretching from sites such as schools, prisons, hospitals, and even includes the family. Governmentality studies therefore investigate power in relation to the “conduct of conduct” (Dean 1994), that is, “a form of activity aiming to shape, guide or affect the conduct of some person or persons” (Gordon 1991), including the governing of one’s self.

Walters (2012: 31-31) distinguishes between the broader usage of governmentality – which can encompass a study of a wide range of governing of conduct, and *liberal* governmentality, in which the market economy appears as a natural mode of assembling conduct, which is concerned with the art of not governing too much, and to which the value of freedom is central, and managed through practices of security. Here, the concept of *biopolitics* (Foucault 2008) plays a central role. Whereas disciplinary technologies of government are occupied with “microphysics of power” that shape and control

the behaviour of individuals (Gordon 1991:3), biopolitical strategies target the population:

[T]his biopolitics, will introduce mechanisms with a certain number of functions that are very different from the functions of disciplinary mechanisms. The mechanisms introduced by biopolitics include forecasts, statistical estimates, and overall measures. And their purpose is not to modify any given phenomenon as such, or to modify a given individual insofar as he is an individual, but, essentially, to intervene at the level of their generality. (Foucault 2003:240)

Biopolitical governance is at its core occupied with mapping, administrating and fostering the life of populations through systems of classification, statistical measurement and prediction (see Burchell *et al.* 1991; Crampton and Elden 2007; Dean 1994; Dillon and Reid 2009). In a biopolitical system, the living is distributed by its value and utility (Foucault 1990). Governmental politics thereby form a “politics of the body” by disciplining individuals, and a biopolitics of the population whereby social processes and conditions for life are regulated (Merlingen 2006). Such modern forms of power relations are distinguishable because they “seek to ground themselves in truth” (Dillon 2010:63). Through making truth claims about the general norm and character of a population – birth and death rates, health, economy, etc.- biopolitical rationales and strategies intervene on the level of the collective, where “apparently random events reveal themselves as population trends, constants and probabilities” (Duffield 2005: 145). The establishment of a population norm allows for the separation of events that appear as contingencies in relation to an overall generality.

Thus, central to governmentality studies is on the one hand a focus on discourses and rationales of government (truth-claims, statements about norms), and on the other hand strategies, materialities and enactments of governmental technologies. Through such a theoretical framework, I investigate the governmental rationales of what biometric IDs can or should do (Research Question 1) - i.e. statements about a range of enabled objectives including elimination of fraud in welfare and subsidies schemes, a strengthened security infrastructure, a better overview of the population, the inclusion of mobile subjects into the formal market economy, in short, “a wide range of benefits such as education, health coverage, old-age pensions and subsidized food-grains [...]” (UIDAI 2010a: 26). Here, I have especially focussed on normative claims inbuilt in the rationales of implementing national biometric IDs, and the kind of subjectivities that are produced through the claim to ameliorate these different governmental domains through utilisation of biometric IDs.

I furthermore focus on the knowledges that are produced and the truth-telling practices that follow biometric identification systems. Here, I place

importance on the fact that biometric practices are not neutral, but rather carry the logic of a truth-telling practice, that biometric tools have a scientific accuracy that can verify body-parts. Technological verification systems produce a hierarchical relationship whereby the “interplay between body, (subjective) identity and (objective) identification” (Häkli 2007) favours the knowledge and information of the system above that of the subjective speaker. This has implications for power relations: the rationale and practice of digital biometric registration alters governance and the relationship between governing authorities and the subject, as it places the biopolitical question “who are you?” as a foundation for such relationships (see also Pugliese 2010). In Articles 1, 2 and 6, I examine the claims of the Unique ID project in India, and argue that biometric IDs are gaining salience in the country precisely because they are understood to truthfully identify individuals.

Secondly, I utilise a governmentality framework to study the technical means that are applied in order to bring political rationalities into action (Merlingen 2006), that is, I study the relationship between the rationales of biometric IDs and the actual enactment - and possibility for enactment- of national biometric IDs in differing governmental domains and the ways in which national biometric identification shapes conditions of possibility for governing conduct (Research Question 2). Thirdly, the dissertation advances governmentality framework through analysing the various ways in which local sites of enactment destabilise and subvert these logics and practices (Research Question 3).

### **Biopower and the biometric subject**

The dissertation furthermore relates the concept of biopower to the production of digital, biometric subjects. Several researchers have looked at biometric digital identification systems and the general practice of utilising biometric tools in governance as a form of biopolitics drawing on Foucault’s concept of ‘biopower’ to shed light on the crucial role of biometric tools in neoliberal ‘reengineering’ processes (Epstein 2007; Koljević 2008; Kruger et al. 2008; Pugliese 2010; Thomas 2010; Zureik and Hindle 2004). This line of enquiry is especially important for the second research question of the dissertation, where I focus on how the Indian national biometric system determines conditions of possibility for governing conduct.

Several researchers have argued that biometric tools reduce social identities, peoples’ mobility and behaviours to data that can be managed as abstractions (Kruger et al. 2008; Monahan 2009). The content of identity turn out to be discursively and practically produced as a seemingly stable signifier to

which governance services, security measures, and control of movement can be ‘tailored’ through complex databases, profiling and surveillance systems:

Once the self can be certified by the state as stable, an increased freedom of mobility *and* stability can be granted. However, this increased freedom of mobility is accompanied by an increasing integration of the stable self into a surveillance regime that monitors, tracks, classifies, and often takes the shape of the database. (Browne 2010:140)

Rather than situating the person (and his or her social identity) in terms of or through details associated with locality such as language, local habits, or everyday activities, in other words characteristics that have come to be associated with culture, technologised information systems connect body to place through traces in the system; transactions and movements that leave tracks that can be followed thereby gathering information on the digitalised body (Lyon 2001). By stripping away the socio-political context and analysing identities as mere data, a “sociotechnical sorting of the world” (Monahan 2009: 117) is normalised. The meaning of individual identification is altered through this process, as it becomes a category amenable to calculation. Rather than a social and political category or inscription, ‘identity’ is transported into the networked system of information exchange.

I have utilised the concept of biopower to analyse such processes of digitalisation of individual ‘identity’. Such a framework has enabled an investigation in how the digitalisation of biometrics enables a tracking and tracing of individual movement, thus leading to a possibility for, on the one hand, increasing the efficiency, reachability of flows (money, people), and secondly a more accurate and detailed overview and control of both monetary and human movements. In the Indian national identification scheme, linking various databases (bank, insurance, health, education, etc.) to a biometric personal identification number, enables the concrete description of a person’s value in relation to the assemblage of governmental technologies- insurance, banking, health governance, etc.- that are linked through the biometric database. Here, the unique biometric-enabled person number produces a transactional ‘identity’:

By linking an individual's personal, identifying information to a UID, the UIDAI will be creating a transaction identity for each resident that is both verified and reliable. This means that the resident's identity will possess value, and enable the transfer of money and resources. (UIDAI 2010b: 33)

By focussing on the national biometric scheme and its relation to the governing of conduct (my second research question) I investigate how such tools allow for an advanced gathering of individual data, the creation of unique profiles, and the aggregation of data in ways that can be utilised for manifold purposes, including risk assessments and prediction. Digitalised ID systems seemingly stabilise personal identities through ‘fixing’ them (Lyon 2009;

Muller 2010) vis-a-vis their individuals' bodies, thereby making the seemingly static container of data amenable to calculative practices. Thus, in biometric systems, once "translations of body characteristics into electronically processable data have been made, these bodies become amenable to forms of analysis and categorization in ways not possible before [...]" (Van der Ploeg 2005a: 12). An analysis of biometric IDs as tools of biopolitical governance, makes it possible to investigate these as part of the larger processes of rendering society amenable to risk calculation and analysis.

### Risk and digital identity

Numbers, and the techniques of calculation in terms of numbers, have a role in subjectification – they turn the individual into a calculating self endowed with a range of ways of thinking about, calculating about, predicting and judging their own activities and those of others.

(Rose 1999: 214)

A theoretical framework of governmentality and a focus on the biopolitical strategies of government are helpful in addressing the rationales and conditions of possibility for biometric IDs in India. At the same time, such a toolbox is also advantageous for addressing the intersection between the rationales and strategies of the national ID project, and larger neoliberal processes of government in which I situate the Indian scheme. Biometric tools – because they are unique signifiers that can be aggregated and treated as numerical data- bring together logics of commercialised governance and risk. A neo-liberal transformation whereby security provision is privatised and outsourced is embedded in new technologies and modes of power such as monitoring, calculating, accounting, measuring and classifying various disparate entities into formulations of political strategies at the state level (Abrahamsen and Williams 2011: 65-6).

The target of such practice is to even the overall distribution of future risk through measuring its value in the present. Such management of risk also signals a continuum of perceptions of danger and threat in different public and private domains, whereby private companies, such as insurance providers, complement national security strategies through constructing threat assessments and security solutions (see Aradau and van Munster 2008; r-Guerrero 2014). This continuity is found in the way such governmental security practices govern the social (Aradau and van Munster 2008). The main objective of this form of rationality and technique is to calculate the possible and probable through continuous observation of life at the level of the population (*ibid.*). Therefore, "the regulative ideal is that everything be measured



in relation to everything else in terms of its exposure to contingency” (Dillon 2008: 323).

I have read the Indian Unique ID scheme in relation to larger literatures on the relationship between biometric data, digitised information systems and risk practices (see Muller 2008, 2010, 2011). The relationship between what biometric IDs enable and what they are imagined to do is closely related to the rationales of introducing such tools into a national ID scheme. Because of the inherent mathematical nature of digitised biometrics, they bear the potential of aggregating data, the creation of statistical normalities on an overall sample group (i.e. the national population, the homeless), the formation and utilisation of lists (as my co-author and I argue in relation to banking and terrorist ban lists in Article 4) and the creation of individual profiles.

Because biometric tools are being utilised for a wide range of commercial and security practices- ranging from border controls to insurance - they arguably can be seen to form part of larger processes of hybridisation of technologies that seek to make contingency calculable (see Aradau *et al.* 2008: 150). Risk management procedures seek to identify, assess and rank risks in order to minimise, control and monitor the impact of potential uncertain events. One such example of management of risk is insurance practices. Through the economic trading of securing oneself against potential threat in the future, insurances create the possibility of using monetary values to secure life against risk. Governmental technologies such as insurance have been seen to inhabit the utopia of a society of pure, economic values that can be assessed through economic calculation (Ewald 1991; Aradau *et al.* 2008; Lobo-Guerrero 2014).

A framework of biopolitics enables to investigate how the vulnerability of life processes is regulated through such ‘mechanisms of security’ (Gordon 1991: 20), the aim being to optimise life (Foucault 2003: 246) and reduce the statistically abnormal or deviant through governmental techniques (Salter 2008). Such practices of risk management reframe society (and identity) through rendering the “things” and people that society is made up of transactional. These practices that govern the social through insurances, calculation of probabilities and estimates for future risk are primarily targeting the overall generality of the population. Through statistical measurements and oversight, it is possible to conclude, for example, that in India the “poor face more risks than the well-off, but more importantly they are more vulnerable to the same risk” (Committee on financial inclusion 2008: 96). Therefore it is seen as necessary in the present to insure the poor against such risks, dealing with the probable now, and specifying and implementing means to lessen the precarious variables the poor pose to the overall Indian population.

The theoretical frame offered in critical studies of risk management allow me to explore how biometric tools enable a tracking and tracing of individual movement and the aggregation of data on flows of both people and currency. This entails that a governmental rationale behind- and material potentiality of - a national biometric system is that through data one can map the present and draw predictions about the future. The life readable through the machine – a ‘technologised’ or “informationalized” (van der Ploeg 2003) body - is a verifiable, mathematically composed reality (Aas 2006) that can be tracked, traced, measured and compared.

In order to measure objects of security in relation to threats, a specific form of life is necessary: one that can be valued in economic terms (see Lobo-Guerrero 2014). Thus, whereas, on the one hand, such practices seek to govern the risk and uncertainty of the population, on the other hand they also discipline the individual according to a logic of risk. As the individual has to take part in a system based on neoliberal market values, future risks – whether related to farming, health or life- are to be valued in economic terms and assured for in the present. A neoliberal and entrepreneurial rationality guides the governing of the self, making personal identities amenable to calculative practices, leading to what one might call a “capitalization of the meaning of life” (Burchell 1991:44).

Through the framework of biopolitics and risk, the Indian case can be read against such practices of risk management. The Unique Identification number will connect various silos of information (health, education, bank details, etc.) on the individual and enable the building of an:

[...] historical data base on risk profiles, claims, settlement ratios, etc., [which] will facilitate in better pricing of products, based on actual rather than presumed risks. [...] The IRDA [Insurance Regulatory and Development Authority] and the Government should help in provision of data such as human mortality and morbidity, weather parameters and livestock mortality/morbidity, on a timely, large sample and regular basis. (Committee on Finance 2008: 101)

Here, risk is rendered calculable through techniques such as overall statistics and probabilities, measuring the overall distribution of contingency. In the Unique Identification system, the value of contingency is distributed via access to the economic system and credit: “[...] savings and insurance protect the poor against potentially ruinous events — illness, loss of employment, droughts, and crop failures” (UIDAI 2010a: ii). Whereas there will always be a certain number of poor and unfortunate people, the biometric system shall facilitate a lessening of the number of economically poor, a maximisation of their potentiality, and, most of all a management of the risks that threaten them, posed by not knowing their means of savings, insurances, state of health, etc. The solution to poverty is not to eradicate the *causes* of poverty

and vulnerability, but to calculate the potential risk of poverty and vulnerability to the population and eradicate the overall generality of risk through various insurance and credit schemes. Micro-insurance, for example, will “provide greater economic and psychological security to the poor as it reduces exposure to multiple risks and cushions the impact of a disaster” (Committee on financial inclusion 2008: 96).

I draw on the combined framework of risk studies and biopolitics in several of the articles of the dissertation. In Article 2 and 4, I utilise this framework to analyse how the biometric system allows for an overview of both people and monetary flows, and furthermore a filtering of such flows. In Article 2, I furthermore utilise a framework of risk analysis to investigate the changing notions of threat and security practices in India’s governing of contingencies. A focus on risk has also guided Article 1, 3 and 4 and the analysis of the Unique Identification System as a project that will facilitate financial inclusion of the ‘margins’ of the market economy.

### Limits of governmentality theory?

In international relations, scholarly debates have focussed on the question of the generality of governmentality theory, and its applicability to heterogeneous contexts (see Joseph 2010a,b, 2012; Selby 2007; Thomas 2014). It has also been questioned to what extent Foucault’s theoretical tools and concepts can be useful frameworks for studying phenomena and governmental rationalities outside of Europe, in particular as he scarcely commented on power relations in the colony (Death 2011; see also Legg 2007). In addressing the three research questions of the dissertation, this problematic remains central, and I have carefully utilised governmentality theory as a means rather than an end. This means that I have first of all drawn upon scholarly works that both utilise and critique a governmentality framework in their analysis of the post-colony (Breckenridge 2005, 2014; Ghertner 2010; Mezzadra *et al.* 2013). I have in particular relied on scholars writing on South Asia and India, who discuss the limits as well as productive utilisation of such a framework (Corbridge 2005; Jha *et al.* 2013).

Another issue that has widely been debated, is the limits to governmentality theory for accounting for localised practices of resistance, agency and appropriation of governmental rationales and technologies of power (see Bachman 2010; Hansson *et al.* 2015). Governmentality scholars have had an inclined bias to focus primarily on the rationalities and technologies of government and less on the tactics and strategies of local enactment (Merlingen 2006). Yet, paradoxically, by focussing on regulatory practices and neglecting “practices and challenges to the envisioned ‘strategies of rule’”, scholars

thereby end up confirming the logic of such governmental schemes through assuming their coherence and universal effects (Bachman 2010: 21). This bias can be traced on the one hand through the choice of focus, and secondly, in the choice of methodology and the understanding and utilisation of methods in the relation to objects of study (see Hansson *et al* 2015; Aradau *et al* 2015).

