The political economy of the Ganga River : highway of state formation in Mughal India, c.1600-1800

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The Political Economy of the Ganga River

Highway of State Formation in Mughal India, c. 1600-1800

Cover illustration: Gezicht op de baai van Sultanganj aan de Ganges (View of the riverbank of the Ganga, Sultanganj) drawn by the ship's surgeon, a VOC employee, Nicolaus de Graaff in 1671. COLLBN Port 314 I N 109, © Special Collections, Leiden University Library.

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Murari Kumar Jha

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for my parents

Smt. Shanti Devi and Sh. Chandra Kumar Jha (maan and papa)

Contents

Preface and acknowledgements

Born in the small village of Darbhanga in northern Bihar without proper electricity or roads, I never dreamt of going to New Delhi for higher studies let alone of travelling abroad. Yet if this became possible, in a way it was because of the passion for history that my father (a high school history teacher) succeeded in inculcating. I still remember his fascination for history, not only Indian but also European. He told me many stories from the Greco-Roman world to World War II while ferrying me on his bicycle to the high school located six kilometres from home. In my little village, our only contact with the outside world was the BBC radio's Hindi news bulletin on India and the world affairs which my father made sure that I should never miss. After completing high school in 1991, I was put under the guardianship of my eldest uncle, Krishna Kumar Jha who was a professor of economics at Bhagalpur University. He taught me to dream big and aspire for the apparently impossible. In 1999 when I passed the entrance examination of Jawaharlal Nehru University to pursue my master's degree, I realized that I had paid some heed to what my uncle taught me. At the same time, I was also aware that I had only just embarked on a long and arduous but fascinating journey of historical enquiry.

In Bhagalpur (Sultanganj), our home was barely a kilometer away from the south bank of the Ganga. It was here that I came to know the river more, often took walks along the riverbanks, and perfected my swimming in it. But more than swimming or taking a dip, I often used to dive into the river's past, or at least the past to which the river had been a witness. Relocating to Bhagalpur, more than 230 kilometres to the east and south from Darbhanga also made me feel the contrast between the rather insular and agriculture-based village life of northern Bihar and the relatively better-connected and generally outward-looking approach of the people south of the Ganga. Folk songs and stories that crossed my ears contained grains of history—of merchant boats plying in the river or people exchanging milk for areca-nuts with passing merchants.

Although good work has been done on the ancient and modern periods of South Asian history, for the early modern period writing history from an environmental perspective is still unfashionable. My interest to know about nature and its destructive and constructive potentials dates from my high school years. In 1984, and again in 1987, devastating floods visited northern Bihar and my village was badly affected. For my family and other villagers it was practically an amphibious life for some weeks, and our survival depended on some food and cloth provided by voluntary organizations in a badly coordinated manner. The aftermath of floods was no less scary as crops were already destroyed and it was feared that a cholera epidemic might annihilate the entire

village. Food shortages forced many villagers to migrate to the towns to work in a factory just for survival. My mother used to tell the stories of earlier droughts and how people managed to survive by eating boiled *arhar* (lentils). The mighty earthquake of 1989 in northern Bihar once again drew attention to nature and its destructive potential. To me nature appeared overpowering, yet people managed to find ways and means to survive its vagaries without completely submitting to it.

In this dissertation I have examined how people exploited the natural environment of the Ganga plain. As we will see, since the first millennium BC they have not only survived the caprices of nature, they also succeeded in taming it, in producing surplus food, and in laying the foundations of urban centres and the state. By anchoring firmly on the Ganga River, I will examine how this was possible and how the interactions of people and resources between the drier and humid zones of the plain influenced the process of state formation during the early modern period.

While at Sultanganj, it was hard for me to imagine that barely two hundred years ago the river had not only been a highway of trade and navigation but also sustained the mighty empire of the Mughals. At that time I did not know that one day I would investigate the historical past of the river. However, when the opportunity came my way, it was as if I had been waiting for it all along.

This happened thanks to the Encompass programme initiated and coordinated by Leonard Blussé and the generous fellowship that brought me to Leiden in the summer of 2006. From day one, I knew that it was a great opportunity to learn and benefit from the tradition of historical enquiry set by Jan Heesterman, Dirk Kolff, and André Wink, among others, and to explore the fascinating repository of the VOC archives. But before I could take a PhD at Leiden, it was compulsory to learn the Dutch language and obtain BA and MA/MPhil degrees. My interest in the history of the Ganga was rekindled by the courses offered in the class of Jos Gommans and an MPhil thesis that I wrote with him. If I succeeded in articulating an historical geographic perspective for a history of the Ganga and its political economy sustained by the people of eastern India, credit must go to my mentor, Jos Gommans, who reposed great faith in my ability. The mores of Leiden University do not allow thanking the supervisors, yet I may be allowed simply to state that without Jos Gomman's conscientious and gentle supervision, it would have been impossible for me to complete this dissertation. I owe a great intellectual debt to him for stimulating my thoughts during all these years at Leiden. After the completion of my Encompass fellowship I obtained a PhD fellowship in Germany. But my second supervisor, Leonard Blussé, intervened and advised me to stay. Together with Alicia Schrikker he successfully applied for a PhD scholarship to the Leiden University Fund which enabled me to commence my doctoral research in 2009. After his retirement he continued to take great interest in this research, and promptly read and commented on draft chapters. His insights into parallel historical developments in the Yellow and Yangtze river-plains of China were particularly helpful. Special thanks go to the Leids Universiteits Fonds (LUF) which funded a

three-year position as *Assistent in Opleiding* (AIO), enabling me to complete my doctoral dissertation.

Seven long years stay at Leiden would have been difficult had not it been to the friends and colleagues who made me feel at home. From the very beginning, Alicia Schrikker took care of the students who came to join the Encompass programme, and I was among the lucky beneficiaries of her compassion in spite of my uncouth habits. Marijke van Wissen-van Staden never tired in helping us to settle, and subsequently for every practical need she offered her good office till the finish of this dissertation. Yolande Spaans not only taught the Dutch intensive course, she drove us to her home in Groningen and gave one of our first glimpses of the Dutch countryside, where in the month of August several grazing fields are abuzz with lovely Frisian cows, the famous breed that I knew from my village. René Wesel proved to be a wonderful language teacher during the first year of Encompass programme. Subsequently, Ton Harmsen took over the palaeography classes and helped us in translating the never-ending sentences of the VOC documents. I am grateful to him and his wife, Paula Koning, for their help in transcribing some of the VOC documents. I should also thank Henk Niemeijer, who I happened to meet in New Delhi, for letting me know of an opening in the Encompass fellowship programme.

