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

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Chapter 5

Ganga-global: Dynamics of Market Integration

And this is so far true, that were it not for the purchases of Saltpetre, Opium, raw Silk, and white Piece-goods which the English make yearly throughout Bengal and Bahar, probably a Rupee or an Eshreffi would have become in most hands as scarce as the Philosopher's Stone.[1]

Saltpeter, is a Commodity so necessary, that we can neither Fight nor Trade, or send a Ship to Sea, without it; and in time of War especially, it is our Interest to buy it, if it cannot be procured otherwise, of our Enemies.[2]

Introduction

In the previous chapter we discussed the commercial potential of the Ganga economy. As we saw, the eastern Ganga plain had a thick concentration of population, an abundance of labour, rich and fertile agricultural lands, stable supplies of minerals such as saltpeter, and a well-established market economy. These positive factors naturally contributed the expansion of trade and the region's linkages with the global economy during the early modern period. Also contributing to the expansion of trade was the accessibility of the markets of Bihar to long-distance merchants. The growth of trade and economy in the Ganga plain had been a two-way process: when the internal dynamics interacted with the external stimuli such as bullion, skills and goods, such exchanges led to wide-ranging economic transformations. In Chapter 2 we saw this happening during the mid-first millennium BC. Once again, at the turn of the first millennium AD, the arrival of the Turko-Afghan conquerors with their mobile resources and political infrastructure spurred urban development and commercial activities in the Ganga plain. I suggest the unfolding of identical political-economic processes in the Ganga plain once again in the age of maritime commerce, when the long-distance overland and maritime merchants exchanged their bullion with commodities of the Ganga plain.

This is not to argue that economic growth of the Ganga plain was solely dependent on external stimuli. No less important for the region's economic performance were internal dynamics such as agrarian expansion, urban development, and population growth. As we noted in Chapter 2, there was an eastward movement of

[1] Ġulām Husain Khān Tabātabā'ī, *A translation of the Seir Mutaqherin; or View of modern times*, in 4 vols. (Lahore: Sheikh Mubarak Ali, 1975), 3:32; also cited in James W. Frey, "The Indian saltpeter trade, the military revolution, and the rise of Britain as a global superpower," *The Historian* 71:3 (2009): 532.
[2] *Reasons humbly offered to the consideration of the honourable House of Commons, for the passing of a bill now depending for the importation of salt-petre: occasioned by a printed paper, called The salt-petre case* (London, 1693), n.p.

the agrarian frontier since the early second millennium AD. Since the Turko-Afghan conquest of the Ganga plain in the thirteenth century, the new regime primarily depended on agriculture for meeting its fiscal requirements. The political and agrarian frontiers were constantly pushed towards the Ganga delta and increased agricultural production created favourable conditions for the expansion of trade and commerce. The Turko-Afghan conquest also linked the Ganga plain with the wider Eurasian economy through the overland route, while the coastal trade in Bengal received fresh momentum. Internal factors such as political consolidation, agricultural expansion (probably assisted by efficient hydraulic management), and demographic growth helped to energize the economy of the Ganga plain during the first half of the second millennium AD.[3] As Victor Lieberman and others have argued in the case of Southeast Asia, this period also witnessed agrarian expansion and demographic growth in Pagan, Angkor, and Dai Viet. Polities such as Dai Viet oriented themselves towards the "coastal commercial zone" and ensured greater interaction with their "inland agricultural core."[4] As they exploited the profits resulting from overland and coastal trade, the Bengal Sultanates also followed a more or less similar trajectory of agrarian expansion along the mid- and lower reaches of the river. Important political centres such as Nudiya, Pandua, and Gaur (Lakhnauti) were conveniently located upstream on the Bhagirathi River, which facilitated riverine trade in goods produced in their agrarian hinterlands. Closer to the sea, the major riverine port of Satgaon (Saptagram) was located on the Sarasvati River, a tributary of the Hugli. The proximity to the coast privileged Satgaon, which flourished between fourteenth and sixteenth century. The port city was at the junction of river and maritime trade routes during the pre-Mughal period, and it was here that the agrarian economy met the overseas commerce, the scale of which remains unknown in the existing scholarship.

When the Mughal Empire was consolidating in the Ganga plain and pushing the political frontiers eastward, imperial initiatives once again helped integrate Gujarat and Hindustan with markets and ports in the eastern Ganga plain.[5] Around the same time,

[3] Victor Lieberman and Brendan Buckley, "The impact of climate on Southeast Asia, circa 950–1820: New Findings," *MAS* 46:5 (2012): 1061–63. Lieberman and Buckley suggest that between tenth and thirteenth centuries mainland Southeast Asia experienced agrarian, population, and economic growth as a result of favourable climate. Given the geographical proximity of the Bengal delta and mainland Southeast Asia both the regions would have benefitted from a favourable climate. South Asian historiography has yet to offer some credible insights on demographic pattern in the pre-Mughal period. For a rare, brave attempt see Pran Nath, *A study in the economic condition of ancient India* (London: Royal Asiatic Society, 1929), 117–23. Nath multiplies the population figure given for ancient Vaishali (in Tirhut) in Buddhist sources for other regions of India. This leads to an erroneous figure of about 140 million, roughly the same that generally estimated for the subcontinent at the death of Akbar.

[4] 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), 16–17; for quotes, see John K. Whitmore, "The rise of the coast: Trade, state and culture in early Dai Viet," *JSAS* 37:1 (2006): 122.

[5] According to Lieberman and Buckley the weak monsoons during Little Ice Age between 1450 and 1600 oriented the mainland Southeast Asian polities towards the coast where they could exploit the resources of the maritime zone; see Lieberman and Buckley, "The impact of climate on Southeast Asia," 1079. We do not know if the weak monsoons during the so-called Little Ice Age also compelled Akbar to

the process of global inter-connection also acquired unprecedented momentum. While the Portuguese and Spaniards had already maritime networks of global trade in the 1500s, towards the end of the century Dutch and English merchants began to participate in global maritime trade. In order to inquire into this coincidence of "run to the coast" by both the Mughals and Europeans, I shall briefly reflect on the broader phenomenon of globalization, by which I mean an increasing inter-connectedness of world regions. Scholars such as Ronald Findlay and Kevin O'Rourke have recently suggested that globalization might have started after the Mongol conquests unified the central Eurasian landmass in the thirteenth century.[6] However, forces were already working towards such unification and regional inter-connection within the Eurasian landmass in an earlier period.[7] Some scholars even consider the history of the modern world system going back at least five thousand years. For them there were many world systems without a worldwide reach. Indeed, looked at from this perspective the origins of globalization in the sense of growing economic, political and cultural interactions among societies or regions of the world could stretch back to many millennia.[8] In a way, such interactions certainly brought different societies of the world closer.[9] The Indian subcontinent had been historically an open society with links to the outside world millennia before Europeans arrived by sea in the late fifteenth century.[10] In this study, however, our definition of globalization will imply the economic interconnectedness of the Indian subcontinent and its commercial interaction with the outside world in the age of maritime commerce. I shall argue that rather than being a passive recipient of the globalizing impulses coming from the West, the Ganga plain was a prominent node of global interconnectedness, and that the region had its own economic and political dynamism. In the age of maritime commerce, the Ganga plain's capacity to furnish trade goods and attract bullion should be seen as a prominent feature

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conquer the coasts and appropriate the wealth accruing from oceanic trade in the second half of the sixteenth century.