In the dissertation I agree with scholars that call for a broadening and expansion in the focus of governmentality studies. The dissertation advances the utilisation of governmentality theory to include a focus on strategies of local appropriation. Merlingen (2006:190) reminds us that “inscribed in governmentality theory is an ontology that emphasises the likelihood of resistance and the reversibility of power relations”. Indeed, resistance and subjective self constitution is also at the heart of Foucault’s notion of power, as his widely cited quote implies: “Where there is power, there is resistance, and yet, or rather consequently, this resistance is never in a position of exteriority in relation to power” (Foucault 1990: 95-6). Several thinkers have brought to the fore the problematic that this poses for Foucault in his later work (c.f. Armstrong 2008; Butler 1995; Nealon 2008; Žižek 1999). Nealon (2008: 104) suggests that rather than beginning with an analysis of power, and questioning the subjects capacity (or agency) to resist power, we should take resistance as a starting point, “... precisely because, in Foucault, the power relation literally emerges through antagonism or struggle.”

This latter understanding of the notion of power and subjecthood implied in a governmentality theory has guided the concluding articles of the dissertation. I have explicitly analysed the various forms of antagonisms, fractures and tensions that emerged in narratives on biometric identification. Whereas the first part of the dissertation (Articles 1-3) is concerned with the rationalities and technologies of biometric identification in India, the latter (Articles 4-6) investigate the various forms and strategies of appropriation and subversion that emerge as expected results of the implementation of the governmental scheme. At the same time, these articles extend the limits of governmentality studies, as I engage with a focus and choice of methods – such as embodied and narrative aspects of identity and identification- that oftentimes escape studies on governmentalities (Ajana 2013) (see Chapter 3).

## Postcolonial governmentality

A number was, for the British, a particular form of certainty to be held on to in a strange world ...

(Cohn 1996: 8)

The colonial and post-colonial history of India reveals a range of perplexing continuities, contradictions and complexities regarding the relationship between scientific reason and the Indian subject (Prakash 1999). Drawing from the above insights of Cohn and his reflexion on British colonial practice – which included the census and several other ways of classifying and counting the population - one can in similar ways observe that contemporary biometric practice has become a “particular form of certainty” that governments, private companies, corporations and security providers hold on to in a messy and unpredictable world. The development of fingerprinting as a means to establish scientific certainty about individuals’ identity and the mathematical representation that such practices enable have made biometric identification central to both colonial as well as contemporary governmental strategies (see Breckenridge 2014).

While researching post-colonial contexts, employing governmentality theory can be a means of studying how practices of identification and surveillance are part of conglomerated histories and associated developments across the “colonial divide” (Bhattacharya 2009: 10; see also Jacobsen and Lidén 2012). One line of investigation has been to follow the ways in which governmental and biopolitical strategies were implemented in the colony and later brought back to the ‘home’ countries. Whereas in the Europe of the 19th-century, governmental strategies led to institutional segregation (in prisons, hospitals, insane asylums) of those defined by various sciences and truth-telling mechanisms as ‘abnormal’, such practices were simultaneously performed in the colony (Kalpagam 2000; Prakash 1999; see also Lidén and Jacobsen 2015, forthcoming).

Using the toolbox of governmentality theory, Venn (2009) studies the “transcolonial genealogy” of neoliberal capitalism to study inequality and the link between colonial rule and the emergence of the liberal market economy. Others have demonstrated how in post-colonial India, governmental practices preceded the foundation of the nation-state (and citizenship) and subsequently incorporated these into the postcolonial state (Chatterjee 2004; Prakash 1999). These strategies assembled and made intelligible categories of knowledge and authorised them through expert ‘truths’, “thereby making the population amenable to technical intervention. Through categorizing the population, mechanisms such as the census further engrained targets of governmental intervention into the sociopolitical structure of the state” (Lidén and Jacobsen, 2015, forthcoming).

I draw on the genealogy of biometric identification practice in Article 1, 5 and 6 to investigate how the contemporary practice of fingerprinting and its relation to rationalities of government - that seek to prevent fraud and ex-

clude dangerous individuals, yet also have a truthful means of identification as a foundation for welfare and commercial activities –dates back to the historical roots of colonial India. Whereas the digital nature of contemporary IDs increase and extend the conditions of possibility to govern conduct far beyond those practised in the colony, a post-colonial framework for the investigation of contemporary ID practice enables a focus on continuation both of rationales and practices as well as the way in which such technologies of government have been appropriated.

### Appropriation

Postcolonial analysis has shown that seemingly coherent rationalities and practices of governance translate very differently in the variety of contexts in which they are implemented. Whereas the discourses and programs of the state, international organisations and multiple private and public actors speak universalising languages of development, financial inclusion, or promote technological and technocratic solutions to socio-political problems, the actual sites of policy implementation suppress, make irrelevant or reorganise these logics and practices. This way of looking at the Indian biometric project opens the potential to analyse biometric identification governance as sites, moments, or practices that are at the same time part of traditional ways of seeing and constructing the world, and at the same time inappropriate to, for example, normative frames of analysis. In the dissertation I have utilised the concept of appropriation to describe such processes of local enactment.

In studies of colonial power and the state, the word *appropriation* has mostly been utilised in relation to colonial conquest. It is understood as the strategies in which a dominant imperial power “incorporates as its own territory or culture that it surveys or invades” (Ashcroft *et al* 1998: 19). This process of (racial) othering situates the coloniser and the colonised in a hierarchical power relationship. Yet, the domination of the coloniser is achieved through covering and effacing the very process of appropriation of the land and culture of the colonised, by appealing to, on the one hand, the lack of the colonial subject, and secondly, strategies of amelioration. In the words of Spurr (1993: 28):

This appeal might take the form of chaos that calls for restoration of order, of absence that calls for affirming presence, of natural abundance that awaits the creative hand of technology. Colonial discourse thus transfers the locus of desire onto the colonized object itself. It appropriates territory, while it also appropriates the means by which such acts of appropriation are to be understood.

Central to this understanding of appropriation is the role of discourse and language, and the production of knowledge over land and the colonial subject (Said 1978). Representation of the colonial other in literature, academia and

institutional practices defined the colonised in relation to a superior European norm, thus creating binary oppositions that strengthened the logic of domination (i.e. irrational/rational, primitive/modern and timeless/enlightened) (*ibid.*; King 1999).

The centrality of language and knowledge in the process of colonialisation has furthermore been essential to postcolonial studies of power. Here, appropriation has emerged as a concept within studies of culture, language and textuality (Ashcroft *et al.* 2003; Ashley and Plesch 2002; Bataille 2001). Such studies have sought to counter the power relationships created through dominant discourses. Here, appropriation means the following:

... the ways in which post-colonial societies take over those aspects of the imperial culture- language, forms of writing, film, theatre, even modes of thought and arguments such as rationalism, logic and analysis- that may be of use to them in articulating their own social and cultural identities. ... the ways in which the dominated or colonized culture can use the tools of the dominant discourse to resist its political or cultural control (Ashcroft *et al.* 1998: 19).

Rather than situating appropriation in the hands of a dominating power, appropriation here takes the form of practices and discourses of resistance, agency and subversion of the knowledge assemblies that lead to domination. This is also an undertaking of reinventing and reclaiming identities and a process of subjective self-constitution. Scholars such as those represented by the Subaltern Studies collective (see Spivak 1988; Chakrabarty 1992, 2002; Guha 1982; Pandey 2000; Prakash 1999) have been forerunners in developing theory and methodological frameworks for studying such (self)representations of Indian peasantry and marginalised groups.

#### Appropriation as destabilisation and disruption

In this dissertation I have utilised the concept of appropriation to take on an additional meaning, belonging to the sites and spaces where governmental schemes are subverted, altered or modified in order to be utilised to benefit local contexts (see Bachman 2010). Here, appropriation can be described as the utilisation of governmental rationales and tools for ones own ends- either as intentional subversion of governmental rationales, or as unexpected events occurring in contexts of enactment. Appropriation is understood as an integral feature of power relations, one which is not an accidental occurrence and exception to governmental strategies, but rather part and parcel of the process and context of action of the technologies of power.

Several authors have written about such practices of appropriation in India, albeit utilising a different conceptual explanation for these processes.<sup>2</sup> These insights have been useful for my theoretical framing of appropriation as a process of local subversion of both practices that seek to govern conduct, and as a destabilisation of normative governing frameworks. They are particularly solid ethnographic studies of the negotiations that take place in spaces where authority and local appropriation meets. Jonathan Shapiro Anjaria (2006, 2011) writes about the lives and experiences of street hawkers in Mumbai, and their daily negotiation in their meetings with officials. Public discourses on hawking frame their activities as a “nuisance” – a status and concern which originated in the colonial era - and their status is often conflated with criminal activities. Whilst the hawkers activities are seen as illegal, they still meet on an everyday basis with representatives of the state, and they have to constantly negotiate their work and security in these encounters.

Anjaria’s analysis of the lives of the hawkers provides a detailed and thorough understanding of the ways in which power and identification is negotiated in urban spaces. He shows that in their everyday encounter with state functionaries, the hawkers appropriate governmental rationales and normative notions of order and practices of illegality in an urban space (i.e. through practices and negotiations over bribes). In fact, he argues (2011: 58):

Negotiations such as these constitute a world of engagement with the state that is irreducible to a single rationality of rule while, at the same time, they reveal the limitations of normative notions of urban governance. More than just a corruption of how states ought to work, these arrangements enable substantive rights to city space, showing that power not only objectifies but also that it is dynamically inhabited.

The hawkers, rather than being passive recipients of their status as illegal subjects, are continuously negotiating their role as active and rightful workers in the urban space. In her study of “water mafias” in Bangalore, Malini Ranganathan (2014) argues along similar lines. She contends that rather than a focus on the dualistic framework of good governance and corruption, one should investigate the multiple meanings and practices of the operators who extract and deliver groundwater in Indian cities. To her, the practices of these actors shows various forms of authority existing in the urban landscape: “... the extension of mafia power can be explained not only by the negotiation of boundaries between state and society, public and private, and formal and informal, but also by multiple political strategies mafias deploy ranging from the coercive to the civic ...” (2014:102).

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<sup>2</sup> I would like to thank Ursula Rao and Tarangini Sriraman for their insightful pointers regarding studies of appropriation in the Indian context.



In another study (2012), Ranganathan draws on fieldwork studying e-governance initiatives on public grievance in Karnataka, and situates the scheme in relation to other programmes of neo-liberal reform. She argues that the way in which the citizen is addressed and expected to behave in relation to the e-governance scheme leads to a change in the contractual norms between the municipality and the citizen, a relationship that ends up being framed as between the individual 'customer' and 'service provider' and which changes the strategies groups and individuals utilize for addressing their grievances.

Indeed, it is in such ethnographic studies of the various negotiations that take place in the meeting with state authorities, informal authorities, bureaucracies, groups that claim rights in the public space, and individuals, that interesting studies emerge regarding the myriads of practices and discourses of appropriation that take place daily in India. Here, one also has to mention Akhil Gupta's (2012) study on the everyday practices of Indian bureaucracy in antipoverty programmes – such as recording, writing, reporting, filing and taking bribes. Gupta places these bureaucratic practices within a framework of biopolitics and structural violence, as he shows how people negotiate meetings with state representatives. Here, too, the fieldwork testifies the multiple ways in which people daily appropriate governing logics in order to get access to basic features of livelihood.

These abovementioned studies all bear a similar theoretical commitment, that is, studying normative governmental practices and rationales from the local narrative and contextual point of view. They examine judgements about 'good governance' and 'moral behaviour' through the lens of the lived meanings of daily activities. Similarly, Arild Engelsen Ruud, in his fieldwork on practices of corruption in West Bengal, argues that:

From a culturally sensitive point of view it can be argued that the focus on corruption as a 'problem' in the developing world prevents us from understanding that these are practices developed within a fully mature normative system of no less moral validity than any other normative system. Moreover, the focus on the corrupt act as an isolated object for study disregards the parallels in other social practices (2000:271).

Such an approach to the study of practices of appropriation allows for a nuanced picture of, for example, the act of corruption. In this dissertation I have followed the abovementioned scholars in my study of biometric registration and narrations of biometric IDs, as I seek to understand how biometric IDs – and the practices and narratives of fraud and subversion that accompany ID schemes- are understood and utilised locally. Here, a governmentality framework has not been redundant, rather a theoretical starting point based on an analysis of power through its normative claims and practices of amendment, that enables an analytical starting point to study the narratives

and strategies of appropriation of the persons that ultimately are targeted by the UID scheme.

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## Researching biometric IDs

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### Introduction

This chapter outlines the methodological framework and the methods that were used in the fieldwork that took place in India during several longer stays between 2011 and 2014 (see Appendix 1). In the field research I investigated the implementation of the UID and the ways in which the governmental practice of biometric identification translates in the context of India. Firstly, the chapter clarifies the methodological framework and describes how a continuous reflection on the methodology and its relation to the empirical reality that was studied guided the choice of methods in the field.

Secondly, the chapter explains the three main methods, that is, the study of governmental rationales and discourse analysis, narrative interviews and observation of enrolment sites. The main aim of the methods of field research was to, on the one hand, investigate the principle rationales behind the implementation of biometric identification, and on the other hand to investigate how such identification practices are utilised and appropriated by the individuals enrolled into the scheme. Thirdly, I explain the reflexive process of fieldwork as well as the role of the researcher in the field in a section on ethical considerations. The chapter finally ends with a discussion on the limitations and delimitations in the choice of topics and empirical studies.

### Studying biometric identification

The methodological framework had to enable both an analysis of rationales (research question 1), conditions of possibility of directing conduct (research question 2) and local appropriations (research question 3). In order to, look at the conditions of the emergent biometric scheme, on the one hand, and investigate the ways in which the scheme was utilised and appropriated, on the other hand, I chose to use a multi-sited fieldwork approach (see Marcus 1995). This meant that I did interviews in more than one location, and in different spaces. The methodological approach combined second-hand data

gathering (official documents, websites, mass-media, etc.), semi-structured and open-ended interviews, observation of biometric enrolment sites, and narrative enquiry (Creswell 1998; Hollway and Jefferson 2000). Textual data was collected mainly from websites, published and unpublished documents and reports, and further supplemented by secondary literature.

In India, I conducted a total of 75 open ended or semi-structured interviews and observed several enrolment sites (see Appendix 1). By juxtaposing data from observation at enrolment sites, interviews with people who had been enrolled into the scheme, and interviews with the discourse of policy makers, planners and stakeholders in the UID network I thus aimed to shed light on the perspectives of a range of stakeholders in the scheme, and the contradictions between governance designs and realities on the ground. The primary sites for my fieldwork were the capital of India, New Delhi, and the temple town of Vrindavan in Uttar Pradesh. However, I also conducted interviews and observation at enrolment sites in the cities of Bangalore, Varanasi and Pondicherry. Below is a description of the fieldwork sites and explanations for my choice to focus on these particular spaces in India.

### **The field sites: New Delhi and Vrindavan**

As the capital of India, New Delhi is a globalising city that has experienced tremendous change and expansion in the last two decades. Today, the urban area of Delhi includes a larger ring of urbanised centres in neighbouring states, including that of NOIDA and Ghaziabad in Uttar Pradesh, and Gurgaon and Faridabad in Haryana. Together, this “conurbation’s population can be estimated in 2010 at around 24 million inhabitants, thus placing Delhi as India’s largest metropolis (ahead of greater Mumbai at 21 million) and as a megacity that ranks among the largest on the planet” (Dupont 2011: 7).

The governmental desire to make Delhi a global city is seen in the strategies to form and modernise its landscape. At the same time, the socio-economical differences between different strata of the population make it an interesting site for studying the emergence of biometric IDs. In Delhi, I conducted three different sets of interviews. The first was the interviews of NGO workers and people working in homeless shelters regarding the survey and biometric enrolment of the homeless in Delhi (Article 1). The second was a number of interviews in Delhi and the nearby NOIDA conducted together with Geeta Patel-Weston, and interviews at the UIDAI headquarters, which were important to the analysis of governing rationales studied in Article 1. I also conducted most of the interviews for Article 4 with Indian bankers in Delhi and NOIDA.