In the course of writing my dissertation I accumulated huge debt of gratitude for librarians, archivists, scholars, and fellow researchers in the Netherlands, the United Kingdom, and India. Frailty of human memory makes it difficult to enumerate each name, yet my heartfelt thanks go to all of them. Staffs of the Leiden University Library graciously helped me find books and I owe a special word of thanks to Raju Bakker and Dory Heilijgers. Staffs at the KITLV library and Koninklijke Bibliotheek were equally helpful. The National Archives at The Hague is perhaps the most efficient place to read the VOC sources, where the cheerful staffs such as Frank Kanhai, Jairaj Kino, Manoj Seth, Ashfaq *bhai*, and John *bhai*, among others, kept me entertained. Working at the British Library was a pleasurable experience where the staffs at the Asia Pacific and Africa Collections worked with amazing efficiency. I also express my thanks to the staffs at the Cambridge University Library and the Bodleian Library at Oxford. In London, Menka Jha offered the best chicken biryani ever at her home, while Saurabh Mishra drove me to Oxford not only for the library visits but more important for the drinks at his favourite pub. Raisur Rahman, Titas Chakraborty, and Arvind Elangovan gave good company while working at the British Library. In India, the West Bengal State Archives' authorities at Kolkata were very kind to give me permission to use my laptop in the reading room. At the Bihar State Archives, Patna, where the documents are reportedly being catalogued, members of the staff randomly picked some files of the early colonial period for me to read. In Patna the discussions with Hetukar Jha were particularly useful. Pius Malekandathil, Ranabir Chakravarti and Himanshu Prabha Ray were always generous with time whenever I visited them at JNU to discuss about my doctoral research. I also extend my thanks to Yogesh Sharma for his encouragement.

Back in Leiden, the TANAP PhD students Ghulam Nadri, Chris Nierstrasz, Binu John, Liu Yong, Hoang Anh Tuan, Nirmal Dewasiri, and Anjana Singh were always kind enough to offer suggestions and encouragement. I am also thankful to Irfan Ahmad and Niruj Ramanujam for meetings at the Einstein or North End pubs and for discussions on issues other than research. Cynthia Viallé was very kind to help me with decoding certain Dutch words for Japanese gift items mentioned in VOC documents. Bhaswati Bhattacharya kindly shared her own research on the Armenians in early modern India.

I stayed at several houses and shared great times with a variety of housemates in Leiden. The first year at the Encompass house at Nieuwe Rijn 97 will remain memorable. In that house which was originally constructed in the seventeenth century on an ancient branch of the Rhine River, students from Asia and Australia became part of a big family of which Bede Moore, Farabi Fakih, Li Wen, Pham van Thuy, Diantyo Nugroho, Nadia Fauziah Dwiandari, Abdul Wahid, Mawardi Umar, Nilushi Hettiarachchi, and Agus Setiawan were the esteemed members. With the first two, especially, I had loads of fun. At Boerhaavelaan, the budding-astronomer friend Akila Jeeson Daniel made wonderful housemate. While living at the Prinsenstraat house, I had great time with Andreas Weber and Ayola A. Adegnika. While the former has survived his PhD and is thriving as a postdoc untangling the history of Dutch paper making and paper circulation, Ayola is trying his luck to become the president of his home country, Benin. I also have special memories of eating and drinking sessions at the Prinsenstraat house with Job van der Meer, the psychologist who shared experiences of his profession, Weichung Cheng who every now and then refused to smile because he was too busy with a PhD chapter, and Roman Siebertz who was all set to map out the mentality of Safavid Iran. Friends like Shila Schoots, Manilata Chaudhury, Martand Pragalbha, Pim de Zwart, Tom Hoogervorst, Judith Korbee helped in several ways. Carina van de Wetering and Jinna Smit were great family friends whose invaluable support cannot be enumerated.

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admire the skills of Mahmood Kooria who formatted the dissertation and designed its cover page. I thank him for his excellent camaraderie.

A number of scholars commented and criticized some of the chapters that I presented at the Encompass conferences in Mumbai (2010) and Colombo (2011), the conferences at Teen Murti and ICHR in Delhi (2011), the World Economic History Congress at Stellenbosch (2012), and the Leiden-Warwick workshop (2012) at Leiden. I am very grateful to them. I feel indebted to Carl Trocki for sending me his paper on opium, Nira Wickramasinghe and Jan Lucassen for reading and commenting on Chapter 1 and 4 respectively. J. C. Heesterman and D. H. A. Kolff were generous with their time as I told them about the progress of my research and offered their valuable suggestions. I also discussed my research with Om Prakash during his visits to Leiden and benefitted from his suggestions. I acknowledge my intellectual debt to all of them. Job Weststrate was kind to share his own research on the Rhine River, while Birendra Nath Prasad sent his works on early medieval Bengal.

My heartfelt thanks go to Lincoln Paine who painstakingly corrected the English of the dissertation, improved its style, saved me from many factual errors and made some invaluable comments. Andreas Weber and Esther van Gelder kindly helped me translate the summary into Dutch, I specially thank them both.

Had it not been for my parents' (*maan* and papa) unflinching love and undiluted faith in me, I would have not been able to complete this dissertation. In their old age, they allowed me to pursue my ambition in a faraway land when they needed me the most. I do not know if I will ever be able to thank them for their sacrifice. I miss my uncle Ganesh Jha (*kaka*) who recently passed away and till the very end kept on enquiring from me about when I would finish my studies and start a *naukari* (job). From Mumbai my uncle Umesh Kumar (*Chhota babu*) never failed to inspire confidence, while both my brothers, Vagish Jha and Rajesh Jha (*bhaiya*) and sisters-in-law Meera Jha and Ruby Jha (*bhauji*s) in New Delhi freed me from the family obligations. I am grateful to my parents-in-law (Gajendra Jha and Kanti Jha) for sparing the time to be in Leiden and freeing me to complete the dissertation when my wife was about to deliver a baby. Ever since Veena joined me at Leiden, her unfailing support as a friend, partner, and loving wife has been of the highest order and she often reluctantly allowed me the long office hours. As soon as I completed the dissertation-writing, Veena gave us the amazing gift of a baby girl, our adorable Yashita, whose smile alone makes me forget the toils of academic research.

A big thank you to Leiden, Encompass and my extended global family for making all this possible!