[6] Ronald Findlay and Kevin H. O'Rourke, *Power and plenty: Trade, war, and the world economy in the second millennium* (Princeton: Princeton University Press, 2007), 108. For the convergence of prices of commodities measured against the growing volume of trade as indicator of globalization, see Findlay and O'Rourke, "Commodity market integration, 1500–2000," in *Globalization in historical perspective,* ed. Michael D. Bordo, Alan M. Taylor and Jeffrey G. Williamson (Chicago: University of Chicago Press, 2003), 13–64.

[7] Richard M. Eaton, "Islamic history as global history," in *Islamic and European expansion: The forging of global order,* ed. Michael Adas (Philadelphia: Temple University Press, 1993), 1–36. For the cultural contacts in Eurasia many centuries before Islam, see Richard H. Davis, *Global India circa 100 CE: South Asia in early world history* (Ann Arbor: Association for Asian Studies, 2009).

[8] Andre Gunder Frank and Barry K. Gills, eds., *The world system: Five hundred years or five thousand?* (London: Routledge, 1996), see the introduction containing an historiographical survey of the world system and for a critique of Euro-centricism, 3–48. On globalization as a process, see also David Wilkinson, "Globalizations," in *Globalization and global history,* ed. Barry K. Gills and William R. Thompson (London: Routledge, 2006), 68–78.

[9] For the interactions among the regions of Eurasia, see Charles H. Parker, *Global interactions in the early modern age, 1400–1800* (Cambridge: Cambridge University Press, 2010).

[10] G. Balachandran and Sanjay Subrahmanyam, "On the history of globalization and India: Concepts, measures and debates," in *Globalizing India: Perspectives from Below,* ed. Jackie Assayag and Chris Fuller (London: Anthem Press, 2005), 18–43, for a critique of the umbrella term, globalization.

that linked the region with the outside world. Scholars debate the actual quantities of bullion reaching to the Indian subcontinent and its significance for the Mughal financial economy, yet the expansion of the Indian commercial economy can hardly be divorced from the favourable effects of bullion flow into the subcontinent, irrespective of its origin in America or Japan.[11] In Chapter 6, we shall see the dynamics of money supply in the Ganga plain.

This chapter is organized into two sections. Section one begins with a discussion of the internal consumption of goods produced in the eastern Ganga plain. While there may have been only modest demand for opium and saltpeter in the Indian subcontinent, textiles had a fairly large internal market. This shows that the region could not only cater to internal demand but also exported overwhelming quantities of goods to overseas markets. If we consider the internal trade and consumption and the export of textiles, it is hard to suggest that there was any de-industrialization in the eighteenth century. Section two goes into the details of global demand for these commodities and takes into account the markets in Europe, Southeast Asia and other parts of the world in order to put the commodities of Bihar into a global perspective. A consideration of the demand side of the market helps us to understand the economic dynamics in the Ganga plain. It is apparent that as a result of massive exports of commodities, the region attracted substantial quantities of bullion. The inflow of specie and growing monetization not only assisted taxation and agrarian expansion; it also had implications for the political economy and state formation.

Section I: The Integration of the Ganga delta, Trade boom and Internal demands for Commodities in South Asia

The historiography of the Bengal delta does not fully explain why the ports of the eastern and western delta, rather than co-existing and flourishing simultaneously, have in fact always alternated each other. During the first half of the sixteenth century, the western port city of Satgaon (Saptagram) on the Bhagirathi/Hugli branch of the Ganga was the commercial centre of the delta. Subsequently, for many decades we see a pull

[11] John Richards writes, "the disruptive effects of the post-1620s slowing of New World silver imports were felt, but do not seem to have had a calamitous effect in Mughal India," see J. F. Richards, "The seventeenth-century crisis in South Asia," *MAS* 24:4 (1990): 629. Shireen Moosvi suggests "a spurt in the influx of silver chiefly via the Levant" reaching India along overseas and overland routes during the second quarter of the seventeenth century; see "The silver influx, money supply, prices and revenue-extraction in Mughal India,"*JESHO* 30:1 (1987): 65–66. According to Om Prakash it was with the growing use of the Cape route by the European Companies from the early seventeenth century that "the full implications of the American silver mines for the Indian and other Asian economies began to be realized;" see *The Dutch East India Company and the economy of Bengal, 1630–1720* (Princeton: Princeton University Press, 1985), 6–7. Parthasarathi writes that between 1600 and 1800 the Indian subcontinent received 28,000 tonnes of bullion in silver equivalents (some gold but an overwhelming part consisted of silver), which was roughly a fifth of total world production (142,000 tonnes) during the same period. See Prasannan Parthasarathi, *Why Europe grew rich and Asia did not: Global economic divergence, 1600–1850* (Cambridge: Cambridge University Press, 2011), 46. See also, Ward Barrett, "World Bullion Flows, 1450–1850," in *The rise of merchant empires: Long-distance trade in the early modern world, 1350–1750*, ed. James D. Tracy (Cambridge: Cambridge University Press, 1993), 224–54.

towards the eastern delta, where Chittagong attracted increasing numbers of merchants and merchandise. After the 1640s, we find the Bhagirathi-Hugli again emerging as a commercial centre where the European Companies, among other merchants, established their factories and warehouses in the port city of Hugli. It appears as the pre-Mughal economy of Bengal was incapable of maintaining two primary ports on either side of the delta.