In addition to fieldwork in Delhi, I also did a substantiated part of my interviews and observation in Vrindavan. Situated in the state of Uttar Pradesh, about 160 km from Delhi, the temple town of Vrindavan is situated on the banks of the river Yamuna. With more than 5000 temples, the town is a central point for pilgrims and spiritual seekers both from India and abroad. In recent years, the town has also experienced an influx of visitors, and the urban landscape is changing rapidly. It has furthermore been connected with New Delhi, by the Yamuna expressway, thus shortening the distance from India's capital both in terms of geography, but also with regards to modernisation.

At the same time, Vrindavan can be seen as part of India's periphery, as the smaller Indian town has poor infrastructure (reminding one of Old Delhi) and low employment rates. Vrindavan is therefore an interesting site for studying the various ways in which people at the margins are targeted through state and private technology founded schemes, as well as how people narrate these developments in their own home city. In Vrindavan I conducted interviews with people classified by the state as below poverty line, most of them who had already been enrolled in the UID. These interviews texts were foundations for the short story (Article 5) on biometric enrolment, and Article 6 on narratives on fraud and impersonation.

I furthermore conducted smaller studies in the South-Indian cities of Pondicherry and Bangalore, and the temple town Varanasi. In these latter cities I primarily conducted interviews with NGOs, and visited biometric enrolment sites. Through studying the biometric scheme in three different spaces of biometric implementation (survey of homeless in Delhi, Article 1; KYC norms in Indian banks, Article 4; and narratives of enrolment in Vrindavan, Article 5 and 6) I investigated the various and differing negotiations that take place – in different contexts- between the standardising and universalising rationales of biometric IDs and the conditions of possibility that biometric enactment enables. Thus my fieldwork could be seen as a way of “following the rationale” and experience of biometric application in different sites.<sup>3</sup>

### Governmental rationales

As the first objective was to understand the rationales of national biometric identification in India, I began my research by collecting material on the development of Indian biometric IDs. Studies of governmentality often begin with an analysis of the rationalities that found a certain governmental action, event or controversy (see Dean 1999; Walters 2012), and analyse the

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<sup>3</sup> Marcus (1995) differentiates between different modes of constructing multi-sited (ethnographic) fieldwork, including those that are following “things”, people, stories, biographies, conflicts, etc.

processes by which they emerge, their strategies, proposals, politics and programmes. The first research question of the dissertation addresses rationales, truth/claims and knowledge that found governmental schemes. I wanted to investigate what the primary reasons for introducing a national biometric identification scheme in India were, which subjects were primarily targeted in the various discourses on biometric IDs, and the underlying logic of such identification practice. Thus, I asked, *what are the governmental rationales of biometric identification in India?*

In order to answer this question, I began with the gathering and analysis of official documents, reports, websites, news items, in particular on past and present biometric ID schemes – i.e. the National Population Register and the Unique Identification Scheme, and on the digitalisation of Indian governance, as well as secondary literature on biometric IDs. I furthermore coupled this information with similar material on national biometric schemes in other countries, which gave a comparative lens by which to view the Indian scheme. This material was supported with interviews in India with persons who either had an official status in the UIDAI, or with persons researching the UID scheme.

During the first stage of field-work, I conducted a number of semi-structured interviews with different individuals that study biometric identification of Indians, and about issues regarding privacy, data protection and changing frameworks of such in the Indian legal landscape, in order to get an overview of the state of the art of current research, as well as of the various cases of technology in Indian governance that are relevant for the dissertation. I furthermore visited the Centre for Internet and Society and the Centre for Society and Culture in Bangalore, as these are two of the main centres that have on-going research on the digitalisation of Indian governance and the various societal and political impacts of such. The centres are situated in the city that is one of the centres of the Indian software industry - several observers have called Bangalore “India’s Silicon Valley” (Parthasarathy 2004: 665). These interviews and conversations gave a rich foundation for understanding the multiple rationales that supported biometric identification.

Throughout the dissertation period I participated in several workshops and conferences and continued interviewing researchers who are working on the digitalisation of Indian governance, and who were studying the directions in which national biometric IDs were going. I combined my research for research question one, on rationales, with question two, *how does national biometric identification shape the conditions of possibility for governing the conduct of the population and individuals?* I gathered material on the potentialities of biometric systems, spoke to experts on the issue of biometric IDs

and attended several conferences on the matter. Together with other researchers in India working on the issue of digital governance and privacy, I also presented a conference paper on the topic of national biometric IDs and societal and ethical reflections.<sup>4</sup> I later co-authored a policy brief on the Indian ID scheme (Jacobsen and Vij 2013).

### *Analysing discourses*

In addition to the interview material, the different official documents from the UIDAI, software companies, the Indian government, banks and other actors in the national identification project in India, together with posters, information from websites and news articles, were all analysed through the methods of discourse analysis. Central to the study of governing rationales is the analysis of discourse. Discourse can be defined as a “certain way of talking about and understanding the world” (or a fraction of the world) (Winther Jørgensen and Phillips 1999: 1), and analysing discourses is a way of investigating how the world is discussed and statements about it made (Jackson 2005). An analysis of discourse has as a primary aim to investigate the knowledges contained in discourse, and the interconnection between power/knowledge complexes and power relations. In a framework of critical discourse analysis, researchers ask questions such as “What is valid knowledge at a certain place and a certain time?”, “How does this knowledge arise ...”, and “What function does it have for constituting subjects?” (Jäger and Maier 2009: 34).

Through analysis of the discourses of official documents, websites and interview data, I was interested in the values and (targeted) subjectivities expressed in these discourses, rather than, say, a focus on actors and interests. I thus asked the texts, what are the main justifications for biometric IDs? What kinds of governmental problems are biometric IDs intended to solve (i.e. why are biometric IDs seen as necessary- and not another kind of ID system)? What are the value underpinnings of the statements regarding a need for national IDs? Who are the subjectivities classified and targeted in the discourses on Unique IDs?

Employing methods of critical discourse analysis (see Wodak and Meyer 2009) I analysed the various interviews and written texts as composite of the reality of the emergence of the biometric scheme. First, I traced the main discourses that founded the scheme. This was done both quantitatively and qualitatively. I would quantitatively look for repetitions in words and statements, and qualitatively place them in the larger context of the documents or

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<sup>4</sup> Jacobsen, E. K. U. 2012. *Ethical and Societal Implications of National Biometric Identification*, The High Level Privacy Conclave, New Delhi, February 2-3, 2012.

texts in which the words/statements were produced. I thereby looked both for general and concrete trends in the ways in which biometric identification was introduced, explained and justified. One example of this process was the tracing of the justifications for national biometric IDs that I conducted in Article 1, where I investigated three contexts within which the biometric project emerged: India's Home Ministry, the Unique Identification Authority of India and a project focusing on the biometric identification of homeless people in Delhi. Here, I argue that the practice of biometric identification is produced as a solution to a wide range of governmental problems, both as a means of financial inclusion and as a method of surveillance.

Second, I focussed on the subjectivities that were produced in the different texts. I here investigated both the subjectivities of target populations for whom biometric identification was seen as a need, and also for the main stated beneficiaries of biometric IDs. These subjectivities were furthermore classified, i.e. were biometric IDs intended for societal categories (poor, deprived, marginalised), categories of a financial realm (bankers, for insurance holders or microfinance), a secured individual or a threat (illegal migrant, terrorist, fraudulent subject) or purely was the subject a technical entity (unique number, body, transactional ID)? One example of this is demonstrated in Article 6, where, based on the analysis of various documents and on interview material, I argue that the "fraudulent subject" is central to the process of introducing and implementing biometric IDs in India. Article 1 shows that the homeless population were one of the first "groups" to be targeted by the biometric scheme as they are narrated to constitute the "margins" of the reach of state welfare programmes, and I furthermore argue that biometric IDs are recounted to give a stable overview of these mobile targets of governance.

Further questions that I posed while studying discourses of documents and interviews was, how does discourse delimit the conditions of possibility of the employment of a technology? (i.e. how does it on the one hand represent how things are, how things have been, and on the other hand how things can or ought to be?) The imaginary inbuilt in the discourse, the representation of the world, brings about different conditions for the practice and employment of surveillance. This methodological approach enabled an overview of the separate and interconnected discourses that founded the emergence of biometric identification in India.

I analysed the various official documents, media reports and interview data of the "engineers" of the project (primarily conducted at the UIDAI headquarter) according to the abovementioned questions. Apart from documents that directly relate to Unique IDs, I also investigated a range of other docu-

ments that emerged as relevant for the emergence of biometric IDs- such as World Bank reports on Knowledge Development in India, documents on Microfinance and Financial Inclusion, and reports from the Software and Biometric industry. With these latter documents I looked for communalities in themes (such as financial inclusion, insurance, poverty alleviation) and juxtaposed these with the main official documents of the UIDAI and the Indian government.

### **Narrative methodology**

Whereas discourse analysis – and to some extent semi-structured interviews- were the main methods for the analysis of document texts, in order to address the relation between rationale (research question one) and conditions of possibility for directing conduct (research question two) and, furthermore, the potential for appropriation (research question three), I furthermore conducted a number of interviews with a narrative methodology framework. The main objective of narrative methodology is to make sense of people's experience of reality, their interpretation of the world around them and events (see Chase 2003; Atkinson 1998). Rather than asking for factual and rational explanations, a focus on narrative allows one to ask questions related to people's everyday life and autobiographical accounts. In such narratives, people can express conflicting understandings of reality; they can assemble and mediate the real and the imaginary, the past and present, without a linear coherence (White 1987). Because of this open aim of narrative methodology, the format of narratives can include a wide range of forms, including conversations and news items (Jovchelovitch and Bauer 2000).

As the aim of narrative methodology is to analyse people's experience of the reality in which they live, such an approach is bound to be flexible. The interview or conversational structure is open, in order to allow for a variety of stories to emerge. I was particularly interested in how people imagined biometric IDs, how they related to the process of fingerprinting and iris scan, how they related to the main governmental rationales that I discerned through asking the first research question (discourses of fraud, truthful subjects, financial inclusion and the need for ID proofs), where they imagined the biometric data went and what they thought it would be used for. In addition to tape-recording each interview (see also section on Ethical Issues), when conducting interviews, or when having conversations, I kept notes of the topics in which I would like to have covered, but I did not keep a structured format for the interviews. I kept updating my field notes, as I realised that some questions worked better than others, and also as events would emerge in

peoples narrations of biometric IDs, I could ask others about those same events and compare how they had experienced these events.

The interviews took place in a variety of settings- in people's offices (banks, insurance agencies, clerks), in small shops in the local bazaars of Vrindavan or NOIDA, at times over a *chai* (tea) in someone's home, in enrolment centres and schools, in homeless shelters and on the street, while walking to or from a destination. When interviewing fellow researchers, activists and official representatives of the UIDAI, I would conduct semi-structured interviews. However, I also at times used a narrative approach when I interviewed official representatives of the UIDAI, or bankers, that is, rather than asking questions regarding the factual emergence of the biometric scheme and the reasons for KYCs, I asked more open ended – and at times naïve (see also DeWalt and DeWalt 2011)- questions regarding what they thought of the scheme and its aims, their understanding of biometric tools in identification, how they imagined its future, etc. In this way, the interviews were personal stories that narrated peoples understanding of the rationales behind biometric identification, their imagination of what such IDs could be used for and their own utilisation of such IDs.

This approach to interviewing was at times challenging, as I risked getting lost in the material that I collected, and losing any structure. For this reason, it became important to continuously revise the open notes that I kept, so that the interviews, albeit open, were somehow comparable. After the first interviews, I could also see the limits of the material (for example most of the interviewees knew very little about the UID, and thus much of what they narrated was drawn from their idea of biometric IDs, not from actual experience of having IDs and utilising them). This helped make choices in terms of what topics I would focus on in the chapters (articles) of the dissertation, and how to direct my research.

I interviewed most of the narrators only once, apart from five narrators whom I frequently met, talked with and furthermore observed in their biometric enrolment process. These narrators would share the role of ID cards in general and in the context of their relationship with the state and private agencies, such as banks, in their everyday lives. Here, questions of temporality were central to the construction of their stories of the past, present and imagined future use of biometric IDs. Their understanding of the UID was bound to their usage and experience of identification papers and meeting with officials in the past, and their notion of what the biometric ID would be utilised for in the future.

As stated above, narratives are not here viewed as factual interpretations of the world, but rather as representations of the experienced reality of indi-



viduals. What is important here is the relationship between “fact” and “fiction”. Any projection about what biometric IDs will do in the future – official or personal- imply representations of an imagined future, and a subjectively experienced present. In a narrative story, the person narrates him or herself as characters in the context of their own everyday life, in relation to identification papers and authorities. Investigating such narrations of fraud, impersonation and biometric IDs in Article 5 and 6, I draw on the distinctions made between fact and fiction in narratives of identity, to argue that it is precisely in the narration and representation of ones identity that spaces for negotiation and appropriation are possible.

### Observation of enrolment sites

An important method of data collection was the observation of biometric registration. I conducted a number of sessions where I was attending the enrolment of UIDs, primarily in enrolment centres in private insurance agencies and open-air in parks in New Delhi and Vrindavan, or in government schools in Vrindavan and Bangalore. When I would spend time in these different spaces, I would situate myself as an active observer of the enrolment. That meant having conversations with the operators of the enrolment regarding the procedure and the digitalised method that they used. If an error occurred, there would be conversations regarding the process of enrolment and the potential problems that could happen. I also spoke to the persons that were being enrolled, about why they were getting the UID, how they got to know about it, and what their expectations were with regards to benefits of its usage.

In witnessing the enrolment of Indian residents into the UID I could observe the dynamics of biometric identification in practice, and notice the details of such procedures (in Article 5 I draw on this experience). At times, I would accompany a person when he/she would go to get enrolled, and follow the entire process from the anticipation when travelling to the centre, the lining up, registration and narration of the experience post- enrolment. Furthermore, in some of the enrolment sites that I visited, I placed myself in the centre of the process, asking if I could get enrolled, if not, why, and as such steering a conversation regarding questions of citizenship and the truthful, Indian subject. In such processes, I scrutinised the question of who I was as a researcher and my role in the process of observing and interviewing. Rather than having a neutral position in the enrolment process, my presence influenced these procedures and as such the observations that I made were co-constructed with the persons I interviewed (see also below section on the role of the researcher).

In the observation of enrolment centres I collected different forms of data. One set of data was the actual conversations and interviews that were conducted during the time spent in such centres. Participant observation is very much about “taking part”, and much of the data that was collected consisted of images (both actual photographs, but also mental images), sounds, events, humorous or challenging situations and documents (such as enrolment forms). I wrote a diary of each observation, which was kept for reference. Apart from the interviews, which were used in many of the articles of the compilation dissertation, the other forms of observation rather than giving me a clear empirical structure for utilisation, gave me an important understanding and insight into the process of biometric registration and the various opinions and imaginations that people had about biometric enrolment and biometric IDs. I could make direct use of this material in Article 5, where I describe the fictitious enrolment of Ananya and Polas, and many of the situations that emerged in the course of observation provided the background ideas and context for Article 6 on fraud and impersonation.

### Imagining biometric IDs

During the dissertation period I conducted numerous interviews with people in Vrindavan, New Delhi, NOIDA and Varanasi who were either already enrolled, or who would be enrolled, into the UID or NPR schemes (see Appendix 1). These interviews formed the basis for all articles of the dissertation. In several open-ended interviews, conversations and observation sessions at an enrolment site in the temple town Vrindavan, Uttar Pradesh, I asked the interviewees questions regarding their own perception of the biometric enrolment, where the data is going, and then subsequent questions regarding their utilisation of other Indian ID schemes, such as the Below Poverty Line (BPL) scheme, Election cards and Drivers License. I furthermore asked questions regarding the relationship between biometric signifiers and identity, scientific certainty that arises with biometric identification, and their own understanding of their identity in relation to such a scheme.

In the autumn of 2011 I conducted the study that formed the main empirical material for Article 1, consisting of open-ended interviews with employees of the Mother NGO. I visited their office in the St Johns Hospital in North West of Delhi. The office consists of two old computers, in a large storage room of the hospital. In the back of the room of the office, the hospital had stored old X-ray scanners and other run down hospital equipment. I further conducted open-ended interviews at one of the homeless shelters in New Delhi where they have utilised biometric bank machines that allow the

homeless to use the banking system for saving money and transferring funds to their families who often live in rural parts of India.