Glossary

aalu-posto	potato with poppy seeds, a vegetable cuisine of Bengal
abkari opium	excise opium
agni-curn	lit. fire-powder, Sanskrit name for gunpowder
ahar	rain or floodwater conserved in an earthen cistern
altamghadar	holder of revenue-free lands
amalguzar	collector of the land revenue
amberty	cotton textile from Bihar
amil	revenue official
ana	unit of money, sixteen makes one rupee
anupa	marshland
arhar	lentil, produced without need of irrigation
asamiya	petty contractor
ashwamedha	horse sacrifice
atishbaz	firework-maker
avatar	incarnation
bafta	a fine cotton textile
baladiya	transporter and peddler merchant
balsundari	sandy soil
banjara	grain trader cum transporter
bankatai	felling of the jungle
bhadai	quick-growing rice, millet, maize, and jute crops
bhangar	older alluvium
bhaud	type of boat
bhur	sandy patches of land

bigha	a measurement of land ranging from 22,500 to and 27,225 square feet, with considerable regional variations
bildar	earth-workers such as diggers or dike makers
brahmadey	revenue-free grants donated to Brahmans by the king or state
budgerow	type of boat
casset	Dutch rendering of the Persian *qaseed* meaning, courier
chakravartin	Sanskrit term for a universal ruler
chowki	a customs post
Dakshina Ganga	southern Ganga referring to the Kaveri River
dalal	broker
dam	a unit of money, copper coin, the fortieth part of a rupee
dandi	boatman or rower
darbar	court
darogha	overseer or superintendent, or head of any department.
dastak	pass granting duty-free trade rights
dhose or *krine*	tool made from a hollowed-out tree trunk for lifting water from a *pyne* or canal
dhoti	unstitched plain cotton cloth measuring five yards long and worn by Indian men
diwan	revenue minister
diwani	Mughal taxation rights
doab	land between the two rivers
dobara	twice-refined saltpeter
domut	a type of soil mixed with sand and clay
fakhru'l-tujjar	pride of the merchants
farman	royal order normally issued by the Mughal emperor
faujdar	police officer
faujdari	keeping of law and order, with the police functions of a faujdar
fu-shui	happiness-water, referring to Ganga water.
ganasangha	confederacy in later Vedic India

Ganga mata	mother Ganga
Gangadatta	the gift of Ganga
Ganga-putra	son of the Ganga
ganj	grain-market
gerriaal	from the Hindi *ghariali* for a time-keeper
ghat	a post on the river-bank
ghee	clarified butter
gomashta	a broker or agent who came from a diverse group of merchants and was employed by the European Companies to procure goods
haat	weekly fair
harkara	messenger
hasil	collected land revenue
hoekiel	*vakeel* or agent
hundi	bill of exchange
ijara	revenue farming
ijaradar	revenue farmer
ijaradari	farming out the land revenue
jagir	the revenue bearing area
jagirdar	holder of revenue-bearing area
jama	assessed land revenue
jangala	dry land of scrubs
jheel	lake
kahar	palanquin carrier
kalmi or *dobara-cabessa*	saltpeter containing up to 95 percent nitre
kamia	someone of the landless agricultural labour caste
karori	the official who assessed the land under cultivation for revenue collection
kewal	fertile loam
khadar	newer alluvium
khalisa	crown-land

kharif	a crop sown in late summer and autumn and harvested in winter
khesari	chickling-vetch
khoijdrij	*koeri*, the caste which grew opium
kist	a unit of measure equals to 2 *man* of 72½ Dutch pounds
kolhu	an oil-pressing mill
kos	*kos* was a measurement of distance that varied from region to region; the "kos pakka" in the Ganga plain measured 3.21 kilometres
kothi	a manufactory or production centre
krsiparasara	extension of agriculture
laken	woollen cloth from the Dutch Republic
lakh	one hundred thousand
lumberdar	primary contractor
madad-i-ma'ash	charitable grant of land
madak	blend of opium smoked along with tobacco
mahajanapada	great country or territory
mahatmya	verse of praise
makara	crocodile, the official vehicle of the goddess Ganga
man	a variable measure of weight; the Patna man weighed 72 ½ Dutch pounds while the Bengal man weighed 68 Dutch pounds
mandi	local market
manjhi	boat-captain
mansabdar	Mughal military rank-holder
mausim	season
muhr	169-grain coin of almost pure gold
naharin	iron blade with which incision was done on poppy balls
naib	deputy
nishan	an order or permit usually issued by a prince of blood
nunia	the caste-members of which worked as saltpeter scrapers
paikar	the local small merchant

Papaver somniferum	poppy
pargana	a fiscal sub-division of several villages
peshkash or nazrana	tribute
phoura	spade, from the Hindi *fawra*
pion	agent used as a local informant, messenger or militia by the Dutch
pollewaer	Dutch word for *pulwar*, a type of boat
pond	Dutch unit of weight equivalent to approximately 1.09 lbs. avoirdupois, 0.49 kilogram
posta-dana	ingredient for making cookies and sweet-meats
puckwah and *fool-kharee*	types of edible salt made from saltpeter
pulbandi	management of the pools
pyne	narrow artificial water channel used for irrigation
qasba	small market town
qaul	a deed of lease
rabi	crops sown in winter and harvested in March-April
rahdari	road tax or transit duty in Mughal India
raiyyat	tenant-farmer
rawana	a pass or permit
rehar	sandy soil
sanyasi	the warrior ascetic
sari	unstitched cotton cloth, plain, printed and painted worn by Indian women
sarkar	revenue district of a Mughal province
seckwaard	a Dutch term that probably refers to the Chakwar of the Bhumihar caste
ser	unit of weight, usually fortieth part of a man
Shakti	goddess representing the female energy
Shorea robusta	*sal* tree
shroff	money changer
sipahi	sepoy

sipij	tool of iron or sea-shell used for collecting juice from a poppy capsule
soma	intoxicating drink of the Vedic Aryans
sorbet	ice-cooled sweet drinks
stupa	sepulchral mound
suba	province
subadar	viceroy or governor of a province
tacavi	loans given to peasants for cultivation
terai	a belt of marshy grasslands, savannahs and forests
thana	administrative unit or police station
tirtha	pilgrimage
tribeni sangam	the confluence of the triple braid at Prayag, where the Ganga, Yamuna and (invisible) Sarasvati meet
vaidya or *hakim*	an Ayurvedic or Unani doctor
watan jagir	home-fiefdom
wazir	minister
yakshi	nymph
zamindar	land-holder

Abbreviations

APAC	Asia, Pacific and Africa Collections
BBRP	Bihar and Benares Revenue Proceedings
BL	British Library
BPC	Bengal Public Consultations
BPP	Bengal Past and Present
CSSH	Comparative Studies in Society and History
EEH	Explorations in Economic History
EIC	English East India Company
HM	Home Miscellaneous
ICHR	Indian Council of Historical Research
IESHR	Indian Economic and Social History Review
IHR	Indian Historical Review
IJHS	Indian Journal of History of Science
IOPP	India Office Private Papers
JBRS	Journal of the Bihar Research Society
JESHO	Journal of the Economic and Social History of the Orient
JSAS	Journal of Southeast Asian Studies
JWH	Journal of World History
MAS	Modern Asian Studies
MCC	Middelburgsche Commercie Compagnie (The Middleburg Trade Company)
MHA	Medieval History Journal
NA	Nationaal Archief (National Archives, The Hague)
NBPW	Northern Black Polished Ware, dated between 700 BC and 200 BC
PFR	Patna Factory Records
PGW	Painted Gray Ware culture, dated between 1100 BC and 500 BC
VOC	Verenigde Oostindische Compagnie (Dutch East India Company)
WBSA	West Bengal State Archives
WIC	West-Indische Compagnie (The Dutch West India Company)