In 1567 Frederick Caesar visited Satgaon, which he found "a reasonable faire Citie" and about thirty or thirty-five "great and small" ships departed from the Port of Satgaon. Perhaps he was already making a distinction between the city and the port of Satgaon and the latter would have been further downstream in order to be accessible for the sea-going ships. With the decline of Satgaon in the second half of the sixteenth century, Chittagong (Chattagram, or Mughal Islamabad) emerged as an important port in the eastern delta. In 1569, Caesar called it the "great Port of Bengala" where there were eighteen Portuguese vessels of various sizes.[12] Bakla (Bakarganj), Sripur, Sonargaon, Loricul, Dianga and Dhaka and other river ports also benefitted as trade gravitated to the eastern delta.[13] In the early seventeenth century the western delta and Hugli port probably remained commercially less attractive, which probably explains why the European Companies set up their bases in the Arakan/Chittagong region in the east and at Pipli and Balasore in the southeast. It is only around mid-century that we find the Companies establishing factories along the Hugli/Bhagirathi in the western delta, an area that Eaton regarded as moribund and agriculturally less productive than the eastern delta after the late-sixteenth century.[14]

Tirthankar Roy explains this westward commercial orientation in terms of environment, notably the shifting sandbanks of the eastern delta.[15] While the explanation is partly valid, it does not give a full picture. After all, the Bhagirathi-Hugli River was also treacherous for boats, and sandbanks and shallow waters often created problems in the western parts of the delta. As we noted in Chapter 3, boats plying the Ganga between Hugli and Patna frequently met with accidents as a result of sandbanks, storms, and inclement weather. However, the difficulties failed to discourage determined traders from operating at places where profits were within easy grasp.

Scholars complain about the lack of archaeological and historical geographic data to solve the problems about the rise and decline of ports in Bengal. As the question is still out for the jury, we may speculate that during the pre-Mughal period the western

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[12] M. Caesar Frederick, *The voyage and travail of M Caesar Frederick, merchant of Venice, into the East India, the Indies, and beyond the Indies . . . out of Italian, by Thomas Hickock* (London, 1588), 23, 36. See also Samuel Purchas, *Hakluytus posthumus or Purchas his pilgrims, contayning a history of the world in sea voyages and lande travells by Englishmen and others*, vol. 10 (Glasgow: University/MacLehose, 1905), 114, 138.

[13] J. J. A. Campos, *History of the Portuguese in Bengal with maps and illustration* (Calcutta: Butterworth, 1919), 66–95, 112–13.

[14] Richard M. Eaton, *The rise of Islam and the Bengal frontier 1204–1760* (New Delhi: Oxford University Press, 2006), 195–200.

[15] Tirthankar Roy, *India in the world economy: From antiquity to the present* (Cambridge: Cambridge University Press, 2012), 64–68.

and eastern delta may have competed with each other for attracting trade. When Tamralipti in the western delta declined in the eighth century, the eastern delta seems to have drawn trade and Chittagong emerged and flourished until it was over-shadowed by Satgaon by the end of the fifteenth century. Thus, once again the balance shifted in favour of the western delta although it lasted less than three quarters of a century. Aniruddha Ray suggests that even though Satgaon was founded in the thirteenth century, probably it started functioning as a seaport rather than an inland port only in the second half of the fifteenth century. In 1457, the shift of the capital from Pandua to Gaur, which was closer to Satgaon, enhanced the profile of the port.[16] As the southern channel (called the Sarasvati) of the Bhagirathi-Hugli silted, Satgaon declined in the 1570s. We do not know if the silting of the Sarasvati and the drying up of the Karatoya was the result of diminished rainfall and the weak flushing capacity of the river currents during the Little Ice Age of the sixteenth century. As Lieberman and Buckley have shown recently, Thai tree-rings indicate a weak monsoon in the second half of the sixteenth century when Lower Burma and northern Vietnam suffered famines and political disturbances.[17] In any case, from the second half of the sixteenth century Chittagong once again attracted a large share of the commerce and it remained important until about the mid-seventeenth century, when this back and forth shift in the centre of commercial gravity in the delta stabilized somewhat. Two factors explain this. First was probably a stronger monsoon and improved rainfall in the seventeenth century, which might have helped the Hugli to regain the force of its stream and made it possible for large ships to reach the upriver ports of Chinsura and Chandranagore.[18] A second and probably more important factor was the Mughal integration of the eastern and western deltas, which fuelled an unprecedented commercial boom after the latter half of the seventeenth century.

From the last quarter of the sixteenth century, the Mughal conquest of the western Ganga delta gave a fillip to agrarian and commercial expansion there. Richard

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[16] Aniruddha Ray, "The rise and fall of Satgaon: An overseas port of medieval Bengal," in *The Indian trade at Asian frontier*, ed. S. Jeyaseela Stephen (New Delhi: Gyan Publishing, 2008), 71–5. As Ray points out, during the first half of the fifteenth century four Chinese delegations arrived at Chittagong in the east and not at Satgaon in the west from where the capital of Bengal, Pandua, was very close; on Saptagram see also Niharranjan Ray, *History of the Bengali people (ancient period)*, trans. John W. Hood (Calcutta: Orient Longman, 1994), 247; also Rila Mukherjee, "An elusive port in early medieval Bengal: The mystery of Samandar," in *The Indian trade at Asian frontier*, ed. Stephen, 58. Mukherjee suggests that the environmental, political and policy changes effected the westward shift of economic focus in the delta during the sixteenth century, see 57–8.

[17] Lieberman and Buckley, "The impact of climate on Southeast Asia," 1058, 1083.

[18] We do not know whether the unusual floods of the seventeenth century cleared the silt from the Hugli and deepened its channel. For the floods in 1662 which was unprecedented in the last thirty years, see W. Ph. Coolhaas, ed., *Generale Missiven van Gouverneurs-Generaal en Raden aan Heren XVII der Verenigde Oostindische Compagnie*, vol. 3, *1655–1674* ('s-Gravenhage: Martinus Nijhoff, 1968), 444, Maetsuyker, Hartsinck, enz. XXVII, 26.12.1662: "Edoch soo continueert dat rijck gespin door 't extraordinarij hoog opperwaeter, *diergelijcke naer 't seggen van oude luyden in 30 jaeren niet en soude sijn geweest*," [emphasis added]; also 548–49, Maetsuyker, Hartsinck, enz. XXXVI, 25.01.1667. For an erratic monsoon and draught throughout the Bay of Bengal region in the seventeenth century, see Lieberman and Buckley, "The impact of climate on Southeast Asia," 1088.

Eaton suggests that the areas around Kasimbazar in western delta produced marketable commodities such as raw silk and cotton textiles while the eastern delta grew more rice for both domestic consumption and export. Furthermore, the Mughal integration of the towns of western delta assisted the growth of sophisticated market institutions by linking the eastern Ganga plain with the wide-ranging commercial networks that spanned Hindustan and Gujarat. The Khatri, Marwari Hindus, and Jain, among other groups, controlled the market institutions that facilitated the transactions of merchandise and provided credits to the peasants and artisans. As a result of political, agricultural, and trading activities, there emerged a commercial corridor between Patna and Hugli along the Ganga between the last quarter of the sixteenth and the first half of the seventeenth century. Patna, Rajmahal, Maksudabad (Murshidabad since 1704), Kasimbazar, and Dhaka functioned within this commercialized zone. The westward commercial orientation of the delta may also be explained in terms of the fluid political situation in the eastern delta and the deleterious effects of a combination of slave hunting and forced mass migration from Chittagong to Arakan, which caused labour shortage in the region.[19] As Van Galen notes, mid-seventeenth-century Dutch reports suggest that textile production in Chittagong overwhelmingly depended on cotton supplies coming in from Tripura rather than on those from Gujarat or the Deccan. This means that the eastern delta was yet to be integrated with the Mughal political economy. Another problem for the commercial growth of eastern delta was the weak Mughal presence in those parts. Therefore, the economic and commercial expansion continued in the western parts of the delta where the European Companies began to open their factories in the 1640s.