In relation to this study, I visited several NGOs that work with the homeless and issues related with identification, and conducted semi-structured interviews regarding the rationale of identification of homeless. Because the intention of the study was to map the UID scheme, and focus on the governmental rationales of biometric identification, my research on the homeless is undoubtedly influenced by an analytical lens on the larger processes, at the expense of a deeper understanding of micro processes. I primarily spoke to the governing bodies – in this case the people running the homeless shelters and the various NGOs. Here, my interview questions were primarily related to the first and second research question of the dissertation, and I therefore asked the NGO workers about the rationales behind surveying and identification of the homeless, how the survey was conducted, what the targeted subjectivities were, what they believed would be the benefit of biometric IDs for the homeless, and the relationship between the everyday life of the homeless and ID proofs. In Article 1, I also draw from research by the Identity Project team in Bangalore, who have done in-depth studies on the perception and experiences of the homeless in relation to the ID scheme (Kumar 2012).

In the autumn of 2012, a number of open-ended interviews and conversations with people in NOIDA were conducted with another researcher, Geeta Patel-Weston, from the University of Virginia. We mainly set out three main research questions related to the Unique Identification Scheme: what do people know about the scheme and biometric identification? What benefits do they think that the scheme will bring them? And, how do they imagine and narrate biometric data and the transportation of digital data? Grappling with questions regarding the lack of information people have when registering their fingerprints with private or public agencies, my co-author and I worked our way up in the system. That is, we started off in NOIDA asking people in the neighbourhood of Sector 27 about their knowledge of the scheme and the places to enrol. As the aim of the study was to understand the UID as it is perceived and understood in various “localised” contexts, and to open up for a potentially muddled final depiction, the conversations were done in a “bottoms-up” and irregular manner. This meant, for example, that rather than making formal appointments –i.e. performing the role of a researcher- one would show up on a site as a regular person would do. Through “irregularising” the fieldwork itself, it became possible to see the national biometric scheme from the perspective of the localised site of the “everyday”; that is, a scheme which is for example understood differently from one end of the street in the busy bazaar of Noida sector 27 to the other. Then, we

moved up the scale, next interviewing two different enrolment agencies. Lastly, we went to the UIDAI headquarter in Delhi, and interviewed some of the people in key positions there. Interestingly, after having conducted this large amount of interviews, it was still not clear to us – or to the interviewees – what the purpose of large scale digitalisation of Indian biometric data is, and we found many differing narratives and imaginaries on who the data would serve.

This was a very interesting study which brought about a host of issues regarding space and place, the imagination of biometric data, peoples relationship with the government and private agencies, and furthermore the lack of information people have on the scheme even though they enrolled into it.<sup>5</sup> My co-author and I found the rationale and promise of the UID was that it would give mobility and allow residents in India to transact freely, open bank accounts in any location, and travel around India (Jacobsen and Patel-Weston 2013). Consequently, that people would no longer be subject to the constraints of space and place.

However, in co-authored conference papers we argued that a “feminist analysis of the conversations that we have collected from local communities, I.D. providers, banks and shops and other similar institutions, suggests something quite different. Almost everyone speaks about the politics of space, “jagaah,” when they describe their negotiations with the UID, their transactions concerning it, their hopes and fears for what this special number can and cannot offer” (Patel-Weston and Jacobsen 2012). The study was useful for thinking about how Unique IDs are utilised and how governmental rationales are appropriated in the contexts of enactment.

## Methodology and the study of appropriation

The question of method and methodology became important as I investigated narratives and practices of appropriation in relation to the UID. When studying the rationales and experiences of an emerging biometric scheme, I draw on several research literatures that investigate the challenges of studying standardised “global” phenomena in local “sites” of enactment (Marcus 1995; Ong and Collier 2005). The challenge lies in finding the right methodological tools for studying the processes that seek to regulate large populations, as well as targeting and disciplining individuals (Feldman 2011). As I show throughout the dissertation, the governmental rationales and enactments of biometric identification practice are globalised phenomena, and are in-

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<sup>5</sup> Unfortunately, due to miscommunication with my co-researcher, it did not result in a co-authored article in the dissertation, although we did present co-authored conference papers at two venues during the PhD period (Jacobsen and Patel-Weston 2012; Patel-Weston and Jacobsen 2013)

cluded in a global norms regime (such as development and aid agendas, as dealt with in Article 1, or KYC norms in the banking sector as I deal with in Article 4). Yet, at the same time, the ways in which the identification schemes are developed and implemented, as well as how they are experienced both by the implementers and the enrolled residents, varies depending on context and situational factors.

Therefore, whereas on the one hand the methodological approach required an analysis of discourses and rationales of biometric identification, analysing the emergence of biometric identification also demanded a focus on the localities of enactment. A number of scholarly works have applied ethnographic methodologies such as participant observation and open ended interviews when investigating the “sites” of emerging biometric projects in order to demonstrate the localised forms and power relationships that emerge (Rao 2013), the subjective experience of surveillance (Häkli 2007), and the counterstrategies of those targeted by biometric identification (Broeders and Engbersen 2007). These studies provide important insights into the study of biometric identification, as they show the localised processes that take place in biometric identification projects. However, they do not (due to choice of focus) provide methodological guidelines for the study of biometric IDs.

How to analyse the processes of localised appropriation? Analysing the UID through a framework of the Foucaultian *dispositif*, Thomas (2014) argues that in order to understand the complexity and unevenness of governmental rationalities and the technologies of enactment, it is productive to focus on the heterogeneity of governmental practices. He thus develops three methodological prescriptives:

- (i) heterogeneity, discursive and non-discursive elements are co-constitutive of technologies of governance; (ii) relationality, immanent relations between these elements, rather than freestanding ontologies, establish relations of power; and (iii) function, these relationalities can produce unexpected and anonymous practices that are nonetheless commensurate with aggregate-level responses to a strategic need.

According to this utilisation of the *dispositif* as a methodological prescriptive, one avenue for research is studying the discrepancy between the rationality of government schemes and the technologies of enactment. Thomas utilises this method, and concludes that because the technology fails to fulfil the intended goals of the government program (i.e. universal inclusion) by excluding certain persons (i.e. those that have unreadable fingerprints), the scheme “fails” (2014: 178). In this dissertation, I utilise a similar framework for the study of the digitalised IDs and utilisation of software, in that I investigate the rationales of the norms and standards that give rise to biometric identification, and the various ways in which the scheme is appropriated thereby producing “unexpected” results.

Whereas I agree with his methodological utilisation of the dispositive, I would argue that in the particular case of the UID, a focus on the exclusion of certain persons from the scheme is not an unexpected result, but rather a fact universal to all biometric applications and thus calculated into the governmental scheme itself. Furthermore, it misses a focus on human interaction and usage of such systems, which is central to practices of appropriation in biopolitical relationalities and the production of unpredicted results. Thus, whereas unexpected results can certainly happen as a consequence of the materiality of the unique ID project, my focus is on the human utilisation and appropriation of both the rationales and conditions of possibility for directing conduct of such systems.

This was demonstrated in the study of the usage of software tools in relation to Know Your Customer norms in the Indian banking sector, where Anthony Amicelle and I analysed the ways in which rationales and practices of customer identification in relation to a global financial norms regime is appropriated by individual bankers (Article 4). Here, we focussed on the daily practices of individual bankers and their narrations of their usage of software and identification practices on the one hand, and on the other hand their manoeuvring in relation to international anti money laundering norms. I also followed this line of inquiry in my study of biometric identification of the homeless (Article 1) and in the narratives on fraud (Article 6).

### Method as practice

The focus on multiple sites and utilisation of multiple methods allowed me to continuously scrutinise the methodological framework and its relation to theory. In recent years, a burgeoning literature on questions of method and methodology in the field of Critical Security Studies (CSS) (see Hönke and Müller 2012; Mutlu and Salter 2014; Salter and Mutlu 2013) has considered the role of method and methodology in research agendas, in particular with regard to studies of security threats and insecurities as products of social and political discourses and practices. A central concern has been the study of emerging and changing landscapes of security and insecurity, and the relationship between discourse, materiality, practice, assemblages and *dispositifs*. Because of the constructivist nature of this form of research, several CSS researchers do not look for prescriptive methodological frameworks to be directly “applied” in research agendas.

Instead, Aradau *et al* (2015) argue that the process of researching security and insecurity by CSS scholars can best be understood as a methodological *bricolage*, that is a “way of experimenting with an assemblage of concepts, methods and empirical objects” (7). Thus, they recast method as a form of

practice, differentiating the process from a more “hygienic” or “technical” approach that implies a coherent strategy and a hierarchical relationship between theory, methodology and method. This approach to methodology and method implies a continuously reflective process when studying emerging governmental schemes.

In Article 3, Burgess and I problematise the utilisation of scientific methods as straightforward and technical tools for assembling knowledge on the practice and implementation of surveillance schemes, as we stress the fact that researchers often utilise the same methods that they are seeking to investigate. In fact, tools such as mapping, surveying, statistical data gathering and analysis, and visual representation, are all methods of security and surveillance practice (Aradau *et al* 2015). In the same ways, postcolonial scholars have shown that seemingly neutral tools of data gathering utilised by social research, such as the census, have been highly political practices that have shaped both ethnic and social subjectivities (Gill 2007; Kalpagam 2000; Sarangi 2009).

These reflections on method and methodology were essential to my own research on biometric identification in India. Throughout the dissertation period, the movement between theory, methodology and methods applied in the field consisted of an ongoing reflection back and forth. As I deepened the empirical material, and analysed interview texts, I had to go back to the theoretical framework, revise and rethink, and this again led to changes in my methods. As I conducted my empirical studies, the nature of the process was indeed a *bricolage* of methods, rather than that of a traditional linear approach. I had to constantly revise and rethink my framework. This was acutely clear with regards to the utilisation of a governmentality theoretical framework and the choice of methods to study biometric identification (see Chapter 4).

As I delved deeper into the empirical material, I found that the various narratives and strategies of subversion, appropriation and mockery of governmental schemes, related back to my original framework and imperatively begged for conversion. This ultimately led to a change in my choice of methods (from semi-structured interviews to a narrative approach), and also in the choice of field sites. Whereas the first set of fieldwork interviews were mainly conducted in New Delhi, with questions of governmental rationalities and the potentialities embedded in a large surveillance system such as the UID, towards the latter half of the dissertation period I focussed on the various ways in which such rationales and practices are appropriated, one the one hand in Indian banks, and on the other in the narratives of inhabitants of the temple town Vrindavan.

## Ethical considerations

The dissertation was guided by ethical considerations throughout (see also Jacobsen 2012). Ethical challenges are at the heart of studies of new developments of biometric identification (Alterman 2003; Sprokkereef and Hert 2007; Wickins 2007; Mordini and Massari 2008; Mordini and Green 2009). The widespread and expanding usage of biometric tools into a variety of governmental domains including policing, border security and immigration controls, aid and welfare schemes, and online security (Kumar and Zhang 2010) has raised ethical and societal concerns in regards to privacy, data theft and civil liberty. Research on biometrics and digital governance furthermore raises several ethical questions, regarding the possibility of human rights violations, the production of new forms of in/exclusion through biometrics, and discrimination on the basis of biometric identification (Lyon 2007; Aas 2006; see also Jacobsen 2013).

The standardisation of biometric identification practices further raises ethical questions around the various ways in which (parts of) bodies become coded into abstracted data and read as information (Mordini and Massari 2008; van der Ploeg 2005). This practice removes the identification of a person from the societal context in which he/she is living (for example in regards to biometric ID in refugee and aid programs), as well as enabling advanced profiling of individuals. Digitalised biometric IDs can also lead to a commercialisation of personal data through various forms of function creep. Thus, an ethical evaluation of governance by biometrics may also involve a reflection on how the body is redefined through advanced identification technologies, and the societal and political implications of increasing usage of the technology in everyday identification practice.

Another issue continuously reflected upon was the issue of informed consent. As part of the practice of biometric enrolment, individuals have to consent to their data being digitally recoded (and thus also used for a variety of purposes). In a large number of interviews, I asked if the persons knew where their data went, what it would/could be used for, and interviewed them on topics related to their imagination of their relationship with the data and the database (“the computer”). I found it problematic that people are asked to consent to an issue that to a large extent is left to their imagination, and furthermore, as it is to date not clear what range of governance initiatives the data will be used for, their consent is not measurable to the actual usage of their personal information.

Ethical reflections consequently guided the research project throughout, and also informed the fieldwork. This was particularly relevant to issues of consent and anonymity (see Brydon 2006). When conducting research inter-



views, I was careful to ask for informed consent to use the interview data (and also for the most part these interviews were tape recorded). This meant that I explained to the person what the research project was about, what the interviews would be used for, and which institution I represented. In this process, I was conscious about the language, cultural and class barriers that could lead to misunderstandings. I made it clear to the interviewees that they did not have to participate, and only began interviews when I felt that the person had understood the context and consequence of the interview.

The researcher has the responsibility to keep the identity of participants private if they do not wish to be identified in the research output. There is always the question whether a person wants to stay anonymous, or if, in some cases, people wish to be acknowledged for their contribution to a research project (see Scheyvens *et al.* 2003). The informants have been kept anonymous throughout the dissertation, and I have changed their names, except in cases where the individuals are researchers or activists working on UID related themes and therefore wish to be cited in a correct manner. If a person held an official position as representative of authorities, NGOs or private agencies such as banks, I would simply refer to them by their capital letters (i.e. S.A.) and the organisation which they represented.

It is furthermore the researchers responsibility that narrative texts and information gathered in interviews is protected (Northey *et al.* 2012). The interview data was stored safely, and in cases when the data was shared (i.e. with a translator or a fellow co-author) the interviewees' names were omitted from the shared material. The confidentiality of those interviewed was thus kept throughout the research and writing process.

#### The role of the researcher: reflexivity in field research

The role of the researcher in the situatedness of an interview or an observation is of crucial importance when doing fieldwork. Questions regarding power and reflections on the ways in which the setting of the interview influences the perception of the narrator have been dealt with in depth by several strands of postcolonial, feminist and poststructuralist research (see Ackerly and True 2008; Guillemin and Gillam 2004; Hansson *et al.* 2015). Here, several questions are central, such as the (im)possibility to truly represent the reality of the narrator in reproduced accounts of their stories, the *habitus* of the researcher and the institutional baggage that the researcher brings with her in her work, how to bring language and the cultural and social barriers between the interviewee and the researcher, and questions regarding expectations towards the researcher (i.e. do the interviewees have the impression that

the researcher holds a position to help them with, for example, financial resources?) (see Sylvester 2015).

A thorough process of reflexivity was particularly important in the case of observation of enrolments (see Hume and Mulcock 2004). As I show in Article 5, the role of the researcher when conducting interviews and observation is that of a participating agent in the lives that one is seeking to write about. In the course of my interviews and observation with Polas and Ananya, the effect of my participation in the biometric enrolment process most likely led to Polas not being enrolled into the UID (at that particular visit). This event brought to the fore a range of questions regarding my own situatedness in the narrators lives, as well as how my presence affected the actual enrolment situations in general. When choosing to follow individuals in their enrolment process, my presence could affect the ways in which they were, or were not, recorded in the biometric system. I therefore clearly stated the potential consequence of my presence at the observation sites to the persons I was observing, and only followed individuals to an enrolment after having had several conversations with them over a time period of some days in advance.

Narrative methods do not seek to find the one true story about an issue or event, but rather reads the narratives that emerge as particular stories about particular issues at a particular time. The person conducting the interview has the responsibility to both present the stories as they are spoken, and to investigate and elaborate on the contexts in which they are spoken (Sylvester 2015). It became clear that I would not be able to observe all kinds of situations in an enrolment centre, as situations of appropriation were likely to appear less frequently when I was there. I could read the in-between, the tensions that happened due to my presence, as in the case of the enrolment of Polas, or the kinds of conversations that would emerge due to my presence as a foreigner. Yet, in many cases, these tensions did not occur, and I could observe the enrolment site without my presence interrupting the flow of the enrolment process.