Introduction

Each river is a special little world.[1]

Ganga Empires

Political powers from the Mauryas to the British Raj have exploited the Ganga as a highway of imperial conquest, control, and exploitation. Although the sources on the Mauryas (321–184 BC) do not specifically link the Ganga to empire, the location of the imperial seat at Pataliputra (Patna) speaks of the river's importance as the arterial vein of empire.[2] A few centuries later, evidence from the Gupta rulers, especially Samudragupta (r. 335–76 AD), is even more explicit about acknowledging the river and equating its waters with imperial fame.[3] The river remained the cornerstone of the state-building projects of later rulers, be it with far-reaching imperial ambition of Harsha of Kannauj (r. 606–47 AD), or a more regional orbit of the Palas of Bengal (750–1185 AD).

In the first half of the second millennium AD, Turkish and Afghan conquerors from the semi-arid marches of the northwest set up camp in Delhi and started to use the Ganga to exploit the far more humid and fertile river-plains of Hindustan to their east.[4] Just like these Delhi Sultans, their Mughal successors could hardly ensure the survival of their empire without exploiting the agricultural resources along the eastern tracks of the Ganga.[5] Although the first Mughal emperor, Babur (r. 1526–30), failed to completely subdue Bihar in 1529, his son and successor Humayun (r. 1530–40 and 1555–56) marched eastward along the Ganga to consolidate his empire. Mughal expansion encountered serious resistance from the Afghans, who controlled the

[1] Lucien Febvre, *A geographical introduction to history*, in collaboration with Lionel Bataillon, trans. E. G. Mountford and J. H. Paxton (London: Kegan Paul, 1932), 302.

[2] Kautilya the author of the *Arthashastra*, a monumental Sanskrit work in political economy assumed to have been written in the late fourth and third centuries BC with later additions to the corpus, suggested the worship of the Ganga during the famine; see Kautilya, *The Arthashastra*, ed. and trans. L. N. Rangarajan (New Delhi: Penguin, 1992), 107.

[3] John Faithfull Fleet, *Corpus inscriptionum Indicarum, inscriptions of the early Gupta kings and their successors*, vol. 3, *The Gupta inscriptions. Texts and translations* (Calcutta, 1888), 16.

[4] Peter Jackson, *The Delhi Sultanate: A political and military history* (Cambridge: Cambridge University Press, 1999), 19, 138.

[5] For Babur's march along the Ganga in pursuit of Afghans, see Babur, *Babur Nama: Journal of emperor Babur*, trans. from the Turkish by Annette Susannah Beveridge, ed. Dilip Hiro (New Delhi: Penguin Books, 2006), 307–309.

Figure 1. Battle on the Ganga in eastern India in the 1570s, source: *The Akbarnama*.

strategic marchlands along the Ganga and had access to the agricultural wealth of the flood plains. One of them, Farid Khan, managed to overthrow the Mughals to become Sher Shah (r. 1540–45), the first ruler of the Sur dynasty. Humayun's defeats at the battles of Chausa and Bilgram (1540) gave a decisive edge to Sher Shah, who now became the undisputed master of the Ganga plain. For obvious logistical reasons, both these encounters occurred close to the banks of the Ganga. On the last occasion, Humayun was able to save his life by swimming across the Ganga on a leather bag given to him by a *visti* (water carrier).[6] Saved by the river, Humayun survived the Afghan onslaught and successfully reclaimed the empire in 1555. Humayun's successor, Akbar (r. 1556–1605) could hardly delay the conquest of this economic powerhouse of northern India. Hence in the 1570s his army marched along the river and conquered Bihar and Bengal, meanwhile pacifying numerous landed gentry (*zamindars*), partly by making them stakeholders in his empire. Not surprisingly, when the Mughal Empire began to decline in the eighteenth century, the zamindars along the eastern tracks of the Ganga became the focus of a renewed process of state formation. This time, the integration of the commercial economy of eastern India with the global maritime economy worked as a catalyst on a long-established, if as yet unarticulated, geopolitical logic. As we shall see in this study, like the zamindars, merchants and imperial *jagirdars* (holder of revenue-bearing area) also forged links with the maritime forces, and eventually one of them, the English *Company Bahadur*, was able to lay the foundation of the British Indian Empire on the banks of the Ganga after 1757.

If the Ganga has been such a vital artery in the political life of South Asian empires, how can we explain the silence about this in the historiography? Compared to the Indus River and the civilization that it engendered, scholars have rarely studied economic and political developments with the Ganga as the focal point of their analysis.[7] So before discussing the historiography that pertains to the present study, I should first broadly frame the Ganga in the *longue durée* of the subcontinent's geography.

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[6] Ishwari Prasad, *The life and times of Humayun* (Calcutta: Orient Longmans, 1955), 134.

[7] Although several eminent scholars have studied the Ganga plain, they have taken the river for granted and have accorded no historical agency to this geographical entity. For example, see Romila Thapar, *Asoka and the decline of the Mauryas*, 2nd ed. (Delhi: Oxford University Press, 1973), and idem, *Ancient Indian social history: Some interpretations* (New York: Orient Longman, 1978). In the latter work, Thapar refers to a second urbanization in the Ganga valley after the decline of the first Indus civilization in the second millennium BC (p. 37), but she acknowledges the physical importance of the Ganga itself in making possible the irrigation and fertility of the plain, or facilitating the transportation that helped bring about this second urbanization. See also R. S. Sharma, *The state and varna formation in the mid-Ganga plains: An ethnoarchaeological view* (New Delhi: Manohar, 1996); Birendranath Ganguli, *Trends of agriculture and population in the Ganges Valley* (London: Methuen, 1938); Dilip K. Chakrabarti, *Archaeological geography of the Ganga Plain: The lower and middle Ganga* (New Delhi: Permanent Balck, 2001). In giving economic agency to the Ganga River, Steven G. Darian remains a notable exception; see his "The Economic Role of the Ganges to the End of Gupta Times," *Journal of Economic and Social History of the Orient* (*JESHO*) 13:1 (1970): 62–87.