The process of agrarian expansion continued from the period of the Bengal Sultanate (Ilyas Shahis and Hussain Shahis from the late fourteenth to sixteenth centuries) to the Mughal conquest in 1576. This was aided by endogenous factors such as the state's need to extract more fiscal resources, the expansion of paddy cultivation, and demographic growth, and exogenous factors such as the growth in long-distance overland and maritime trade and the inflow of bullion. Thus, agrarian expansion and trade seem to have mutually enforced each other, which further encouraged craft specialization and urban growth. As we noted in Chapters 3 and 4, the towns along the Ganga drew considerable quantities of merchandise and services from their populous and productive hinterlands. In logistical terms, the Ganga connected commercial towns along its banks and facilitated the movements of goods, services, and credit. Such

[19] Eaton, *The rise of Islam*, 200–203; Stephen Egbert Arie van Galen, "Arakan and Bengal: The rise and decline of the Mrauk U kingdom (Burma) from the fifteenth to the seventeenth century AD," PhD diss., Leiden University, 2008, 157–64. For fluid political conditions, see Rila Mukherjee, "The struggle for the bay: The life and times of Sandwip, an almost unknown Portuguese port in the Bay of Bengal in the sixteenth and seventeenth centuries," *Revista da Faculdade de Letras: História*, 3rd ser., 9 (2008): 67–88. The Mughals, after conquering Chittagong in 1666, drove away the Arakanese involved in kidnapping slaves and this measure hampered the Dutch procurement of slaves; see Richard Eaton, "Introduction," in *Slavery and South Asian history*, ed. Indrani Chatterjee and Richard Maxwell Eaton (Bloomington: Indiana University Press, 2006), 12–13; see also Andrea Major, *Slavery, abolitionism and empire in India, 1772–1843* (Liverpool: Liverpool University Press, 2012), 51.

connectivity also brought transparency in market operations as information about the commodity prices and credit circulated with relative ease. These infrastructure and market institutions facilitated both overseas trade and internal trade within the Indian subcontinent.

Given the fragmentary nature of sources, scholars have rarely attempted to reconstruct the internal consumption markets for various goods produced in early modern India. I shall make a modest attempt to figure out the internal demand for eastern Indian commodities in the different parts of the subcontinent. For their needs and consumption, not all regions of South Asia were self-sufficient and there was considerable interregional trade in various goods. For instance, cotton weavers in Bengal and Bihar often relied on raw cotton supplied from Gujarat and the Deccan, while craftsmen in different towns and cities of Gujarat needed a regular supply of raw silk from Bengal. Evidence is less clear about saltpeter, but opium was taken to other parts of the subcontinent. As we will see, this internal trade along with the overseas commerce generated dynamism in the Bihar markets. Existing evidence hardly allows a reconstruction of trade balances between different regions, but at least we can discern some trends in commodity flows within South Asia.

Saltpeter Consumption in South Asia

Though a large share of Bihar saltpeter was intended for export, as we shall see below, there was some internal demand. Based on Van Ommen's report of 1688, Om Prakash suggests that towards the end of the seventeenth century about seventeen percent of the 127,238 *man* of refined saltpeter produced in Bihar was consumed in India.[20] Unfortunately, he does not say who consumed this roughly 21,600 *man* of saltpeter except to suggest that Bihar consumed only 5.5 percent and 11.75 percent was sent to other parts of Bengal. Saltpeter was needed for ice making, for preserving perishable grains, metalworking, textile dyeing, and most importantly, for gunpowder making. We can assume that saltpeter was in demand by people in all these industries.

From the *Ain-i-Akbari* we know that saltpeter was used for cooling water and possibly for making ice by Akbar's chefs at Agra. Cool drinks and ice beverages were not limited to the royal kitchen, and the Mughal rank holders and zamindars would also have consumed dishes and drinks prepared with ice during the hot and humid tropical weather of India. The Arabic word *sorbet* for ice-cooled sweet drinks became current in the medieval period and ice-consumption was undoubtedly more widespread in subsequent periods. According to Chris Clarke, ice making was known to the Indians probably from the early centuries AD, and an Indian poem from the fourth century AD describes the process of ice making, which includes saltpeter (potassium nitrate). A thirteenth-century Arabic medical textbook and another Arabic work describing the recipe of *sorbet* also give details of ice making.[21] If *sorbet* became a common drink for

[20] Prakash, *The Dutch East India Company*, 59.

[21] Abu'l-Fazl Allami, *The Ain-i-Akbari*, trans. H. Blochmann, vol. 1 (1927; repr. New Delhi: Oriental Books Reprint, 1977), 58. See also J. Burton-Page, "Matbakh in Mughal India," in *The encyclopaedia of*

elites in medieval India, and gradually in the course of later centuries for other well-off sections of society, the demand for saltpeter for ice making would have increased. However, it is impossible to quantify such demands.

Another and perhaps more common use of saltpeter was as a preservative, as indicated in Dutch sources.[22] Again, we know hardly anything about how widespread this practice was, and how much saltpeter was consumed for protecting food grains from worms and rotting. If it was used by peasant households and in grain merchants' storehouses, saltpeter consumption would have been reasonably high. Yet another use of saltpeter was in metal-working, and metallurgists required it for smelting and refining iron, copper, silver and other metals for making swords, canon, and utensils, and for minting coins. Apart from its military uses, increased quantities of iron would have been needed to supply a growing population of peasants with agricultural tools and to some extent for fastenings for boats and anchor making.[23] There is no data available about iron consumption within the Mughal Empire but given the prominence of agriculture, this sector alone would have required large quantities of the metal. Although there was a local supply of iron from the ores of southern Bihar and from Bundelkhand, yet eighteenth-century shipping lists show consignments of iron imported into Bengal by European and Asian merchants.[24] Import of iron implies a growing consumption of the metal for which local supply would have been inadequate. Furthermore, gold- and silversmiths working in Mughal mints, as well as those making jewellery, needed saltpeter as a fluxing material. Therefore, the metallurgists and

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Islam, ed. C. E. Bosworth, et al., New Ed., vol. 6 (Leiden: Brill, 1989), 814; Chris Clark, *The science of ice cream* (Cambridge: The Royal Society of Chemistry, 2012), 6; T. A. Wise, "Ice-making in the tropics," *Nature* (January 4, 1872): 189–90. Wise observed the process of artificial ice making in Bengal, which he believed continued from time immemorial and he expressed a word of appreciation for the native practicing the science without knowing its theory. Although Wise does not talk of the use of saltpeter and sal ammoniac and gives more attention to wind pattern and electric activity of straw placed in the ice pits, it would have been impossible to make ice without saltpeter.