In interview situations, the fact that I was a foreign researcher listening to narrations of biometric enrolment furthermore affected the kinds of stories that were told and the ways in which they were narrated. One example of this is found in Article 6, when the person I interviewed began conversations with others in the room, and the discussion turned to a debate whether I, as a foreigner, could get enrolled into the UID or not. Such events proved very useful for debates around citizenship, identity and belonging, and brought to the fore the multiple positioning that I had to negotiate as a researcher. I therefore had an ongoing reflexive process on how to be context sensitive. This especially concerned issues regarding my own cultural baggage, such as

cultural based assumptions and expectations on how the narrators would perceive biometric IDs, issues of citizenship or other sensitive topics. It also meant that I reflected on my physical presence in interview settings (even such issues as what clothes to wear and one's behaviour is very important here), and tried to be as context sensitive to my surroundings and the narrators as possible.

Another issue was the reflection on my own personal motivation for doing the research, as well as my research interest and how this affected the interview situation. There was no "how to" guide in relation to this ethical concern, but rather it entailed a reflection on the choices that I made both in terms of persons that I interviewed, but also the topics that I chose to focus on.

The different interviews and interview texts were treated as stories. Rather than perceiving them as a representation of reality, I understood them to be a representation of a lived reality of the interviewees. The reason why I chose such an approach was that because biometric IDs in India are still under development, much of the actuality of such identification practice are *de facto* left to peoples imagination. If I asked the interviewee, where will the biometric data go? Both her answer, and my own understanding of where such data is currently stored and how it is, or could be, shared, are not factual representations. At the same time, this mirrors the official story of national biometric IDs. To date, the line between what is a factual projection of what such IDs will do, and the projections of a fictional or imaginary understanding of what they can or will do, are only representations of Biometric Identification Schemes and their future impact.

The space between the imagination of what biometric IDs do in the present, and what such IDs could potentially do in the future, remained spaces that could be filled in the narrations of my interviewees, and through our conversations we thereby co-constructed a reality that sometimes was agreed upon and at times remained two differing realities. When I for example asked the housekeeper Satya in Delhi whether she thought that her fingerprints and the biometric system that read it would speak the truth, always, about her identity, in her imagination her fingerprints could never change, the computer was indisputably reliable, and thus she saw the relationship between herself and the computer as perpetual. Her understanding of biometric IDs was therefore important in discovering the relation between the governmental rationale of biometric IDs and the subjective experience of the process of registering ones digitised fingerprint in a database.

The process of interviewing was therefore a reflexive one, in which I positioned myself as taking part and co-constructing the stories that were told

(see Gluck and Patai 1991). Satya had not thought about where her “fingerprints would go”, for example, but when I asked her about this question she began a long thought process about the relationship between the image of her own fingerprint on the computer screen in the local school, the government that would have the fingerprints, and the policeman that potentially would stop her on the street to ask for her Unique ID. As I show in Article 6, such thought processes led to many different narrations which bound together such vast topics as truthfulness, fraud, immigration and insurance.

### Language and translation

In the first half of the fieldwork, when conducting interviews with Hindi speaking interviewees I was accompanied by a fellow researcher who spoke Hindi fluently, and, on some occasions, by a translator speaking both fluent English and Hindi. I did have enough proficiency to understand when and if my questions got lost in translation, and most of the time this process was not bound with severe complications of translation. Over time, my Hindi improved, and in the latter half of the dissertation period I conducted most of the interviews alone.

Still, the danger is always there that in the process of listening, translation, and transcription, meanings get lost, and nuances diminished. At times, points made by the narrators may have gotten “lost in translation” (see Bujra 2006). Nearly all of the interviews were tape-recorded, transcribed, and those conducted in Hindi were sent for professional translation. This process was more sensitive. In the process of translating from one language to another, meanings do get lost, and at times I had to return to the original Hindi version of a word to make sure that I had gotten the correct meaning meant by the narrator.

### Limitations and delimitations

In the course of writing the dissertation, certain choices have been made regarding which issues to include and focus on, how to narrow the focus of what I was writing about, and ultimately what to exclude. These delimitations have impacted the outcome of the dissertation, its empirical and methodological focus.

One such delimitation was the choice of doing multi-sited fieldwork. The advantages of focusing on these different spaces was that it allowed for an investigation of three different claims on which biometric IDs are founded—that of inclusion of marginal populations (homeless), financial mobility (banking) and fraud-free IDs (narratives on fraud). Studying three different contexts, and coupling these studies with additional analysis of official doc-

uments on the development and implementation of Unique IDs, news articles and secondary literature on biometric identification, made it possible to make both conceptual and theoretical arguments in relation to the implementation of national unique IDs. However, by choosing to follow the different sites, rather than doing an in-depth study of one singular space or logic of biometric execution, one could argue that the dissertation lost an element of depth with regards to detangling effects and experiences of biometric IDs. While recognising this potential shortcoming, due to the fact that the actual usage of biometric IDs in the Indian project is yet to be realised, I found it more important to focus on a multi-sited approach, than on the narrow focus of one “case study”.

I have also deliberately chosen not to focus on actors and interests in the implementation of biometric IDs. The dissertation does not contain of a general overview of the various actors that form part of what I in Article 1 are named the “UID assemblage” (although this Article is certainly an attempt at an overview of the emergence of the scheme, its rationales and governmental fields). Neither have I included a mapping of the different interests that actors have had. In the writing of this dissertation I have rather focused on governmental rationales and potentialities, and strategies of appropriation. This delimitation results in a reduced overview of the scheme for the reader. However, arguably, it also mirrors the reality and nature of the UID; an accumulation of discourses, fields of knowledge and practices that ultimately is experimental and in which, I would dare to maintain, no person has the complete overview.

### Privacy

Another clear delimitation that was made in the dissertation was the choice not to place emphasis on issues of privacy and data protection. Central to the large-scale digitisation of contemporary societies are questions regarding privacy and data protection. India is currently introducing a variety of digital governance projects unified under the National e-Governance Scheme (NeGS).<sup>6</sup> In addition to the UID, the digitisation includes a variety of surveillance systems such as the Centralised Monitoring System (CMS), the Telephone Call Interception System (TCIS), the National Population Register (NPR), the Crime and Criminal Tracking Network and Systems (CCTNS), and the National Intelligence Grid (NATGRID) (see Jayaram, 2014a; Jacobsen 2013). Currently, there is no clear framework for protecting individuals

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<sup>6</sup> These include those of Mission Mode Projects (MMPs), State Wide Area Networks (SWANs), Common Service Centers (CSCs), State Data Centers (SDCs) and the Online Management Monitoring and Accounting System (OMMAS).

and groups from the variety of misuses that such large-scale data collection and surveillance can lead to. India lacks robust privacy and data protection legislation (Jacobsen and Vij 2013; Jayaram 2014b). At the moment a number of legislations are being drafted and introduced in order to deal with the numerous challenges that the widespread digitisation of Indian governance implies. These include a draft Privacy Bill, an introduced IT Act (2008) and the Right to Information Act (2005).

A focus on the imperative issues of privacy and data protection could have demanded a much larger role in the dissertation overall. I chose not to focus on the legal dimension of the introduction of biometric IDs in India, mainly because there are to date several researchers, as well as organisations such as Privacy India, doing excellent work on this issue (see Greenleaf 2014; Jayaram 2014a, 2014b). A focus on privacy and data protection in India demands a comprehensive approach. Indeed, entire PhDs could (and should) be written solely on this issue. It is important to take into consideration here how privacy and rights are interpreted in varying cultural and political contexts, and the legal problematic of dealing with privacy as a concept. Central to the drafting of a legal framework for protection of peoples privacy and data in India are questions such as: What does privacy mean in the Indian context? What are the possibilities and shortcomings of legal amendments regarding privacy and data protection in addressing surveillance?

Throughout the process of writing the dissertation, I did engage with these issues, both in participation in conferences on data protection and privacy, and furthermore in the publication of the policy brief *India's national biometric ID scheme: legal and Policy Implications* (Jacobsen and Vij 2013). When researching the current reframing of Indian privacy and data protection frameworks, I also found it important to take into consideration the contestations that arise when seeking to find legal means of safeguarding individuals. This includes debates regarding the means of safeguarding of people in a changing environment, and the adeptness of concepts such as “trust”, “human rights” and “personhood” in a variety of social contexts. These are all imperative and interesting questions for contemporary and future research on biometric IDs in India.

### Fieldwork challenges

Several challenges emerged when studying the Unique Identification project in India. The first of these challenges was related to the fact that the project was under development during the entire dissertation period. As Burgess and I established in Article 3, it is tricky to study emerging surveillance schemes, because of the fact that one does not know what their utilisation

will be, and also to what extent their implementation will succeed. The unique identification scheme was being implemented throughout the years when writing the dissertation, and during its growth several changes and contentions emerged in the planning and development of the scheme.

It is perplexing to investigate a scheme in which objective and scope is yet to be determined. In fact, to date, it is not clear whether the project will ever be finished, and the degree to which it will be used both for welfare, commerce and security purposes (although, as I argue in Article 2, to date it is planned that it will be used for all three). It was hard to get hold of a rich official documentation on the plans of the execution of the project. Such documentation scarcely publicly exists due to the fact that the project itself is undergoing continuous changes, and, as I show in Article 1, there have been various contestations within the Indian government itself on the reach and purpose of the system. Secondly, because of the latter situation, twice during the dissertation period I received the news that the project (most likely) would be put on ice (see IBNlive 2014; The Financial Express 2014). This of course added to the difficulty of mapping the discourses and rationales of the governmental system, but also made it at times a challenge to investigate realities on the ground.

A second challenge relates to the fieldwork itself, and the studying of sites of implementation. The starting point of the dissertation was to investigate the various ways in which identification technologies in India are experienced and appropriated “on the ground”. I therefore wanted to investigate different experiences of the effects of biometric identification, such as the survey of Delhi’s homeless (Article 1), identification technologies in the banking system (Article 4), and narratives around the governmental rationale of a system that speaks scientific truth about the subject (Article 1, 2 and 6). However, due to the fact that the UID is under development, much of the actual effects of the system are not yet “experienced”. As a result, many of my interview questions centred on how people imagine Unique IDs, what they expect that they will do and how they imagine the data. I do think that the open-ended focus worked well in this regard, as they opened up different narrative foundations for imagining and narrating the UID, in relation to questions of subjectivity and appropriation. The interviews with bankers furthermore placed the issue of digitalised IDs in a larger context (that of international financial security norms).

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## Conclusion and findings

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### India's Unique IDs

This dissertation has investigated the implementation of national biometric IDs in India- the Unique Identification system. The name of the project, indicating the each individual will be distinctively identifiable, is unquestionably fitting because of its uniqueness and a contemporary governmental scheme that is unprecedented. India's project is unique because it is developing the largest biometric database in history, seeking to make biometric data a foundation for welfare, security and commercial projects in the entire country, and covering 20% of the world's population. It is also unique because it ties postcolonial histories of the origin of practices of fingerprinting to the most modernised forms of contemporary usage of the mathematical tool. It is unique because in India "everything is possible"- in this country the boundaries of the potentiality of technology are not bound by the imagination of its proponents or opponents: on the contrary, it is flourishing in a conviction in the unlimited potential of biometric IDs.

The main aim of the dissertation has been to study the strategic rationales for national biometric IDs in India, the potentialities that such identification practices contain and localised utilization of biometric IDs. In order to achieve this aim, I formulated three principle research questions. The first research question was, *what are the governmental rationales of biometric identification in India?* This research question has been useful in terms of understanding the underlying and overlapping reasons why national biometric IDs have been introduced in India, what the targeted subjectivities of the project has been, and what governmental objectives biometric IDs are expected to fulfil.

Secondly, the research aim was addressed with the question, *how does national biometric identification shape the conditions of possibility for governing conduct?* In the overall dissertation this question has allowed for an

open analysis of the potentialities of the system, especially in terms of directing people's movement and behaviour (see Lyon 2009). As I explore more in detail below, I have also shown that the condition of possibility for directing conduct of national biometric identification practice imply certain neoliberal norms as well as governmental techniques of tracking, statistical overviews and calculative practices that potentially impact rationales of governing, but also the everyday relationship between state, private agencies, and individuals (i.e. people's behaviour).

Third, the dissertation aimed to understand the localized utilization of biometric identification in India. I asked, *how do people utilise and appropriate digital, biometric IDs?* This question has enabled an analysis of the ways in which the governmental rationales and conditions of possibility of biometric IDs are "translated" in localized contexts. This has been an important query as it shows that national biometric IDs are not implemented in a straightforward manner according to the rationales laid out in the various documents and discourses founding their development. Rather, I have found that, even in the early stages of biometric enrolment and enactment, multiple strategies and practices of subversion and appropriation takes place. In the below sections, these conclusions are explored more in depth, as I show the findings of each three research questions.

This concluding chapter proceeds as follows. First, I consider the research aims and clarify the main answers to the questions I posed regarding governmental rationales of the UID, its conditions of possibility for governing conduct, and the utilization and appropriation of biometric IDs in India. Second, the empirical and methodological contribution of the dissertation is presented in relation to the extensive fieldwork that was done in India. Third, I show the scopes and limits to this current study on national biometric IDs, and present multiple potential agendas for future research. Lastly, the chapter elucidates the scholarly implications of the conclusions of the dissertation and establishes the need for further study.

### Governmental rationales of biometric identification in India

The first research question of the dissertation focussed on the governmental rationales behind national biometric identification in India. The UID is found to be an attempt to map the enormously socially, economically and politically diverse landscape of the country and reach out to its very marginal and peripheral residents. India hosts 40% of the world's poor, over 600 million people, primarily living in rural areas of the state (Todhunter 2014). A large gap between the economic situation of the poor and rich, unequal opportunities and access to basic human needs such as food and water, are prob-

lems that people in India face on an daily basis. India is also a country with widespread corruption, at multiple levels of society. Entitlement programmes giving subsidies and employment support are particularly large sources of corruption, with the widespread practice of bribery.

The dissertation shows that the rationales for this enormous project are founded in several interlinked grounds of security, welfare and commerce. The practice of biometric identification is endorsed as a solution to a wide array of governmental problems, both as a means of financial inclusion and as a method of surveillance. In Articles 1, 2 and 3, I argue that the rationales for introducing national biometric IDs in India are multiple, depending on the context of application, and the agencies that promote their usage in differing schemes.

The national biometric project in India is built on interconnected claims: that it is a means of establishing scientifically truthful subjects; a tool for having an overview of the Indian population, a means to include the margins of the state in a market economy of neoliberal practices of insurance and risk assessment; and a practice of establishing a marker of citizenship and excluding “bad” flows (i.e. threats). These rationales draw on discursive fields that are rooted in the liberalisation of the Indian economy in the last two decades, as well as the role that India has as an international forerunner in software development. They are also rooted in enduring concerns regarding illegal migration and terrorism; issues that are further linked to India’s security relations with neighbouring countries (see Article 1 and 2).

When read as a whole the dissertation shows that the governmental goals of welfare – i.e. inclusion of marginalised populations, neoliberal goals of financial inclusion and individual responsabilisation for risk- and security are combined in the national biometric project. In the research design, I stressed the importance of analysing the targeted subjectivities of the Indian project. In this regard it can be observed that depending on the goals and range of a biometric system, such identification schemes target as diverse identities as terrorists and the poor, widows and voters, the homeless and illegal migrants.

From a governmentality framework one can conclude – as I argue in Articles 1,2 and 6- that what unifies the double rationale of welfare and security in biometric registration and verification is the focus on the irregularity of the non-verifiable (and non-truthful) subject, and the potentiality of improving multiple governing domains through this form of identification and verification of individuals. Biometric IDs as a project of governmental improvement speaks to the margins of the welfare system, the illegal bodies of migrants, the threatening subjectivities of terrorists and the poor condition of farmers, depending which governmental area such IDs are narrated to improve.

Speaking of the technologies of governmentality, Merlingen (2006:192) states that:

... a narration of abnormality, 'othering', which, however, can take different forms and hence produce different political effects, is constitutive of any project of improvement, however noble its intent. ... governmentality designates a space of governance in which the negative and positive dimensions of power come together.