Ganga Longue Durée

The significance of a river in lending identity to a geographic zone is undeniable. It is common knowledge that the name India derives from the Indus River. The Persians and Arabs utilized the river's Sanskrit name, Sindhu, to call the geographical area south and east of the river "the land of/beyond the Indus": Hindustan or simply Hind. Although the civilization supported by the Indus rose, declined, and even disappeared, the region continued to derive its name from that river. On the other hand, while the contribution of the Ganga to the civilization that emerged and flourished on its plain has been far more sustained, although the river has never lent its name to a territory. In the late-fourth century BC, after the Macedonians acquired first-hand geographic knowledge of the subcontinent as a result of Alexander's eastern exploits, the river caught the attention of western geographers. For them the Indian subcontinent *was* the Ganga and they distinguished the subcontinent and the land beyond as *India intra Gangem* and *India extra Gangem*, that is India within the Ganga and India beyond the Ganga.[8]

Despite the geographers' obvious desire for clear, natural demarcations, in political, economic, and cultural terms the river never served as a boundary. Actually the political and cultural forces emerging from the riverbanks tended to bring unity and cohesion. Politically and economically speaking, the rulers that controlled the agricultural resources of the Ganga plain often succeeded in forging an empire that encompassed all the river plains of northern India and sometimes—as in the case of the Mauryas, Guptas, and Mughals—even far beyond. As we shall see in Chapter 1, the river came to constitute a common, almost civilizational reference point for the subcontinent as a whole. Furthermore, from the first millennium onward, the river connected the military potential of the semi-arid zones to its west with the economic clout of the more humid zones in the east. As I will demonstrate in Chapters 2 and 3, this specific connectivity had far-reaching implications for the historical processes in the Ganga plain and even for the Indian subcontinent as a whole.

The natural geographical boundaries of the Indian subcontinent are unique in the sense that these may inhibit contact with the outside world, they never completely insulate the region. While the Hindukush, Karakorum, and Himalaya mountain ranges form the northern boundary, the diamond shaped Indian peninsula appears to be inserted into the Indian Ocean that frames it from other three directions. The northwestern mountain passes—Khyber, Gomal, and Bolan—facilitated migration and movement of people from Central Asia even in prehistoric times. In the early historic period Indo-Aryan speakers, Hunas, Scythians, and others were followed by the Turks, Afghans, and other semi-pastoral nomads, traders, and conquerors who migrated to South Asia. It was because of this accessibility to the region that Victor Lieberman has

[8] Richard Turner, *A view of the earth, as far as it was known to the ancients: Being a short but comprehensive system of classical geography…* (London, 1779), 39.

called the Indo-Gangetic plains an "exposed zone."[9] This follows the work of Jos Gommans, who has argued that South Asia was an integral part of one vast, open "arid zone" characterized by nomadic mobility and post-nomadic forms of state-formation. South Asia's more intensive connections to this arid zone after circa 1000 AD had important historical implications for the Ganga plain.[10]

However, moving across the overland routes of the northwest was not the only avenue for contacts. On the other three sides of the Indian peninsula, the "water frontier" of the Indian Ocean created further opportunities to develop links with the outside world.[11] As was the case with migration through the northwestern mountain passes, South Asia's oceanic frontiers encouraged people to forge contacts with the outside world. Works on the Indian Ocean by K. N. Chaudhuri and M. N. Pearson have shown the Indian peninsula's connections with the other regions from pre-historic times.[12] Scholars have demonstrated the existence of Buddhist and Brahmanic cultural and commercial networks linking the Bay of Bengal with Southeast Asia in the early centuries AD.[13] Such long-distance oceanic contacts further evolved and matured during the first and second millennium AD. The evolution in the technology of boatbuilding, increasing geographical knowledge of charting the sea, worldwide population growth, and environmental and economic changes all added to the process of closer contacts between different areas of the world.[14]

Although at times rather disruptive, with the continuous flow of fresh ideas, skills, and peoples, these contacts with the outside world have mostly invigorated and enriched South Asian civilization and catalysed its economy. As I will demonstrate in Chapter 2, outsiders' migration to and settlement on the Ganga plain injected fresh resources into a developing economy and gave rise to the creation of new states. We

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[9] Victor Lieberman, *Strange parallels: Southeast Asia in global context, c. 800–1830*, vol. 2, *Mainland mirrors: Europe, Japan, China, South Asia, and the Islands* (Cambridge: Cambridge University Press, 2009), 92–114.

[10] For the elaboration of the Arid Zone, see the articles by J. J. L. Gommans, "The silent frontier of South Asia, c. A.D. 1100–1800," *Journal of World History* (*JWH*) 9:1 (1998): 1–25; "The Eurasian frontier after the first millennium A.D.: Reflections along the fringe of time and space," *Medieval History Journal* (*MHJ*) 1:1 (1998), 125– 45; "War-horse and post-nomadic empire in Asia, c. 1000–1800," *Journal of Global History* 2 (2007): 1–21.

[11] The term is borrowed from Nola Cooke and Li Tana, ed., *Water frontier: Commerce and Chinese in the lower Mekong region, 1750–1880* (Singapore: Singapore University Press, 2004).

[12] K. N. Chaudhuri, *Trade and civilization in the Indian Ocean: An economic history from the rise of Islam to 1750* (Cambridge: Cambridge University Press, 1985); M. N. Pearson, *The Indian Ocean* (London: Routledge, 2003); Sunil Gupta, "The Bay of Bengal interaction sphere (1000 BC–AD 500)," *Bulletin of the Indo-Pacific Prehistory Association* 25 (2007): 21–30.

[13] G. Coedès, *The Indianized states of Southeast Asia*, ed. Walter F. Vella and trans. Susan Brown Cowing (Honolulu: University of Hawaii Press, 1968); Robert L. Brown, *The Dvārāvatī wheels of the law and the Indianization of South East Asia* (Leiden: Brill, 1996); Himanshu Prabha Ray, *The winds of change: Buddhism and the maritime links of early South Asia* (New Delhi: Oxford University Press, 1998).

[14] See André Wink, *Al-Hind: The making of the Indo-Islamic world*. Vol. 2, *The slave kings and the Islamic conquest, 11th–13th centuries* (New Delhi: Oxford University Press, 2001); also idem, *Al-Hind: The making of the Indo-Islamic world*, vol. 3, *Indo-Islamic society 14th–15th centuries* (Leiden: Brill, 2004); see also, idem, "From the Mediterranean to the Indian Ocean: Medieval history in geographic perspective," *Comparative Studies in Society and History* (*CSSH*) 44:3 (2002): 416–45.

should be aware that as much as Turks and Afghans intensified South Asia's connections with the arid zone after 1000 AD, Europeans did the same with respect to South Asia's connections with the Indian Ocean and beyond after 1500 AD. Not surprisingly, it is exactly during and just after this "middle" period that, more than ever before, the Ganga River gradually evolved as the *sine qua non*e of empire, and as such it came fully into its own under the Mughals. It is all the more surprising that although historians of early and modern Indian history have paid some attention to the environmental and ecological factors, works on medieval Indian history have largely ignored this.[15] It is this omission to engage with the natural environment to explain changes in the region's political economy that constitutes the present study's point of departure.