[22] See for the use of saltpeter in preserving wheat, NA, VOC, Inv. Nr. 1277, "Memoria raackende 's Comp:s voordeligen handel," 20.12.1669, fo. 1424r.

[23] See for instance Bakarganj, in Bengal, a boatyard where the Dutch captain had the boats anchors made, NA, VOC, Inv. Nr. 8772, From Hugli to Batavia 05.03.1733, "Daghverhaal van de Reijse met 's E Compgn: Chialoupen en Bassura als eenige Oulacken," entries of 15, 16, 17 and 18.12.1732, pp. 1469–71. For the use of saltpeter in refining gold and silver, see A. Campbell, "On the Nepalese method of refining gold," and J. P., "Note on the above paper," *Journal of the Asiatic Society of Bengal* 3:36 (December, 1834): 622–25.

[24] NA, VOC, Inv. Nr. 2862, From Hugli to Batavia 15.12.1754, "Missive van de afgaande en aankomende directeurs and raad aen den Hoog Edelens in dato 15 dec.1754," p. 166; NA, VOC, Inv. Nr. 2862, "Lijst van zodanige inlandsche en andere vreemde schepen als gedurende deese zuijder mousson successive in de Ganges verscheenen zijn," Hougly in't Fort Gustavus den 16.12.1754, pp. 836; in 1769 the Dutch sold different types of iron weighing about 12,000 pounds in Patna, see NA, VOC, Inv. Nr. 3284, "Generaal rendement van zodanige handelwaaren als er geduurende dit boekjaar 1768/9," comptoir Patna, 01.08.1769, fol. 397r. For the Swiss imports of iron in Bengal, see Christian Koninckx, *The first and second charters of the Swedish East India Company, 1731–1766* (Kortrijk: Van Ghemmert, 1980), 92.

smiths working with different types of metals would have depended on a constant supply of saltpeter. [25]

Saltpeter would have been used by firework-makers whose services were required primarily by the elites, the Mughal rank holders, and other well-off members of society during the festive occasions from at least the fifteenth century.[26] Based on Francis Buchanan's report of there being 162 *atishbāz*, or firework-makers, in Patna, Behar and Bhagalpur, a source of 1841 estimates the total quantity of saltpeter consumption in these districts at 50,000 *man* for fireworks alone. This appears to be an exaggeration for two reasons. First, the British official was concerned about the loss of revenue on the sale of government monopoly salt because of the unauthorized manufacture of salt (*puckwah* and *fool-kharee*) from saltpeter. Hence exaggerating the amount of saltpeter used in this way could help explain the loss of revenue from the diminished sales of government salt. Second, the method of calculating the amount of saltpeter used in firework-making is also problematic, for Piddington assumes that the *atishbāz* were employed on a year-round basis, which might not have been the case, and their total annual salary of 42,768 rupees (which is again an inflated figure based on twelve-month employment) constituted ten percent of the total capital (437,680 rupees) employed in the fireworks industry. He further assumes that at least three-quarters of the gross capital (or 300,000 rupees) were employed in procuring saltpeter for this industry. At the prevailing rate of 6 rupee per *man*, this yields a figure of 50,000 *man* of saltpeter used in making fireworks.[27] Another use of saltpeter was for bleaching and dyeing textiles.

If so much Bihar saltpeter was being diverted into these manufacturing sectors, one wonders how much would have been left for making gunpowder for the Mughal arsenal. Gujarat and Awadh produced saltpeter too, and the Mughals would have drawn upon those sources of supply for gunpowder manufacturing. However, we know that owing to its ballistic capacity or propulsion charge Bihar saltpeter was considered the best in the world during the early modern period.[28] It is highly unlikely that the

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[25] On the basis of a contemporary chronicler in 1665–1666, Shihab al-Din Talish, Eaton refers to the following event: "before embarking on the expedition, the Mughal commanders in Dhaka supplied their troops with thousands of axes, for the army had literally to hack its way through the dense jungle down Chittagong coast from the Feni to the Karnauli rivers." For the use of saltpeter in refining gold see Eaton, *The rise of Islam*, 236; Lance Day, "The chemical and allied industries," in *An encyclopaedia of the history of technology*, ed. Ian McNeil (London: Routledge, 1990), 221.

[26] For a fifteenth-century Persian work referring to the fireworks makers' use of saltpeter in Bengal see Iqtidar Alam Khan, "Early use of canon and musket in India: A.D. 1442–1526,"*JESHO* 24:2 (1981): 149; see also Frey, "The Indian saltpeter trade," 512.

[27] Henry Piddington, Esq, "Report to the secretary of the board of customs, salt and opium, on the salts, called puckwah and phool-kharee; with a process for detecting the adulteration of government salt; estimates of the quantities of both Salts annually produced, and of the amount of loss which the Revenue may sustain through the production of these two articles," *Journal of the Asiatic Society of Bengal* 10:2 New Series (1841): 948–49.

[28] On high quality of Indian saltpeter, see Frey, "The Indian saltpeter trade," 511; although the Deccan produced saltpeter, the Qutub Shahi kings imported good quality saltpeter from Bengal through the coastal route; see R. Balasubramaniam and S. Jai Kishan, "Saltpetre manufacturing and marketing in medieval India," *IJHS* 40:4 (2005): 668.