The dissertation shows that national biometric identification combines the "positive and negative" forms of power in seeking to ameliorate welfare and security governance. A normative evaluation of the scheme can conclude that national biometric IDs potentially will bring about many of the sought for goals- such as the registration and official recognition of persons that previously had no official means of identification, a less corrupt subsidies and welfare system, a more "fair" election process, or entry to banking and insurances for people who previously did not have the possibility to have access to such services. This dissertation has utilised a governmentality framework to study this process of biometric inclusion. Rather than a normative evaluation of the scheme, the dissertation shows the multiple layers of governmental reasoning and potentialities that emerge in a national biometric project such as the UID.

The dissertation finds that the Indian biometric scheme can be situated together with neoliberal governmental developments that frame poverty and marginality within discourses of financial inclusion (articles 1, 3 and 4). One aim of biometric-enabled unique IDs as a basis for financial inclusion has been to tap a "virgin" market of insurance, an "untapped market of nearly US\$2 billion" (Committee on Finance 2008: 97). Since the Indian government released the monopoly on insuring its population in 2000, the insurance industry has boomed, and life insurance is currently the fastest growing industry in India. The United Nations Development Programme (UNDP) report Building Security for the Poor found that 90% of the Indian population is non-insured (2007:9). This untapped market worth is central to the Indian Government's (both previous and current) financial inclusion plans, which will be facilitated through Unique IDs, such as the newly established "Pradhan Mantri Jan-Dhan Yojana" (PMJDY) scheme (Ministry of Finance 2014).

I argue that the discourses and practices of inclusion are a result of new technologies and a general opening of the market, combined with the need to address poverty and marginality (articles 1, 3 and 4). The national biometric scheme is accompanied with neoliberal objectives such as reaching out to the "bottom of the pyramid"- i.e. banking the unbanked, and insuring the masses- and capitalising on all segments of society. These practices are furthermore



built on the claim that “financial inclusion”- that is, including poorer sections of society into the formal economy through the opening up of loans, access to credit and banking- will lift people out of poverty and lead to economic growth. By guaranteeing the mobility of individuals across the geographical space of India, the rationale is that the UID enables a faster and more efficient flow of people and capital, which will boost the economy. As the Unique Identification authority wrote in its strategy document:

The UID will serve as a universal proof of identity, allowing residents to prove their identity anywhere in the country. It will give the government a clear view of India's population, enabling it to target and deliver services effectively, achieve greater returns on social investments, and monitor money and resource flows across the country. (2010: 5)

The UID scheme is being promoted as a major push factor towards inclusive growth (Rathod et al. 2012), expected to “realize a larger vision of inclusion and development in India” (UIDAI 2010). This includes ideas to make social welfare systems integrated with the public and private banking system, phase by phase exchanging government subsidies with direct cash payments via bank cards and mobile phones to the poor (Guha and Mankotia 2014; Mukherjee 2011). Unique IDs are to serve as a foundation –in Hindi Aadhaar– for the distribution of benefits such as payments to workers under the Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS) and allocations under the Public Distribution System (PDS). In the UID scheme, the use of biometrics to verify identity is meant to prevent “leakages” in the service delivery system in the form of fraud, ghost beneficiaries and corruption. Because of its pan-Indian nature, the scheme will also give people “mobility of identity” (UIDAI 2010b), where they can be identified anywhere without restriction to space and place. This is to be accompanied by an expansion of the banking sector into rural areas, and the introduction of cash transfers.

I conclude that several combined governmental objectives form the foundation for the large-scale support of the national biometric system – also from differing ends of the political spectrum (article 1). The national biometric scheme in its current form was developed under the centre-left Indian National Congress government, and it was speculated that with a change in government, the *Aadhaar* scheme would potentially end (see Agarwal 2014). However, whereas the Hindu right wing party Bharatiya Janata Party (BJP) in opposition was vocal against the Unique Identification System, after the elections in 2014, the new United Progressive Alliance (UPA) government spearheaded by the BJP has renewed the relevance of the biometric scheme by promising to accelerate enrolments and give it legal backing (Singh 2014).

In its current status, the UID scheme can be seen as a piece of the puzzle of the larger “Digital India” plan of the newly elected Indian government. In fact, the change in government has not changed the focus on digitalisation as a necessary means for effective governance. The Digital India plan of the Modi government is one of the government’s top priorities. The initiative “envisages all government services be delivered electronically by 2018” (Guha and Mankotia 2014) by creating and expanding digital infrastructure, digital delivery of services and increasing digital literacy, and as such “pre-prepare[ing] India for a knowledge future” (Government of India 2014). Here, mobile phones are envisioned as central for the goal of financial inclusion (see UNDP 2010). Information technologies and an increased digitalised governance schemes are factors facilitating development projects such as microfinance, cash transfers and increased surveillance and supervision of people’s health and well-being.

The dissertation finds that the prospect of a software tool that can transform governance runs as a red thread throughout official discourses on the matter (articles 1, 3, and 4). This conviction that a technological solution based in scientific rationality can revolutionise Indian governance is not ground-breaking, but can be seen as a legacy of various governments from independence - onwards. Science - and the governmental technologies guided under the authority of science - have mounted as signs of Indian modernity, both in practice and the national imagination (Prakash 1999). In fact, according to Ashis Nandy, the post-colonial history of India shows that technology-as-science has become its own *raison d’état*, bypassing the democratic fabric of the Indian nation-state as solutions to security and development problems (Nandy 1988).<sup>7</sup> As India adjusted to neoliberal agendas in the 1990s, e-governance arguably proved to be the solution to the dilemma of combining socialist policies and neoliberal agendas, “between the inclusive, populist ideal of national social development, on the one hand, and the invidiously exclusive lure of mass consumerism” (Mazzarella 2006: 475). In similar ways, the contemporary digital network with a basis in biometric IDs is to lead to faster growth, rapid financial inclusion and complex surveillance. Digital India is epitomised as the way not to replace old structures, but to create new, ground-breaking ones.

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<sup>7</sup> Ashis Nandy gives the examples of the 1950s Atom for Peace program, the 1980s Green Revolution, and the 1990s advance of India’s nuclear programme, and argues that technology and the technocratic elite promoting it have been advertised as a politically ‘neutral’ solutions to national security and development problems. “In this environment”, writes Nandy, “it does not matter whether the technology is innovative or replicative, moral or immoral, obsolete or new. For technology comes to represent an escape from the dirtyness of politics” (1988: 6).

## How national biometric identification shapes conditions of possibility for governing conduct

The dissertation situates national biometric IDs within the larger landscape of technologies of government – namely practices, techniques and rationales- that target individuals and the population with the aim of directing the “conduct of conduct” (see Walters 2012). In researching research question two regarding the conditions of possibility for governing conduct, the dissertation finds that the governmentality of improvement that drives the national biometric ID scheme in India can bring about disciplining effects, new forms of power hierarchies and new conditions of possibility with regards to a biopolitical governing of the population (see articles 1,2 and 3).

Whether such tools of governance are introduced in security or in welfare agendas, they can bring with them the objective to alter the ways in which such practices are performed, and the relationship between the subject and the private or public agency that introduces the technology (Epstein 2007; Kruger et al 2008). On the one hand the Indian project bears a potential of exclusion and banning of people and behaviours that are recognized as abnormal by the governing rationale of the system, as I find in Article 2. However, the potentiality, as I have already discussed above, also includes biopolitical techniques of improvement, through the utilization of risk assessments, statistical measurements and forecasts that lead to more subtle forms of establishment of norms and the subsequent disciplining of individuals and target groups in local spaces of enactment.

The complex web of relationships between the Indian state and various public and private entities that form the network of UID authorities, enrollers, users and recipients illustrates the immense complexity of contemporary, digitised forms of governance, and the shifting relations of power resulting from privatisation, commercialisation and an increasing reliance on software and technology. In the dissertation I argued that the digitalisation of governance carries a number of conditions of possibility, which also drive the governmental imagination of what the project should and could do (articles 1,3 and 4). I have argued that national biometric identification shapes conditions of possibility for governing conduct through introducing the potential to track and trace individuals, utilise mathematical tools and statistics for determining risk, and by creating means to make elaborate individual profiles that can be used for commerce and security practices.

In article 2, I draw on the theoretical literature on governmentality and risk to analyse the inbuilt potentialities of biometric identification technologies to identify and monitor internal flows of people and goods. Here, I answer to research question two, by analysing the different conditions of possi-

bility for governing conduct that are inherent to national biometric identification schemes. Linking unique identification numbers with a variety of government and private databases can enable a monitoring of people's movement and forward the governmental technique of predicting future risks through data abstractions. Based on statistical sciences and biological data analysis, biometric systems enable mathematical representations of individuals and populations, and analytical techniques such as prediction and the measuring of averages (Amoore and de Goede 2005).

Here a biopolitical framework enables an analysis in how apparatuses of the state, albeit always facing risks and danger, with such a focus on risk are deemed to master dangers through the practices of predicting and valuing their occurrence. In this article I find that a large-scale national biometric system therefore carries the potential to change notions of risk in both civil and security practice. Such practices are performed in a private-public partnership and in the case of national biometric IDs facilitated by the tracking potential of Unique IDs. I ask whether it carries the condition of possibility of transforming a prophylactic notion of threat, through a reconfiguration of threat/risk as natural events that occur in populations. This analysis revealed that national biometric identification practice can on the one hand lead to a changing practice and understanding of risk in Indian security governance. I furthermore argue that there is a potential for new risks, both for individuals and institutions, as personal data is made digital and interconnected.

In several of the articles of the dissertation (Articles 1,3,4), I analyse the conditions of possibility of the Indian system with regards to risk practice. Biometric registration and practice is closely related to techniques of statistical measurement, comparison and risk assessment (Aradau et al 2008). Arguably, because of the fact that digitalised biometric systems both allow for identification and verification of individuals, and also the potential to make statistical comparisons, such tools enable both disciplining effects (i.e. targeting individual conduct) and biopolitical governance (i.e. targeting the conduct of larger population flows). I find that that the Indian biometric scheme is introduced with the claims that it will be a foundation for a range of private and public schemes, including micro-insurance programs, financial inclusion and banking strategies, and at the same time be a digitised identification number attached to each individual with the potential to track and trace him/her as he/she moves between different private and public agencies. As I show in Article 2 and 4, it will furthermore facilitate an overview and closer monitoring of such flows, and a controlling and filtering out of individual "bad" flows (i.e. fraud, impersonation) through guaranteeing that the ele-

ments in circulation are truthfully verified (see Salter 2008 for similar arguments).

In analysing research question two regarding the conditions of possibility for governing conduct, I have found that national biometric identification techniques potentially enable a detailed knowledge base on the population upon which one can make predictions about the future and insure the present. Whereas governmental strategies do not seek to eliminate danger, they seek to eradicate the threat of the threat, to eliminate risk, through determining the cost of an event caused by risk, and insuring the future against it (Aradau *et al.* 2008). The dissertation finds that through foreseeing and predicting risks on the basis of the average calculus of risks in society, such techniques of governance have the productive nature of altering the meaning of danger and threat, producing risks, (Ewald 1991) and giving threat, and the object of security, an economic value. This “transaction value” (UIDAI 2010: 33) of each resident’s “identity” can enable the creation of profiles that can be used for both individual insurance provision and for the statistical sampling of the larger population. This practice is enabled by biometrics, which, when digitised, are stored as a mathematical representation of individual body parts.

### Post-colonial rationales and identification practices

In researching the threefold aim of the dissertation, I have located the Indian national biometric identification scheme within its postcolonial context. The findings of my analysis show the importance of localized and contextualized studies of biometric IDs. The dissertation in particular relates to the literatures of critical security studies and surveillance studies. In these two disciplines, the focus on biometric identification has largely been on the development of the technology in security and surveillance projects in the global “North”. This vast literature has investigated implications of an increased standardisation of biometric ‘checkpoints’ in border zones, the obligatory requirement of biometric IDs in travel documents, and the ways in which biometric systems identify, capture, and monitor subjects (Amoore 2006, 2008; Broeders 2007; Kruger *et al.* 2008; Muller 2011; Pugliese 2010).

However, much can be said about the need to focus on developments in the global “South”. The dissertation has shown that in the context of biometric identification in India, the utilization of biometric IDs reaches to domains such as development, welfare and financial inclusion, a development that can be placed geographically in areas that have to a large extent been outside of the dominant scholarly lens. It is indeed in the African, Asian and South American continents that a widespread usage of biometric IDs is taking place (Breckenridge 2014). A focus on the security-surveillance-

biometric nexus in the “North” that does not take into account these developments ultimately leads to a narrow understanding of the complex commercial relationships that form global biometric governance today.

This dissertation has contributed to bridging this gap, by showing the multiple and complex governmental rationales that underpin biometric identification projects. One of the main findings of this dissertation is how the twin goals of security and (neoliberal) welfare come together in national biometric ID schemes in India (see articles 1 and 3). Arguably, this is a trend that is not unique to the Indian case, but rather a larger development in the ways in which populations in particular in the global “South” are governed. This can on the one hand be traced to the postcolonial origins of the nation state and the need to correctly identify its subjects. But it is also due to contemporary governmental problems to be solved, such as widespread poverty and lack of development, that call for radical solutions. Answers to demands for national growth, financial inclusion and development are in contemporary post-colonial states found in large-scale usage of technology and software solutions. In Keith Breckenridge’s historical research on the emergence of the South African “biometric state” (2005, 2011, 2014) he binds the history of technologies of racial segregation with the formation of the contemporary state, and concludes: “There is a sweet and perplexing irony in the fact that those same coercive systems are now being championed as the only viable remedy to the entrenched forms of poverty that are characteristic of life in the former colonies” (2014: 214).

The dissertation has stressed this postcolonial linkage, as it shows that the alliance of security, its mechanisms of coercive exclusion with welfare and its strive for inclusion that characterises contemporary biometric governmentality is not a new arrangement. In the short story of Article 5, I show the everydayness of biometric registration, and the post-colonial and transnational dimension of (the business of) biometric technologies. Following the analysis of the colonial origins of fingerprinting developed in Article 1, this tale emphasises the transnational dimension of governmental technologies of power. I furthermore develop this argument in Article 6, where the notion of fraud is shown to have linkage with the colonial origin of the need to identify fraudulent and unknown subjects.

In this regard, the various governmental instruments and techniques that find their roots in colonisation arguably influence the rationales and potentialities of contemporary practices. The conditions of possibility of biometric identification bear the potentialities of inclusion, exclusion and social sorting (see Lyon 2007), but also more subtle practices of disciplinisation based on profiling, behavioural mapping and statistical measurements. Here, bringing

to light the colonial origins of such practices is therefore important to understanding the potentialities of contemporary systems. In same ways, one is reminded of how the practice of fingerprinting in the colony affected the ways in which it would later be applied in civil spaces in the home country. According to Foucault,

... while colonization, with its techniques and its political and juridical weapons, obviously transported European models to other continents, it also had a considerable boomerang effect on the mechanisms of power in the West, and on the apparatuses, institutions, and techniques of power. A whole series of colonial models was brought back to the West, and the result was that the West could practice something resembling colonization, or an internal colonialism, on itself (2003:103)

Arguably, this “internal colonialism” is not merely geographic- that is the transferal of colonial techniques from the colony to the governing of life “at home”- but in contemporary assemblages of commercial and public agencies; the boomerang effect could be seen more as a movement to and from domains of security, commerce, welfare and development. This can be seen in the multiple usages of biometric tools to discipline and regulate peoples in contexts ranging as far as schools, hospitals, banks, borders and war zones. In Article 1 I show that unique biometric identification is also a widespread practice in development agendas and in for food distribution in disaster and emergency operations. The dissertation has contributed to complicating our understanding of rationales for biometric IDs by showing how these governmental and postcolonial connections merge in national biometric schemes.

#### How people utilise and appropriate digital, biometric IDs in India

People can only imagine themselves in empty homogenous time; they do not live in it (Chatterjee 2004:6)

The third research question of the dissertation addressed the aim to understand localized utilization of biometric IDs in India. In order to answer this research question, I conducted narrative interviews and observation in multiple contexts. Here, I in particular focussed on strategies and practices of appropriation. The dissertation has utilized the concept of appropriation to describe the processes of local subversion and disruption of governmental logics and practices in spaces of enactment. The concept has been central in advancing the governmentality framework to account for the various ways in which biometric identification practice takes place in local contexts. I have investigated national biometric identification in India as a strategy and exercise with multiple, interwoven elements.