The present work has grown out of frustrated attempts to find a monograph on early modern South Asian history that synthesizes the results of maritime historiography with works written on the different regions of the Mughal Empire.[16] Although scholars working on the regions and the coasts of South Asia acknowledge the importance of both these spheres, their work always privileges one over the other. This seemingly segmented nature of historiography obfuscates a holistic picture underlining the changes in the economy and polity as a result of the interactions between the coast and the interior. Examining the Ganga as a fluvial highway connecting these two zones helps to address this ongoing neglect in the historiography.

Taking a long-term perspective, this study broadly identifies four cycles of state formation, each produced by the river's increased contacts with the outside world. The first cycle overlaps with what scholars have labeled a second wave of urbanization and begins in the first millennium BC. This became possible as a result of the migration and settlement of Indo-Aryan speakers who, from their natural grazing lands, started to develop the agrarian potential of the more humid and fertile river plains along the eastern tracks of the Ganga. The second impetus came with the immigration and

[15] Among his other works, see Dilip K. Chakrabarti, *Archaeological geography of the Ganga plain: The lower and the middle Ganga* (New Delhi: Permanent Black, 2001); and more recently, idem, *The geopolitical orbits of ancient India: The geographical frames of ancient Indian dynasties* (New Delhi: Oxford University Press, 2010); for modern Indian history written from an environmental perspective, see Mahesh Rangarajan and K. Sivaramakrishnan, *India's environmental history* (Ranikhet: Permanent Black, 2012); Madhav Gadgil and Ramachandra Guha, *This fissured land: An ecological history of India* (Berkeley: University of California Press, 1993); Sumit Guha, *Environment and ethnicity in India, 1200–1991* (Cambridge: Cambridge University Press, 1999).

[16] For coast-centred historiography, see Om Prakash, *The Dutch East India Company and the Economy of Bengal, 1630–1720* (Princeton: Princeton University Press, 1985); Susil Chaudhuri, *Trade and commercial organization in Bengal, 1650–1720: With special reference to the English East India Company* (Calcutta: Firma K. L. Mukhopadhyay, 1975); K. N. Chaudhuri, *The trading world of Asia and the English East India Company, 1660–1760* (Cambridge: Cambridge University Press, 1978). For works focusing on the regions of the Mughal Empire, see Kumkum Chatterjee, *Merchants, politics and society in early modern India, Bihar: 1733–1820* (Leiden: Brill, 1996); Richard B. Barnett, *North India between empires: Awadh, the Mughals, and the British, 1720–1801* (Berkeley: University of California Press, 1980); C. A. Bayly, *Rulers, townsmen and bazaars: North Indian society in the age of British expansion 1770–1870* (1983; repr. New Delhi: Oxford University Press, 2002); Muzaffar Alam, *The crisis of empire in Mughal North India: Awadh and the Punjab, 1707–48* (Delhi: Oxford University Press, 1986).

conquests of Turkish warriors from the early second millennium AD, which intensified the trade links between the Ganga River and Central and West Asia and fostered urban and economic development. The third cycle of state formation began when the Mughal emperors tightened their grip on the Ganga, from the sixteenth to the seventeenth century. This was accompanied by the Ganga plain's commercial integration into the global economy. I will argue that at the very height of this integration, the stakes of regional interest groups became so high that they could no longer be controlled from the Mughal imperial capital. Hence the mutual economic and political interests of the regional powers—including the English East India Company—may help to explain why the eastern Ganga plain seceded from the Mughal Empire. In other words, it was the collaboration of regional and maritime forces that ultimately led to the triumph of the English East India Company, ushering a fourth cycle of colonial state-formation based on the rapid development of the new metropole at the Ganga delta: Calcutta.

While the present study retraces the early history of the Ganga River, the main focus is on the historical developments during the so-called Age of Commerce.[17] It seeks to position the economy of the eastern Ganga plain within the early modern global economy, roughly between the sixteenth and eighteenth centuries. In doing so, I hope to synthesize the scholarship on regional and maritime history studying the Ganga as the central highway of the Mughal Empire.

In this study I take the Ganga as a geographic entity to examine the economic and political processes along its banks. This poses a challenge to demarcate the precise region with which the study should concern itself. The terms such as the eastern tracks of the Ganga, the eastern Ganga plain, Bihar, and Bengal have been employed, although the river is always the primary point of reference. Premodern Bengal, like Bihar, constitutes a vague geographical entity with a variety of landscapes, rivers, and routes jumbled together. In a recent essay, Tirthankar Roy has thrown significant light on the problem. Broadly accepting the threefold division articulated in the *Cotton Hand-Book for Bengal* (1862), Roy divides Bengal into three parts: the western uplands, the central alluvial flats, and the southern seaboard. The western uplands were the eastern extension of the central Indian plateau, spread over Bihar and Bengal. Several overland routes passed through these uplands connecting the southern hilly zone of Bihar with Bengal. The central alluvial flats along the Ganga constituted the

[17] According to Anthony Reid, the Age of Commerce in the "lands below the winds" began in the fifteenth century with the expansion of commerce and the emergence of port cities, which heralded the large-scale changes in polity, economy and society. Towards the end of the seventeenth century, according to Reid, the commercial boom and political vitality gave way to the domination of the Dutch East India Company. See Anthony Reid, *Southeast Asia in the age of commerce*, vol. 1, *The lands below the winds*; vol. 2, *Expansion and crisis* (New Haven: Yale University Press, 1988, 1993). In the case of South Asia, the Age of Commerce denotes the period between the sixteenth to eighteenth centuries when the coasts gradually became more important, and the large polities such the Mughal Empire, although centred far away from the coasts, tried to control them. The conquests of Gujarat in 1573, Bihar in 1574 and Bengal in 1576 by the Mughal emperor Akbar should be seen as an attempt to access the wealth of the coastal zones. It was largely through maritime trade that the empire could ensure a regular inflow of bullion, a vital source for managing an agricultural economy and for running the state, its armies, and bureaucracy.

largest and most dynamic area, where commercial and political centres tended to gravitate along the navigable river channel. Roy is not very explicit about the geographical extent of this zone (which probably spread through Bihar and Bengal along the Ganga) apart from observing that the Bhagirathi "provided relatively easy access to the Bay of Bengal in the south and the Mughal Empire in the west."[18] By the eastern tracks of the Ganga, or the eastern Ganga plain, I refer to the geographic zone that included Patna to the west and Hugli to the east. While analyzing the economic and political processes along the whole Ganga, I draw upon inferences and historical examples from this geographic zone.