Mughals would have utilized inferior sorts from other regions for their own ammunition requirements. Yet as is the case with other saltpeter-consuming industries, the data on the Mughal ammunition manufacturing and saltpeter consumption are hard to come by. Dutch records occasionally mention some instances when the Nawab at Patna forced merchants to supply saltpeter for the gunpowder mill. On one occasion, the Nawab sought larger quantities of saltpeter from the Companies. In 1732, the Dutch captain Van der Bruggen alerted his militia in order to prevent the Nawab from seizing a few hundred bags of saltpeter for his own gunpowder production.[29] When Marathas raided Bengal in 1743, the Nawab demanded three to four *man* of gunpowder and an equal amount of lead from the Dutch.[30] From these instances it appears that the Mughals did not have a sound mechanism through which they could get a regular supply of saltpeter. When there was a need, the individual mansabdar was obliged to buy saltpeter in the open market from vendors and merchants. If saltpeter consumption by the Mughal army was so irregular, and ammunition production was so haphazardly organized, then it raises serious doubts about the Mughal polity being a gunpowder empire in the sense Marshall Hodgson and others have proposed.[31] Instead, it was an

[29] J. van Goor, ed., *Generale Missiven van Gouverneur-Generaal en Raden aan Heren XVII der Verenigde Oostindische Compagnie*, vol. 9, *1729–1737* ('s-Gravenhage: Bureau der Rijkscommissie voor Vaderlandse Geschiedenis, 1988), 309, Diderik Durven XVII, 14.02.1732; NA, VOC, Inv. Nr. 2153, "Een briefje van de ministers ten comptoire Cossembazaar op den 29 der even afgewekene maand gedateerd en gerigt ten geleide van ditto door de Pattenase bediendens in dato 20 dier zelve maand herwaards gesonden," Houglys Dag-Register, entry of 1.04.1730, fos. 8716v–8717r: "en 't doen van gewone halve voor uitverstrekking daar op advertentie van dat deze negotie nog al een tamelijke voortgang had, dog dat ze bedugt waren dat zulx geen stand houden zoude omdat 's Nawabs kruijtmakerije in Pattena gesprongen sijnde hij ligtelijk d' E: Comp: wel een portie van deze schade doen dragen zoude," Quote is from fo.8717r. As there was an explosion in the Nawab's powder mill at Patna, he tried to pursuade the Company also to bear some damage. In 1732, the Hugli Dagregister discusses a letter from Patna and the Nawab's demand for 500 *man* of saltpeter for his gunpowder mill, "gelijk ook de pretentie des Nawabs om 200 mn: kalk tot het opbouwen van een accedemie en 500 mn: salpeter tot zijn kruijtmakerij, wijders communicatie dat ze nog 4 pions en 2 nagtwaakers in dienst hadden genomen tot bewaken van het aangekomene lijwaat." See NA, VOC, Inv. Nr. 2288, "Houglijs dagregister van den jaare 1732," entry of 8.05.1732, pp. 853–854. In a similar fashion, the Nawab put some horsemen and pion at the gate of English factory in Patna demanding 20,000 *man* of saltpeter. It is not clear whether the English obliged him. See, BL, APAC, IOR/G/28/2, Patna Factory Records, vol. 2, 11.07.1744, n.f.

[30] J. van Goor, ed., *Generale Missiven van Gouverneur-Generaal en Raden aan Heren XVII der Verenigde Oostindische Compagnie*, vol. 10, *1737–1743* (Den Haag: Instituut voor Nederlandse Geschiedenis, 2004), 1056, Thedens VIII, 05.04.1743: "Dog het een nog het ander was van gevolg geweest, gelijk ook met der ministers reeds toegestaane versoek van den nawab om 3 à 4 maon buskruyt en zoveel loot, omdat die van Cassembazaar voor de bekome qualificatie reeds daarvan g'excuseert hadde." Also in 1719 when the Nawab of Patna was fighting against rebellious Rajput chief at Bhojpur, the Nawab asked the VOC to provide 12 canons and a loan of 50,000 rupees. See W. Ph. Coolhaas, ed., *Generale Missiven van Gouverneur-Generaal en Raden aan Heren XVII der Verenigde Oostindische Compagnie*, vol. 7, *1713–1725* ('s-Gravenhage: Martinus Nijhoff, 1979), 429, Zwaardecroon, Castelijn, enz. IV, 30.11.1719.

[31] Marshall G. S. Hodgson, *The venture of Islam: The gunpowder empires and modern times*, vol. 3 (Chicago: Chicago University Press, 1974), 17–18. For a critique see Douglas E. Streusand, *The formation of the Mughal empire* (Delhi: Oxford University Press, 1989), 11–15; for ambiguities in Streusand's position about the role of artillery in Mughal warfare and the centralization of the Mughal state see also Sanjay Subrahmanyam, "The Mughal state——structure or process? Reflections on recent western historiography," *IESHR* 29:3 (1992): 302.

empire primarily based on cavalry, for which saltpeter would have been of limited use. While artillery and infantry played some role in Mughal warfare in the sixteenth and seventeenth centuries, by the eighteenth European infantry, superior organization of military, political and financial prowess which outgunned Mughal firepower.[32]

As far as the outflow of this strategic silt from the Mughal Empire was concerned, barring a couple of instances, the European Companies hardly encountered any resistance from the Mughals in their saltpeter procurement from Bihar or other parts of India. As there were hardly any restrictions placed on the sale of saltpeter, zamindars and other warlords could have easily procured it on the open market, if the mineral was not already produced in their fiefdoms. Interestingly, some zamindars had already secured better canons and guns from the Dutch, a fact about which the Nawab expressed serious displeasure.[33] The Bihar zamindars were certainly leaning more towards muskets, canons and saltpeter, yet the Mughals seems to have relied primarily on cavalry to subdue chieftains from the hills and jungle of southern Bihar. Considering the consumption by zamindars, metallurgists and fireworks makers, the consumption might have grown during the eighteenth century, but the internal consumption hardly matched the export figures.

Opium Trade and Consumption in South Asia

Was there an internal market for Bihar opium in South Asia during the early modern period? If yes, how big was it and who were the consumers? An effort to answer these questions and reconstruct the internal trade network and consumption patterns is even more difficult than to ascertain the internal demands for saltpeter. Scholars of South Asian history hardly bother to raise these questions about internal trade, primarily because of the lack of data. I too acknowledge this handicap and frankly admit that my answer may not be precise; nonetheless an effort will be made to address them.

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[32] Jos Gommans, *Mughal warfare: Indian frontiers and high roads to empire, 1500–1700* (London: Routledge, 2002), 133–35. However, this is not to suggest that the British established their supremacy in India because of their military superiority, which is doubted in recent literature. It is claimed that British success depended more on their long-term financial capabilities and their capacity to muster large forces from within the Indian labour market; see Douglass M. Peers, "Revolution, evolution, or devolution: The military and the making of colonial India," in *Empires and indigenes: Intercultural alliance, imperial expansion, and warfare in the early modern world*, ed. Wayne E. Lee (New York: New York University Press, 2011), 81–106. See also Bruce Lenman and Philip Lawson, "Robert Clive, the 'Black Jagir', and British politics," *Historical Journal* 26:4 (1983): 808–9.