As such, I have followed postcolonial scholars who fragment practices of modernity as heterogeneous (Appadurai 1996; Chakrabarty 2002; Kaviraj

2010). I show how a focus on appropriation extends the governmentality framework to allow for a more heterogeneous representation of the processes and localities of enactment of biometric IDs. Despite the disciplinary effects of increased digitalisation and the potential that biometric tools offer for tracking and tracing individuals, I argue that the users of software and the people targeted appropriate such technologies of governmentality.

Postcolonial theory has explored how acts of appropriation are often found in the field of the creative arts - in literature and theatre - and that they imply utilising techniques that creatively subsume the dominant discourse or governmental practice that they are appropriating (see Bhabha 2003). In the dissertation I establish the concept of appropriation as significant to the practices of utilisation of biometric identification. The dissertation shows that the link between governmental rationales of biometric identification and the actual experiences and utilisation of such ID practices, is a process of negotiation and contestation. Partha Chatterjee's quote above from his study of popular politics – here with reference to the utopian time of capital- is an advantageous illustration of the disconnection between governmental rationales and visions and the actual practices and imaginings of modern contemporary lived life. I argue that researchers studying surveillance and biometric identification practices have much to learn from the embedded practices in “most” of the world (Chatterjee 2004: 8).

In the dissertation I have utilised and advanced the concept of appropriation to describe the multiple ways in which biometric identification practice becomes enmeshed and subverted in localised contexts. As I (and my co-authors) demonstrate, the logic and practice of biometric identification is destabilised and actively deployed by the bankers who utilise the digitized system (Article 4), people who enrol others into the system (Article 6), or those who are being targeted by the Unique ID scheme (Article 5). This dissertation has deepened and widened the understanding of how subversion of governmental rationales takes place by studying the multiple ways in which the logic and practice of biometric identification is changed in processes of appropriation.

Through the study of the sites of biometric enrolment and analysis of the narratives of people who either have been enrolled into the scheme, or actively seek to utilise it in various ways, I found that different processes of appropriation were taking place. Firstly, there were multiple narrations and imaginaries over the meaning of biometric identification and its relation to other schemes. Imaginaries and representations powerfully form part in the co-construction of reality, and as such these narrations thwarted and destabilised



the dominant rationales for biometric identification. This argument is further developed in Article 6 of the dissertation.

Secondly, appropriation here related to the dynamics of non-negotiability in the system. Biometric identification is introduced precisely to be a fraud-free system because of its technological capacity to “truthfully” verify subjects. As I have shown in several articles of the dissertation (1,3,5 and 6) one of the main rationales inbuilt in biometric governmentality is that the prevention of human interference in the process of identification will change power structures and patronages, i.e. eliminate chains of corruption, fraud, and misuse of the system. An issue that has been debated is the assertion that the biometric system will eliminate fraud in the service delivery system of the state, such as the Public Distribution System (PDS), and the Mahatma Gandhi National Employment Guarantee Act (MNREGA) schemes. This argument ultimately would also mean that it would change traditional structures of power and patronage in India.

However, reports and articles have pointed to the fact that such claims are not founded in everyday realities on the ground, where people, especially those that are at the margins of the state (i.e. the persons the scheme claims to reach), still have to navigate and encounter existing power structures in order to claim services and rights, and furthermore that the biometric and digitalised systems of governance add new layers to power hierarchies (see Khera 2011; Rajshekhar 2011; Rao 2013). Studies on the UID have focussed on the discrepancy between the universal, “global” claim to identification and the rationale of a truth-telling technology, and the actual implementation of biometric IDs in India (Rao and Greenleaf 2013; Thomas 2014). Critiques of the UID have pointed to the lack of universal reach of the system, as it still excludes certain residents, either due to issues related to “reading” their bodies, problems with the technology, or socio-political structures.<sup>8</sup> These are multiple understandings of a discrepancy between the rationales and objectives of a biometric identification system and its actual effects in localised contexts. The dissertation contributes to these discussions and furthermore argued that there is a need to focus on localized forms of subversion and appropriation when seeking to understand the conditions of possibility for directing conduct of national biometric identification projects.

## Empirical and methodological contributions

This dissertation has contributed to scholarly research on biometric identification projects and surveillance by analysing the world’s largest biometric ID scheme. It has investigated the multiple governing domains and discours-

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<sup>8</sup> Interviews with Usha Ramanathan, Delhi, October 2011, and Thomas Mathews, Bangalore, October 2011

es that support the project, analysed the conditions of possibility for governing the conduct of the Indian population and individuals, and lastly empirically shown the various ways in which a national biometric identification practice is narrated and appropriated in India.

In responding to the threefold aim of the dissertation, to study the strategic governmental rationales for biometric identifications; the potentialities that such identification practices contain (e.g. the productive effects and conditions of possibility of national biometric IDs); and the various localized contexts of biometric practice, the empirical studies of the fieldwork in India contributes to forming an understanding of the national biometric scheme. The dissertation comprises four in depth empirical studies based on field research and consisting of interviews and observation; the study of the registration of homeless in Delhi (Article 1), the practices of appropriation of international norms and standards by Indian bankers (Article 4), the process of biometric enrolment (Article 5) and narrations and practices of impersonation and fraud in relation to biometric IDs (Article 6). In addition, it is based on several interviews with individuals in official positions as well as experts on national biometric IDs.

From the empirical research conducted in this study, one can conclude that the UID will not be a solution that reduces the issues that it intends to solve- such as poverty, corruption, fraud and power navigations that take place in the various governmental schemes in India. The question is rather *how* it will affect these, potentially alter governmental processes, and what kinds of new power relationships emerge with large scale e-governance and biometric identification schemes. My empirical material shows that the introduction of biometric IDs changes traditional forms of power relationships, and introduces new types of social relations. I show this in Article 6, where multiple notions of fraud are negotiated and altered in the various narrations on impersonation, and where in the narratives there is a clear belief that the system will alter existing processes of bribery and fraud. Yet another example from my empirical research is the linking of Aadhaar numbers to bank accounts in the distribution of gas in Vrindavan. Here, the narrators that I interviewed found that whereas they previously would be able to get gas easily, often with a bribe, in the current system they have struggled to first establish bank accounts to which they could link their Aadhaar (thereby establishing a new relation with the local bank), then secondly having to have a mobile phone to receive digital IDs to call regularly and order their gas (here needing help as they do not always have digital literacy), and lastly still paying bribes, this time to get their names approved by computer systems that they have to navigate on a regular basis. In the process of enrolling as well as

utilising biometric IDs, people negotiate these processes and create their own way of manoeuvring. Yet, arguably the digitisation of IDs and distribution processes will cause new forms of power relationships and change old ones.

As I have shown, bankers in various Indian banks utilise software on the one hand to filter out bad flows in the banking system, but they also appropriate the software to their own ends (article 4). Operators performing biometric identification that is to prevent fraud, occasionally defraud the system, either for monetary gain, or as an act of appropriation mocking the rationale of the scheme (article 6). NGOs facilitating the survey of homeless in Delhi, utilise biometric IDs to help individuals get access to subsidies they would otherwise not manage to claim (article 1). Bangladeshi migrants to India get Unique IDs to have an official status in India under which they can claim government subsidies necessary for their everyday lives (articles 5 and 6). These are only few examples of appropriation, but they are important as they show the multiple ways in which individual subversion of government schemes can be understood from the everyday perspective in India.

The entwined relationship between method and methodology has been cast as an important consideration when conducting empirical studies on biometric identification. In Article 3, Burgess and I have problematised methods in social research and read such against the governmental tools of classifying and statistically measuring populations. As such, the dissertation contributes to a debate on the reflexive role of the researcher in conducting research on surveillance schemes and biometric identification projects.

Methodologically, the dissertation contributes to studies that use a governmentality framework by analysing such processes of appropriation through a focus on multiple sites, and through utilizing narrative method and observation as main research approaches in the field. I have followed critical security researchers who see the choice of methods in research as a *bricolage* (Aradau *et al.* 2015) that allows for a less coherent hierarchy between theory, methodology and method. This implies that the empirical research might end up less coherent and structured than one guided by a strict methodological framework. However, the benefit is that the empirical material is allowed to “breathe” and speak to the theory. The empirical material of this dissertation showed that there is a need to focus on the localised and contextual factors that lead to a subversion of governmental rationales in local contexts.

### Scope and limit of the dissertation

I began the introductory chapter of the dissertation by narrating the story of Ranjana Sonawne who in 2010 was the first to receive the twelve-digit UID number that is an official ID proof in the national biometric scheme. In

2014, several feature stories about the village woman appeared in Indian newspapers, written by journalists who had gone to her home village to investigate the changes that had happened as a result of her enrolment (Byatnal 2014; Nair 2014). According to the reports, in the four years that had passed, little had happened to change her life in the tribal village. She still did not have access to loans, and her relationship with authorities in relation to work and amenities were the same. Her story shows both the gap between great governmental visions and the actual enactments of such visions in local contexts. It also shows that it will take years before one can assess the successes or failures of the UID scheme and its ramifications.

The dissertation postulates findings regarding the overall rationale of national biometric governance in India and its localised implications, bearing in mind that the UID scheme is yet to be embedded in socio-economic and political processes 'on the ground'. Although the UID project is under development, some of the effects of the scheme are already visible, yet these are just pointers in relation to the larger societal, economical, legal and political effects that the scheme will produce over time. Given its size and ambition, it will take years before one understands the scope and possible impact of the UID. Despite an enrolment of more than 900 million residents to date, the UID scheme is still in an early stage and a limited number of schemes are currently using biometric IDs, and thus research on the project raises more questions about its implementation, its objectives, and its effects on the ground, than can be answered.

### **Scholarly implications and need for further study**

This dissertation has utilized a governmentality framework for the study of biometric implementation in India. The findings of the dissertation have scholarly implications and raise the need for future research. First of all, as this dissertation finds, biometric identification practice and the digitalization of personal data that follows bears certain conditions of possibility for governing the conduct of the population and individuals. The long-term implications of an alteration in the ways in which residents or citizens are registered and recognized by the state and private agencies will be an important research focus in the future.

There are multiple reasons why future research ought to focus on biometric identification projects paying especially close attention to postcolonial contexts. As data collection and processing is outsourced to the private sector, national as well as global software and technology companies are increasingly important in the field of security and welfare. This implies a multiplication of public-private partnerships as well as increased reliance on the

industry providing the technological “tools”. It would also be relevant to map the relation between the Indian scheme and larger “card cartels” (Lyon and Töpak 2013), and its global linkage with international corporations and organisations that steer policies of population management. The multiple partners and enrollers of the biometric data of individual residents in India are largely private banks and companies, including 4G Identity Solutions, Wipro Ltd, L1 Identity Solutions and Ernst & Young. An increased reliance on “new” technologies, for example through digitalising government records and services, signifies a shift not only in the administrative workings of government, but also governmental rationales and practices. This development can be seen as a product of market driven policies, and a general embracing of the private sector through neoliberal reforms (Ranganathan 2012).

Third, the dissertation has found that biometric identification schemes imply certain rationales of governing, based on the establishment of scientifically verifiable stable identities. This governmental rationale will have implications for potential negotiations of identity when biometric IDs are put into practice. It also links the (post)colonial origin of fingerprinting practice with contemporary biometric projects, a linkage which scholarly research can learn and draw critical questions from.

### Future perspectives

There are multiple future perspectives and potential avenues for future research on biometric identification in India. Contemporary and future research on the Indian scheme ought first of all to analyse the possibilities and shortcomings of legal amendments regarding privacy and data protection. As I have maintained in chapter 3 of this dissertation, such studies would benefit from a consideration how privacy and rights are interpreted in varying cultural and political contexts, and the legal problematic of dealing with privacy as a concept.

Research on the developments in India would also benefit from comparative studies of similar developments in the global “South”. Here, the case of South Africa in particular is an interesting comparative study in relation to India, given its historical linkage as well as current large-scale utilisation of biometric IDs (Breckenridge 2014). As the Indian scheme develops, it will also be important to look at parallel developments in neighbouring South Asian countries. It is also of interest here to analyse developments in neighbouring contexts of development and disaster relief (i.e. Pakistan) as well as military usage of biometric identification tools (Afghanistan, Iraq).

As the dissertation has shown, India’s national biometric project will be utilised for multiple purposes in the domains of commerce, security and wel-

fare. Future studies on the UID ought to analyse in detail segments of these differing governmental domains and their logics of application, such as the utilisation of biometric IDs in e-health projects, financial inclusion schemes, or in education. Another important focus would be to analyse the utilisation of biometric IDs in India's border regions. Whereas this dissertation has focussed on the localised studies of identification of the homeless in Delhi, banking environment and narratives on fraud, questions regarding the effect of the project in rural India and in particular in relation to schemes such as the Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS) and the Public Distribution System (PDS), or on specific targeted groups such as agricultural labourers, or migrant populations from Bangladesh for example, are avenues for future research.

Theoretically, the Indian case offers multiple avenues for future research. One is to understand how such a large-scale and immensely expensive project can be implemented without clear certainty of its success or failure, or for the exact purposes for which it will be used. Here, I follow Ursula Rao in her observation that future research would benefit from a focus on the experimental nature of policy and policy implementation (see also Collier 2011; Roy and Ong 2011).<sup>9</sup> Such a focus would allow for a study of the spaces of negotiation and transformation both in the progression from the logic of resource allocation to actual implementation, but also detailed studies of the various negotiations and appropriations that take place in the enactment of biometric IDs schemes.

The dissertation has contributed to contemporary research on biometric identification by showing the multiple ways in which the Indian scheme is appropriated in narrations and practices in localized contexts. One important avenue for future research will be to deepen the understanding of such processes of subversion and destabilization, and their meaning in relation to larger governmental projects. There is much scope for further theoretical and methodological development in this regard, which will enrich both studies of surveillance and critical security studies.

The Indian national biometric scheme combines governmental rationales of security, commerce and welfare, provides Indian governing authorities and private agencies with multiple conditions of possibility for governing the population and individuals, and it is destined to be utilized and appropriated in a variety of ways and contexts. In the future it is very likely that we will see a burgeoning of national biometric ID projects, and many of these will learn from the Indian case. As I mentioned in the beginning of this dissertation, the Indian unique ID project can in many ways be seen as a pilot for

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<sup>9</sup> Conversation with Ursula Rao, New Delhi, February 2015

similar national biometric identification projects in South Asia, but also in other parts of the world. Paying close attention to the development of the UID project, its successes and failures, and the ways in which biometric identification practice develops in the various governmental domains where it is introduced, will be important in future research agendas on biometric identification and surveillance schemes.

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# Svensk sammanfattning

(summary in Swedish)

Ranjana Sonawne är nu ett 12-siffrigt nummer

*The Times of India* 2010

## Introduktion

Indien implementerar just nu det största biometriska systemet i historien. Målet med projektet Unik Identifikation (UID) är att registrera hela Indiens befolkning, grovt uppskattat 20 procent av mänskligheten, som en del av en övergripande plan att digitalisera hur landets regeras. Genom att analysera de förståelseramarna som ger nationell biometrisk identifikation dess mening undersöker denna avhandling hur systemet implementeras i Indien. Vidare undersöks på vilka sätt unik identifikation skapar och villkorar möjligheter att styra mänskligt beteende. Analytiskt placeras det indiska projektet inom det bredare studieområdet regementalitet i den postkoloniala världen. I takt med att olika varianter av digital identifikation och övriga övervakningstekniker ökat globalt har standardiserade former och praktiker utformats. Trots löftet att sådana uniforma verktyg ska vara applicerbara på en mångfald av olika kontexter och tillämpbara i vitt skilda användningsområden, visar avhandlingen att de approprieras av och blir insnärjda i de kontexter i vilka de implementeras.