Other Gangas

In recent decades scholars have produced fascinating works on economic and environmental history that have provided a fresh understanding of the role of rivers in the making of early modern political economies. Job Weststrate has studied trade and shipping on the Rhine and its distributaries such as the Waal and Ijssel between the fourteenth and sixteenth centuries. During this period, the Rhine delta began to emerge as an important commercial zone that maintained trade network with the upriver towns of Germany and France.[19] In the following two centuries, the towns of the delta such as Amsterdam became staple markets for credit and merchandise for all of continental Europe. Similarly, the Ganga delta and the middle reaches of the river also underwent unprecedented economic and commercial change in the seventeenth and eighteenth centuries, a process that gave rise to Patna, Kasimbazar, Hugli, and Dhaka. These "strange parallels," to borrow Lieberman's phrase, strongly suggest that economic and social change in the wider parts of Eurasia were brought about by global impulses.

Focusing on Ottoman Egypt and the flood plains of the Nile River, Alan Mikhail has reconstructed an important narrative on natural resource exploitation and environmental change during the "long eighteenth century." Debates on Ottoman history such as core and periphery, imperial decline in the eighteenth century, and the resource-exploitation by the centralized bureaucratic regime at Cairo have important theoretical implications for the history of the early modern Ganga plain and its relationship with the Mughal Empire. Another significant work by Robert B. Marks focuses on late imperial China and takes an environmental perspective to delineate southern China's economic and environmental trajectories. Marks explains the economic transformation in the seventeenth and eighteenth centuries by tracking environmental changes and resource exploitation, and furnishes interesting examples

[18] Tirthankar Roy, "Where is Bengal? Situating an Indian region in the early modern world economy," *Past and Present* 213 (2011): 124–25. See also *Cotton hand-book for Bengal: Being a digest of all information available from official records and other sources on the subject of the production of cotton in the Bengal Provinces*, compiled by J. G. Medlicott (Calcutta, 1862), 29.

[19] Job Weststrate, *In het kielzog van moderne markten: Handel en scheepvaart op de Rijn, Waal en Ijssel, ca. 1360–1560* (Hilversum: Verloren, 2008); see also Mark Cioc, "The Rhine as a World River," in *The environment and world history*, ed. Edmund Burke III and Kenneth Pomeranz (Berkeley and Los Angeles: University of California Press, 2009), 165–90.

from southern China to compare and contrast how people utilized natural resources leading to growing commercialization and changes in the economy and polity in the Ganga plain.[20]

Like the Rhine, Nile, Ganga, and Yangzi, the deltas of the Irrawaddy, Chao Phraya, Mekong, and Red Rivers also emerged as new centres of wealth and power from the mid-second millennium AD onward. In earlier centuries, polities in Burma, Siam, and Cambodia were centred in the middle or upper reaches of their respective rivers, in relatively dry zones where land could more easily be reclaimed for agricultural extension. If Lieberman and Buckley's climatic reconstruction for Southeast Asia is correct, then the drier climatic conditions in the centuries around 1500 AD would have given people the incentive to colonize the marshes and swamps in the lower parts of the rivers. As a result, to control the agricultural and trade resources the political centres moved downstream, from Pagan to Pegu in Burma, Sukhothai to Ayutthaya in Siam, from Angkor to Phnom Penh in Cambodia, and from Dai Viet to Champa in Vietnam.[21] As I hope to demonstrate in this study, the Ganga River delta exhibits a more or less similar pattern of resource generation and a shift of political gravity to the coast in the second half of the second millennium AD.

By highlighting the relationship between coast and interior, this study has benefited from the theoretical model advanced by Edward Whiting Fox, whose *History in geographic perspective* contrasts coastal with continental France.[22] Both these geographical zones represented different sets of economic and political interests. It is tempting to contrast core areas of the Mughal Empire in Hindustan with the eastern Ganga plain (Bihar and Bengal) as these regions developed distinct political and economic orientations. While the politico-economic system of the land-based empires hinged on the coercive exploitation of agricultural surpluses, the eastern plain was more open to the collaborative or reciprocal exchange of goods. As the European Companies' trade expanded towards the late-seventeenth and early-eighteenth centuries, eastern India became more firmly linked with the global maritime economy. This integration had important implications for the economy and polity of the Ganga plain in the eighteenth century.

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[20] Alan Mikhail, *Nature and empire in Ottoman Egypt: An environmental history* (Cambridge/New York: Cambridge University Press, 2011); Robert B. Marks, *Tigers, rice, silk, and silt: Environment and economy in late imperial south China* (Cambridge/New York: Cambridge University Press, 1998).

[21] For the dynamics of state formation along the river in Vietnam during the early centuries of the second millennium AD, see John K. Whitmore, "The rise of the coast: Trade, state and culture in early Dai Viet," *Journal of Southeast Asian Studies* (*JSAS*) 37:1 (2006): 103–22; and Lieberman, *Strange parallels*, 2.16–17. On climate change and its impact on Southeast Asian polities, see Victor Lieberman and Brendan Buckley, "The impact of climate on Southeast Asia, circa 950–1820: New findings," *Modern Asian Studies* (*MAS*) 46:5 (2012): 1049–96; also see Gommans, "Continuity and change." For dynamics of the delta in the nineteenth and twentieth centuries, see Michael Adas, "Continuity and transformation: Colonial rice frontiers and their environmental impact on the great river deltas of mainland Southeast Asia," in *The environment and world history*, ed. Burke and Pomeranz, 191–207.

[22] Edward Whiting Fox, *History in geographic perspective: The other France* (New York: Norton, 1971).

Along with these logistical considerations the present research intends to reopen the dead-end debate of the Mughal decline by asking fresh questions. It takes a long-term view by engaging with geographical and environmental factors. More specifically, it targets the infrastructural foundations of the economy and polity. The Ganga River, as a highway of trade and commerce in the eastern Ganga plain, offers an important clue to understanding the economic dynamism of the region. In the late sixteenth and seventeenth centuries, effective control over the river showed the political vigor of the Mughal Empire. During the eighteenth century, a number of zamindars and warlords started asserting their control over the Ganga in their respective zamindaris. While such centrifugal tendencies exhibited by the warlords eroded the resource base and political authority of the Mughals, at the same time the regional chiefs were able to augment the resources they accessed via river trade and the agricultural and craft productions in their own hands.