[33] NA, VOC, Inv. Nr. 8739, From Hugli to Batavia 09.04.1709, "Translaat van een vertoog brievsgewijse gesch: en in de Persiaanse tale opgesonden door den directeur Willem de Roo,…," pp. 275–78, see esp. p. 277 for the accusation leveled on the Dutch that they assisted the raja Hierza (Heera Shah, the chief of Chakwars at Milki?, for more on his trade contract with the Dutch, see Chapter 7) with gunpowder and lead against the king Shah Alam. In 1717, the Nabab had fished from the river a heavy gun that, along with other war materials, was believed to have been given to Siddhist Narayan of Bhojpur a couple of years previously by the Dutch officials at Patna. "Denselven [Nabab] hadde ook bij het opvisschen uyt de rivier van een swaar stuk canon, 'twelk —— Sedisnareyn eenigen tijd bevorens daarin soude hebben doen werpen, willen bewijsen, dat de Pattenase bediendens hem daarmede onder meer andere oorlogsbehoeften na sijn voorgeven van over twee jaren hadden geadsisteerd en waarover s' dan almede opnieuws eenige moeyelijkheden van hem hebben moeten ondergaan." see Coolhaas, ed., *Generale Missiven*, 7:284, Van Swoll, Castelijn, enz. XIV, 23.03.1717.

Evidence on opium use in northern India is hard to come by before the fourteenth century. Broadly speaking we can identify three categories of people who used the drug: people suffering from various ailments to whom the *vaidya* or *hakim* (Ayurvedic or Unani doctor) prescribed opium in a measured quantity; soldiers; and the elites. Sanskrit works such as the *Sharangadhara Samhita* (fourteenth century) and *Bhavaprakash* (sixteenth century) offer several preparations for opium. The drug was even more widely prescribed in the Yunani system of medicine for such diseases as migraine or hemicrania, joint-pain, lumbago (rheumatism of the loins), dysentery and diarrhoea. Apart from its use as aphrodisiac, opium was administered to those suffering from respiratory problems such as cough, asthma, and hiccups.[34] From the work of Amar Farooqui it appears that the drug was widely used in western India during the pre-colonial period.[35] The extent to which the nobility and elites consumed opium is not entirely known; yet Mughal emperors such as Akbar and Jahangir routinely ate opium, which was also a favourite drug among the Rajput rulers of western India.[36] Fragmentary evidence indicates the use of opium by the army of Murshid Quli Khan in order to allay the tedium of long marches.[37]

Although the overseas markets received a large part of opium, there was also demand within South Asia. The early sixteenth-century account by Duarte Barbosa mentions opium being a trade item among other goods at Cambay in Gujarat.[38] From the evidence presented in the Dutch records, we know that small quantities of opium were also brought to Gujarati ports from Mocha during the early seventeenth century, even though there was an Indian variety of opium in the market.[39] From the data given by the Dutch historian C. G. Brouwer, the quantities of Yemeni and Turkish opium brought to Gujarat do not appear to be large and the drug was probably brought to serve the exotic tastes of the elites.

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[34] Chopra, *Chopra's indigenous drugs of India*, 205–06. See also Amar Farooqui, *Smuggling as subversion: Colonialism, Indian merchants, and the politics of opium, 1790–1843* (Oxford: Lexington Books, 2005), 72.

[35] Farooqui, *Smuggling as subversion*, 71–74.

[36] Muhammad Azhar Ansari, *Social life of the Mughal emperors (1526–1707)* (Allahabad: Shanti Prakashan, 1974), 33.

[37] NA, VOC, Inv. Nr. 1796, From Hugli to Batavia 08.11.1710, "Verhaal gedaan door twee casseds of loopers in Febr: jongst leden van hier over 's Conings Zaeh Alems leger naar Suratta vertrocken, en den 26 maij 1710 weder geretourneerd," pp. 166–67: "Maer verblijf van een nagt sijn 's uijt het leger vertrocken, en hebben 10 mijlen herwaarts aan, ontmoet den heer Morsidcoelikhan tot renthmaur [Ranthambhour] (een formidable fortresse) die in aantogt naar herwarts was, en sijn sij naar 4: dagen gaans, tot Agra, en van daar in 11 dagen tot Patna, en vervolgens in 10 dagen van Patna alhier aangekomen hebben veel honger en kommer uijt gestaan en haar om de dorst te dooden met amphioen moeten behelpen, waer door heel uijtgeteerd sijn, en hebben een spetie van de vallende siekte gekregen."

[38] Duarte Barbosa, *The book of Duarte Barbosa: An account of the countries bordering on the Indian Ocean and their inhabitants, written by Duarte Barbosa, and completed at about the year 1518 A.D.*, trans. Mansel Longworth Dames (London: Hakluyt Society, 1918), 154–55.

[39] For trade in "Hindustani [opium] from Mirtha" in the western Indian Ocean network around the 1640s, see C. G. Brouwer, "Storehouse of stimulants opium in the markets of al-Mukhâ at the turn of the seventeenth century: Statements by the Dutch eyewitnesses," *Itinerario* 32:2 (2008): 25, 29–30.

Since the Indian variety circulated along the trade networks of the Indian Ocean, there must have been some cultivation of opium on the Indian subcontinent from the sixteenth century. *Mirat-i-Ahmadi* mentions opium as a source of revenue in Ahmadabad during the reign of Sultan Muzaffar, well before Akbar's conquest of Gujarat in 1573.[40] From the testimony of Abul Fazl (circa 1595), we learn that opium was an excellent crop and presumably a source of revenue in Malwa.[41] Around the first decade of the seventeenth century, the English merchant William Finch wrote of the fertile soil of Malwa "abounding with opium."[42] Already in the late sixteenth century, another English merchant Ralph Fitch had noted opium being shipped down the Yamuna and at Patna he saw opium being sold in the market.[43] Therefore, even before opium became an important commodity for the European Companies' overseas trade, the drug was produced and sold in different parts of India. It is difficult to know how much was grown for local consumption[44] and how much was intended for export.

Dutch sources indicate that opium was traded between Bihar and Agra in the seventeenth and eighteenth centuries. For example, Van Ommen's *Memorie van overgave* (MvO) or final report of 1688 informs us that merchants from Allahabad, Agra and other places bought considerable amounts of opium. Though it is not clear from Van Ommen's testimony, it is likely that some of the opium bound for Agra was re-exported to Persia or the Gujarati ports. Van Ommen further relates that the merchants of Hugli, Balasore, and Dhaka purchased opium in varying quantities and that some was consumed in Bihar itself.[45] Sixty-seven years later, in 1755, another MvO by Luis Tellefert, the director of the Hugli factory, reported that merchants from upcountry (*bovenlandsche kooplieden*) bought 1,000 *kists* or 2,000 *man* while consumption in Bihar, Bengal, and Orissa was 500 kists or 1,000 man.[46] It is highly likely that the roughly 1,000 *man* of opium purchased by Hugli and Balasore merchants was re-exported overseas or was sold to European private merchants. From both these Dutch reports we notice that while the quantity taken downstream to Hugli by Indian merchants remained almost the same, the amount sent upcountry or to Hindustan