## Det digitala Indien

Indien blir alltmer digitalt. Den främsta symbolen för det pågående projektet att knyta samman landets varierade urbana och agrara områden i ett digitalt nätverk är det nationella biometriska systemet Unik Identifikation (UID). Systemet är en ny och långsiktig investering i förändringens Indien. Den första personen att registreras i UID var Ranjana och sedan hennes inskrivning har ytterligare 900 miljoner indier fått deras biometriska data registrerade. De unika identifikationsnumren ska säkerställa individens identitet i dess möten med privata aktörer och med en alltmer digitaliserad stat. Denna förståelse av biometrisk identifikation – att det vetenskapligt bekräftar det individuella subjektet över tid och rum, bortanför befolkningens geografiska och socioekonomiska skillnader – ger upphov till ett system som ska verka för en mångfald av syften. Detta nydanande projekt utgörs av en gränslös samling privata och offentliga aktörer, mjukvaruföretag, postkontor, biometriska maskiner och teknologiska verktyg, samt individuella kroppar. Tillsammans ska de radikalt förändra hur Indien regeras i praktiken.

Digital registrering i UID av iris, fingeravtryck och ansikte sker på så skilda platser som banker, skolor och utomhusparker. Miljoner kroppars digitala avtryck avkodas och lagras i världens största biometriska databas, belägen hos myndigheten för Unik Identifikation (UIDAI). Ranjanas UID nummer - 782474317884 (Byatnal 2011; se även Thomas 2014) – kommer att följa henne i hennes möten och interaktioner med privata och offentliga organ, i hennes handhavanden med sjukvård, skolor och försäkringsbolag.

Möjligheten att minimera risk för urkundsförfalskning betecknas som själva hjärtat av denna gigantiska händelse, och utgör en av de främsta uttalande anledningarna till varför projektet genomförs. När Ranjana Sonawane fick hennes UID rapporterade Hindustan Times att ”om någon försöker att utgöra sig för att vara Ms Sonawane – och sådant händer i Indien påstås det – så kommer försöket oundvikligen att misslyckas”.

För Ranjanas vardagsliv kommer kanske inte hennes nya digitala identitet att innebära några dramatiska förändringar. Hon bor på landsbygden i en liten by med omkring 1000 invånare. Där saknas infrastruktur, det finns inga skolor och hon kommer förmodligen ytterst sällan utnyttja de tjänster som hennes unika ID möjliggör. Med tanke på hennes tillfälliga arbeten på byggarbetsplatser och på jordbruk (Rabade 2010), kommer hon dock förmodligen tvingas öppna ett bankkonto, då arbetsrättslig lagstiftning (the National Rural Employment Guarantee Scheme (NREGS) påbjuder bankkonto för utbetalning av lön (Rajshekhhar 2011). Om hon befinner sig under fattigdomsgränsen kommer hon att ansöka om ersättning genom sitt unika ID. I framtiden kommer hon kanske att få tillgång till kontanter vid hennes ”fingertoppar” (Gelb and Decker 2011). Ranjanas unika ID kommer göra det möjligt för både offentliga och privata aktörer att spåra hennes journal, en sammanställning av hennes profil, vilken kan komma att användas exempelvis av försäkringsbolag vid riskbedömningar eller av andra företag vid säkerställandet av hennes identitet, en procedur känt som Know Your Customer (KYC).

### Syfte och målsättning

Avhandlingens huvudfokus ligger främst på hur biometrisk identifikation strategiskt motiveras och förstås, hur biometriska registrering utförs samt på lokala appropriationspraktiker. Avhandlingen behandlar systemets uppkomst, vilka subjekt som utgör systemets huvudsakliga målgrupp samt hur dessa subjekt klassificeras. Systemets ’produktiva’ natur – hur systemet intervererar i människors liv – granskas. Avhandlingen undersöker hur regementala biometriska praktiker översätts i och av den indiska kontexten.

Jag undersöker tre primära forskningsfrågor. För att utforska systemets utveckling, dess uppkomst och de olika (förverkligade och planerade) kontexter i vilka det ämnas implementeras, frågar jag: vilka är de regementala förståelseramarna som möjliggör biometrisk identifikation i Indien?

Diskurserna kring, motivationen till och praktikerna som utgör biometrisk identifikation aktiveras på grund av den inbyggda förståelse av vad biometrisk identifikation gör. På det sättet kan biometriska verktygs materialitet anses både möjliggöra och begränsa olika regementala tekniker. Digitaliserade biometriska verktyg genererar nya möjligheter att spåra enskilda UID-nummer genom ett stort nätverk och kan användas i en mångfald av regementala domäner. Inte minst erbjuder de en mer detaljerad överblick av individens rörelser och beteendemönster. Med syftet att undersöka dessa tekniker, formuleras avhandlingens andra frågeställning som: Hur formar nationell biometrisk identifikation de villkor under vilka det blir möjligt att styra mänskligt beteende?

Avhandlingens tredje frågeställning frågar hur människor använder och approprierar deras digitala biometriska legitimation. Trots vad som presenteras som ett konsekvent och logiskt samband mellan vad som har motiverat systemet och hur det används – hur det klassificerar, identifierar och disciplinerar subjekt – finns det tveklöst ett inneboende utrymme för att förhandla och appropriera användandet av systemet. Denna fråga behandlar möjligheten att appropriera regementala logiker och de uttryck och tillvägagångssätt som sådana processer tar i Indien.

#### Avhandlingens struktur och innehåll

Avhandlingen består av det övergripande ramverket – kappan – samt sex artiklar. I kappans andra kapitel beskrivs avhandlingens teoretiska ramverk och dess huvudsakliga begreppsram: regementalitet, biomakt och appropriering. Vidare etableras regementalitet som ett analytiskt ramverk för att studera biometrisk styrning i den postkoloniala världen. Genom att använda begreppet appropriering vidgas det teoretiska ramverket för att möjliggöra studier av kontextspecifika former av, för den regementala ordningen, potentiellt subversiva och destabiliserande handlingar.

I Kapitel 3 diskuteras de metodologiska förutsättningarna för det fältarbete som utfördes under flertalet omgångar i Indien mellan 2011 och 2014. Avhandlingen är en multisite-studie i kombination med sekundär datainsamling (officiella dokument, hemsidor, media etc), semistrukturerade och ostrukturerade intervjuer, observationer vid registreringslokaler och narrativ analys (Creswell 1998; Hollway och Jefferson 2000).

Avhandlingen består av följande sex artiklar:

1) *Unique Identification: Inclusion and surveillance in the Indian biometric assemblage* Publicerad 2012 i tidskriften *Security Dialogue*, Special Issue: "Governance (in)security in the postcolonial world" gästredaktörer Jana Hönke och Markus-Michael Müller.

Titel i översättning: Unik identifikation: Inkludering och övervakning i det indiska biometriska nätverket

I denna artikel adresseras avhandlingens första frågeställning. Särskilt behandlas motivationen bakom och förståelsen av biometriska identifikationspraktiker i Indien. Jag diskuterar och undersöker hur och i vilka kontexter som biometrisk identifikation framstår som en lösning till ett brett spektrum av regementala problem, i relation både till ekonomisk inkludering och övervakning. Särskilt granskas hur olika subjekt konstrueras som intervenierbara i de diskurser och praktiker som omfattar Indiens nationella identifikationssystem.

2) *Preventing, Predicting or Producing Risks? National Biometric IDs in India*. Publicerad 2013 i antologin "India's Human Security: Lost Debates, Forgotten People, Intractable Challenges", redaktörer Jason Mikilan och Åshild Kolås.

Titel i översättning: Att förebygga, förutse eller producera risker? Nationell biometrisk legitimation i Indien.

Kapitlets huvudsakliga fokus ligger på vilka säkerhetspraktiker som möjliggörs, besjålas och genereras genom implementeringen av övervaknings- och spårningsteknologi i Indien. Jag diskuterar även hur det biometriska systemet formar villkoren för att styra mänskligt beteende på individ- respektive befolkningsnivå (forskningsfråga 2) och undersöker på det sättet vad ett storskaligt biometriskt projekt 'gör'. Med andra ord hur systemet påverkar olika säkerhetspraktiker och hur det introducerar nya sårbarheter och risker i det regementala systemet. Jag argumenterar för att framsteg i spårning- och övervakningsteknologi omformulerar vad som uppfattas som ett säkerhetsshot i och av den indiska staten.

3) *Surveillance as method: The challenge of studying the Unique Identification System (UID) in India*. Samskriven med J. Peter Burgess. För närvarande under granskning för ett specialnummer om övervakning i tidskriften *Media and Communication*.

Titel i översättning: Övervakning som metod: Svårigheten att studera projekt Unik Identifikation (UID) i Indien.



Artikel 3 diskuterar hur övervakningsforskare positionerar sig i förhållande till identifikationssystem samt den inneboende metodologiska partiskheten hos sådana system. Diskussionen syftar till att svara på avhandlingens första och andra frågeställning, genom att tränga in i de diskurser som ligger bakom nationella biometriska projekt samt genom att ställa frågor kring de styrningsstrategier i vilka unik identifikation kan placeras och förstås.

4) *List as a disciplinary and discriminatory device: Financial policing in Europe and India*. Samskriven med Anthony Amicelle, För närvarande under granskning för ett specialnummer av tidskriften *Environment and Planning D: Society and Space* om "The Politics of the List: Law, Security, Technology". Redaktörer Marieke de Goede, Anna Leander och Gavin Sullivan.

Titel i översättning: Listan som en disciplinerande och diskriminerande apparat: Finansiell övervakning i Europa och Indien.

Artikel 4 erbjuder ett vidgat perspektiv och behandlar större frågor om globalt standardiserade normer och teknologier och dess lokala tillämpning. Artikelns huvudfokus ligger å ena sidan på hur teknologier influerar (disciplinerar) indiska och europeiska banktjänstepersoners beteende. Å andra sidan behandlas hur banktjänstepersoner själva gör sådana teknologier till sina egna. Därmed kopplas avhandlingens tre forskningsfrågor samman och erbjuder en diskussion om vilka möjligheter digitaliserade verktyg erbjuder samt hur de motiveras, används och approprieras i skilda kontexter.

5) *Biometric registration in India: a story of boomerang effects*. För närvarande under granskning för en antologin *Translations of Security* (kommande 2015) av Ole Wæver, Karen Lund Pettersen, Ulrik Pram Gad och Trine Villumsen Berling.

Titel i översättning: Biometrisk registrering i Indien: En berättelse om bumerang effekter.

I detta kapitel presenterar jag historien om Ananya och Polas som båda har registrerats i Indiens nationella biometriska system. De betraktar deras id-nummer (UID) som en möjlighet att fastställa deras identitet vis-à-vis både staten och privata aktörer. Denna korta fältberättelse ger en glimt från de parallella verkligheter som biometrisk registrering innefattar, från indiska Vrindavan till Afghanistan. Berättelsen visar på den transnationella karaktären av det biometriska systemet och demonstrerar de förbryllande och lokala metoderna med vilka detta används.

6) *A divine impersonation: Appropriation of governmental power in India.*

Titel i översättning: En gudomlig imitation: Appropriering av regemental makt i Indien.

Genom att undersöka narrativ om bedrägeri och urkundsförfalskning som en form av appropriering svarar artikeln på avhandlingens tredje forskningsfråga. Artikel för fram två berättelser, den ena utifrån invånare i Vrindavan och New Dehli om bedrägeri och den andra om urkundsförfalskning. Eftersom regementala biopolitiska strategier (se kapitel 2) riktar sig mot subjektiviteter undersöks falsk gestaltning som en approprieringsteknik. Genom intervjusvar om människors föreställningar om det biometriska systemet – fördelarna med registrering, vilka målgruppen är samt vad systemet syftar till – påvisar jag att systemets huvudsakliga regementala motiv approprieras av den tänkta målgruppen, genom vilka alternativa användningsområden uppstår.

## Appendix 1. Overview of interviews 2011-2014

Year/Month	City	Interviewee*	Type of Interview**	Comments
2011/May	---	Gus Hoscin	SSI	Phone interview
2011/July	--	Aron Martin	SSI	Phone Interview
2011/September	New Delhi	Usha Ramathan	SSI	Article 1,2
	New Delhi	Swagato Sarkar	SSI	Article 1,3
	Bangalore	T. Mathews	SSI	Article 1,2
	Bangalore	Nafis Hasan	SSI	Article 1
	Bangalore	Natasha Vaz	SSI	Article 1
	Bangalore	Malavika Jayaram	OE	Article 1,2
	Bangalore	Nishant Shah	OE	Article 1
	Bangalore	---	OB	Article 5
	Bangalore	---	OB	Article 5, 6
	Pondicherry	Kavitha	OE	Article 1, 6
	Pondicherry	Anonymous	OE	Article 1
	Pondicherry	Anonymous	OE	Article 2
	Pondicherry	Anonymous	OE	Article 1,6
2011/December	New Delhi	Singh	Con.	Article 2
	New Delhi	Priya	Con.	Article 2
	New Delhi	--	OB	Article 5, 6
2012/February	Vrindavan	Seeta	Con.	Article 6
	Vrindavan	Polas	Con.	Article 5,6
	Kathmandu	Priyam	Con.	Article 2
2012/March	Varanasi	Anonymous	OE	Article 6
	Varanasi	Anonymous	OE	Article 6
	Varanasi	Anurag	OE	Article 6
	Bhagalpur	Nitai	OE	Article 6
	Bhagalpur	Anonymous	SSI	Article 2
2012/April	Vrindavan	Mukutwallah	Con.	Article 6
	New Delhi	"Jitendra"	OE	Article 1; 6
	New Delhi	3 interviews at the headquarter of UIDAI	SSI	Article 1; With Geeta Patel
	NOIDA	2 interviews with Relationship mangers (RM), Standard Chartered	OE	W. Geeta Patel
	NOIDA	2 interviews at Alinkt	OE	W. Geeta Patel
	NOIDA	Anonymous	Con.	W. Geeta

				Patel
	New Delhi	Alankit	OE	W. Geeta Patel
	NOIDA	Kanchan	Con.	Article 6
	NOIDA	Anonymous	Con.	W. Geeta Patel
	NOIDA	Anonymous	Con.	W. Geeta Patel
	NOIDA	Anonymous	OE	W. Geeta Patel
	NOIDA	Anonymous	OE	W. Geeta Patel
	New Delhi	Rajshekhar	OE	W. Geeta Patel
	New Delhi	Kumar	Con.	Article 6
	New Delhi	2 int. at the SPYM	OE	Article 1, 6
	New Delhi	Anonymous employee Mother NGO	OE	Article 1
	New Delhi	3 interviews at Mother NGO	OE	Article 1
	New Delhi	--	OB	Article 5, 6
2012/September	Agra/Vrindavan	2 interviews RM	SSI	Article 4
	Vrindavan	Sanjay	OE	Article 6
	Agra	RM HFBC	SSI	Article 4
	NOIDA	HFBC Bank Compliance officer (CO)	SSI	Article 4
	NOIDA	ICICI bank RM	SSI	Article 4
	Ghaziabad	Neeti	OE	Article 6
	NOIDA	Standard Chartered Bank RM		Article 4
	Ghaziabad	Ajay	Con.	Article 6
	Ghaziabad	Anonymous	OE	Article 4,6
	NOIDA	Insurance agent	OE	Article 4,6
	New Delhi	HFBC bank RM and CO	SSI	Article 4
	New Delhi	ICICI Bank CO	SSI	Article 4
	NOIDA	State bank CO	SSI	Article 4
	Vrindavan	HFBC RM		Article 4
	New Delhi	Manager State Bank of India	SSI	Article 4
2014/January	Vrindavan	Enrolment site 1	OB	Three days OB, Article 5,

	Vrindavan	Enrolment site 2	OB	6 One day OB, Article 5,6
	Vrindavan	Polas and Ananya	Con.	OB Over several days at enrolment site, home and more
	Vrindavan	Vena	Con.	Article 6
	Vrindavan	Geeta	OE	Article 6
	Vrindavan	Deepak	OE	Article 6
2014/March	Vrindavan	Keshaw	OE	Article 6
	Vrindavan	Bachu	OE	Article 6
	Vrindavan	Raj	OE	Article 6

\*Apart from names of researchers or activists, all names of persons in this list have been changed.

\*\*Semi-structured interview: SSI; Open-ended interview: OE; Focus Group: FG; Observation at enrolment site: OB; Conversation: Con.



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