Organization

Chapter 1 deals with the way the Ganga came to stand for Indian civilization. Moving beyond the paradigm of Orientalism, it shows that many indigenous assumptions about the river's origins in paradise were confirmed by similar views held by early European geographers and scholars.[23] By paying close attention to climate and the physical geography of the Ganga, Chapter 2 explores the transformation of the political and economic landscape in the first millennium BC, and again, in the early second millennium AD. I argue that it was the transitional environment between the drier marches and humid fertile agricultural tracts that turned out to be the centres of state-formation. Chapter 3 describes the interaction of human agents with the physical infrastructure of rivers and marchlands. Hence it highlights the human geography of navigation and communication networks through towns. The chapter stresses the mixed nature of the Ganga economy, as earlier, exchanging resources from the dry and humid zones along the river banks. It shows how the Mughal authorities were able to use the logistical facilities of river and roads to control and exploit the region. Chapter 4 goes into the expanding production centres of Bihar. As agriculture in the drier areas absorbed only a part of the available labour, many were on the lookout for alternative occupations: artisans weaving cotton fabrics, rowers manning boats, porters carrying loads. In the more humid zones more peasants toiled to grow more food and more commercial crops while labourers collected and refined saltpeter. During the lean agricultural season, peasants and labourers found employment in the urban centres or served as militiamen for local zamindars or warlords.

Chapter 5 takes a closer look at the expanding global markets for the region's primary products: saltpeter, opium, and textiles. It argues that as a result of Mughal consolidation, the Ganga plain underwent significant commercial expansion, attracting various Indian merchants as well as the European Companies. Export of commodities

[23] Edward W. Said, *Orientalism* (New Delhi: Penguin Books, 2001).

brought large amounts of bullion into the region starting in the seventeenth century. The increased wealth engendered a fresh cycle of conquest and state-formation, which undermined the Mughal political economy along the Ganga from around the early eighteenth century. This I demonstrate, in Chapter 6, by charting the trajectory of interdependency between Indian and Europeans merchants. The chapter reconstructs the migration of Jain/Marwari, Khatri, and Armenian merchants to the Ganga plain in the wake of Mughal integration and commercial expansion. After the commercial economy of the Ganga plain became more closely linked to the maritime economy, specific interests groups from Bengal forged closer ties with the European Companies. By the first half of the eighteenth century, the region slipped away from the Mughal-controlled political economy. Finally, to demonstrate a simultaneous process of regional centralization, Chapter 7 describes the local peasant economy of agricultural expansion, resource mobilization, and cash-nexus as dominated by the zamindars. In this chapter I argue that, as a result of the increasingly seaward orientation of the eastern Ganga economy, a number of merchants, bankers, administrators, and zamindars forged commercial and political alliances with the European Companies. Eventually this led to the domination of the English East India Company, which not only combined all these functions in one figure, but also added a highly effective military capacity. In contrast to earlier regimes, which had dominated the Ganga downstream from the hinterland, it was now from Calcutta that the political and commercial weight of the maritime economy was projected up the Ganga from the coast into the interior.

Sources

This work relies on various genres of sources. Although indigenous sources in Persian, Hindi, and regional languages have been utilized, the study overwhelmingly relies on the rich documentation generated by the early modern European trading companies. The indifference of Persian sources to matters of trade and commerce is well known; so it seems the Mughals were primarily concerned with administrating an empire based on an agrarian system. Indifference to trade issues notwithstanding, Persian sources furnish valuable information on political matters, administrative organization, and the Mughal state's relations with the zamindars. Historical sources in Hindi and other Indian vernaculars also seem to lack an immediate concern with riverine commerce. Yet a seventeenth-century autobiography like that of the Jain merchant Banarsidas does offers a glimpse of the trading world of Hindustan. Fortunately, we can occasionally hear local voices in the European documents, as for example, in a petition written by a group of Bihari merchants to the EIC government in which they dwell upon the problems they confront when navigating the Ganga.

The documents generated by the Dutch East India Company (*Verenigde Oostindische Compagnie*, or VOC) at Patna and Hugli were exploited to garner information on trade, markets, and market institutions, merchandise production and transportation, river navigation, and political conditions in eastern India. Although we

have used several types of Dutch sources, the most fruitful for our purposes has been a particular genre of source called the *dagregister*, or the diary kept by the Dutch captains of the Patna fleet on the Ganga. These dagregisters are in the form of riverboat journals and offer eyewitness account of the political and economic situation prevailing along the Ganga between Hugli and Patna. These diaries are fairly consistent for the first half of the eighteenth century, and at times offer a detailed perspective on the changing political circumstances of the period.

Apart from the VOC sources, the documents of the EIC provide voluminous data on trade, transportation, economy, and politics along the Ganga. As commercial bodies the Companies' documents naturally furnish information on trade and commerce; political events are reported to the extent that these impinged on trade. Once the British assumed political power in Bengal after 1757, we find interesting data on agricultural expansion, commercialization of agriculture, the management of land revenue, and internal and overseas trade. Some of the eighteenth-century survey reports by British surveyors and generals give valuable information on geography, routes, and the extent of cultivation in particular areas.

Depending on their context and the agency through which these sources were generated, the Company sources have both merits and shortcomings. Matters considering trade and market situation generally come untainted. Yet at times the Dutch factors reporting from Patna or Hugli to the higher authorities in Batavia or the Netherlands tend to exaggerate adverse conditions such as competition from Asian merchants or the bad political environment in order to cover up their failure to meet the stipulated demands for merchandise. Private trade interests and the scope for smuggling sometimes make for misleading reports of the market potential to supply certain merchandise.[24] So even "factual" information on the problems of navigation in the Ganga such as inclement weather, storms, intelligence gathering from the regions controlled by the zamindars, and so on have been critically assessed and utilized.

As far as possible we have dovetailed the information on important events described in the Dutch and English sources. In the middle decades of the eighteenth century, the saltpeter trade from Bihar became a bone of contention between the Companies and in their respective discussions on the matter one gets a clearer picture of the involvement of Indian merchants and political elites in this lucrative branch of trade. Similarly, Dutch and English documents alike report on "harassment" by zamindars or Mughal officials while navigating in the Ganga. The same goes for other political uncertainties such as wars of succession and Maratha raids, matters of major concern to both Companies. Hence, a comparison of their often contentious reports yields a more balanced and revealing picture of the developments along the river.

[24] On the reforms of Gustaaf Baron van Imhoff (governor general 1741–50) regarding the private trade of the VOC employees, the functioning of opium society, and the possibility of smuggling this highly lucrative drug, see Chris Nierstrasz, *In the shadow of the company: The Dutch East India Company and its servants in the period of its decline, 1740–1796* (Leiden: Brill, 2012), 80–83.