[40] Ali Muhammad Khan, *Mirat-i-Ahmadi: A Persian history of Gujarat*, trans. M. F. Lokhandwala (Baroda: Oriental Institute, 1965), 13.
[41] Abu'l Fazl Allami, *The Ain-i-Akbari: A gazetteer and administrative manual of Akbar's empire and past history of India*, trans. and ed. H. S. Jarrett and Jadunath Sarkar, vol. 2 (1949; repr. New Delhi: Oriental Books Reprint, 1978), 207; for reference to Fatehpur, Allahabad and Ghazipur as other regions of opium production before 1600 AD, see also Ram Nath Chopra, *Chopra's indigenous drugs of India* (1933; repr. Calcutta: U. N. Dhur, 1958), 206; Sir George Watt, *The commercial products of India: being an abridgment of "The Dictionary of the Economic Products of India"* (London: John Murray, 1908), 847.
[42] William Foster, ed., *Early travels in India 1583–1619* (1921; repr. New York: AMS Press, 1975), 142.
[43] Foster, ed., *Early travels in India*, 24.
[44] On his journey from Agra to Surat in 1633, the English merchant Peter Mundy noted the ways and methods of the drug consumption. It appears from his description that people consumed more of the by-products (such as "seede" and "huskes") of poppy rather than opium, see Peter Mundy, *The travels of Peter Mundy, in Europe and Asia, 1608–1667*, vol. 2, *Travels in Asia, 1628–1634*, ed. Sir Richard Carnac (London: Hakluyt Society, 1914), 247.
[45] NA, VOC, Inv. Nr. 1454, MvO Van Ommen to Vrolijchart, 01.06.1688, fo. 767v.
[46] NA, VOC, Inv. Nr. 2849, MvO Louis Taillefert to Adriaan Bisdom, 27.10.1755, fos. 195v–196r.

declined from 3,500 *man* in 1688 to 2,000 *man* in 1755. We do not know if the difference was made up by increased production of Malwa opium.

If the Dutch estimates are correct then a quantity of 2000 to 3000 *man* was annually taken to Agra and Allahabad by the Hindustani merchants (*bovenlanden handelaars*) presumably for the consumption in those parts but also for re-export. The historiography of the Indian opium trade is silent about why Malwa opium does not feature prominently since the second half of the seventeenth century, when Patna opium started to make inroads. The Malwa variety resurfaced again almost a century later when the British claimed a monopsony (sole purchasing rights) on Bihar and Banaras opium in 1773.[47] As we already noted, according to the Dutch reports, the Asian/Indian merchants who traded within Bihar, Bengal and Orissa handled around 1000 *man* of opium. That an internal trade network in Bihar opium existed at least between the 1680s and 1760s is beyond doubt.[48] One is tempted to imagine that some of the opium traded passed through Lhasa/Tibet to China, but evidence is lacking. There might have been local consumption of the drug in Malabar as Alexander Hamilton informs that the chiefs of Calicut annually sold 500 to 1000 chests of Bengal opium to the traders of inland countries. The VOC also supplied Malabar with Bihar opium between the 1650s and 1770s, and also bought large quantities for Batavia.[49]

Unlike Southeast Asia or China, opium never became a drug for the mass consumption in South Asia. Evidence from the nineteenth century shows that opium was only moderately consumed in British India. Paul C. Winther calculated the per capita opium consumption at 14 grains per year in Madras province (one pound consisting of 7,000 grains avoirdupois) per year, though some other parts of southern India such as in Godavari district people consumed an average of 130.6 grains during 1892/3. Overall, consumption in southern India was rather modest. For northern India,

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[47] Farooqui, *Smuggling as subversion*, 17. Farooqui discusses the growing trade in Malwa opium since the late eighteenth century when opium prices rose steeply in Bombay. However, its history in the seventeenth and first half of the eighteenth century appears murky when Patna opium dominated the markets both for the Asian and European merchants.

[48] NA, VOC, Inv. Nr. 3075, "Korten inhoud der secreete memorie van den Raad Extraordinair van India en afgaande directeur Louis Taillefert aan desselfs vervanger de Heer George Louis Vernet nagelaaten," (MvO Taillefert to Vernet), signed by Louis Taillefert at Hugli on 17.11.1763, "De Amfioen," paragraph 31, fos. 1386v–1387r: "Immers dit is zeker, dat het sterk woelen der Engelschen tegens ons, en hunnen toeleg om den inlander zijne whare voor een Spotprijse afte dwingen, nergens anders toe gestrekt hebben, als om hen en ons te beletten, om een naamwaardig insaam te doen; want ze hebben voorleden jaar, ook maar 316 kisten ofte nog 101 meer als wij bekomen, zijnde een derde, namentlijk de bovenlandsche kooplieden, er wel bij gevaren also het grootste gedeelte van den Oegst door hen, ter sluijks is uit gevoert." After the EIC assumed monopsony in 1773 the internal trade network weakened and Indian/Asian merchants turned more towards Malwa opium.

[49] Alexander Hamilton, *A new account of the east Indies: Being the observations and remarks of Capt. Alexander Hamilton, who spent his time there from the year 1688. to 1723. trading and travelling, by sea and land, to most of the countries and islands of commerce and navigation, between the Cape of Good-hope, and the island of Japon*, vol. 1 (Edinburgh, 1727), 315; Prakash, *The Dutch East India Company*, 57. See also Coolhaas, ed., *Generale Missiven*, vol. 3:853, Maetsuyker, Verburch, enz. LXV, 31.01.1673: "de opium steeg tot 124 ropia de man van 72 [pond], 15000 [pond] is ingekocht; de prijs steeg te Batavia tot 7 à 8 rsd. het kati, waarom 50000 [pond] is geëist, terwijl ze ook voor Cochin en Ceylon nodig is."

opium consumption averaged 30 grains per capita, although in some districts of Assam it was as high as 747.4 grains.[50]

If the consumption pattern of the late nineteenth century may be taken to be as a yardstick to gauge ingestion of the drug in India, then it hardly appears that the consumption would have been greater in previous centuries. While some areas such as Malwa, Rajputana, Malabar, and Assam consumed more opium than other regions, demand for the drug was in no way comparable to what it was in China or Southeast Asia. In spite of the efforts of the colonial administration to enhance the sale of legal or *abkari* (excise) opium, the drug failed to become a commodity of large-scale consumption.

Internal Demands for Textiles

While saltpeter and opium were intended for specialist or small markets, textiles were an essential commodity needed by almost everyone. In northern India, people dispensed with heavy clothing during the relatively warm and humid months between March-April and September-October, yet they still required light garments. However, in the summer months the combination of humidity and perspiration wore out cloth, which increased demand for its consumption. During the four months of winter, extra clothing was a necessity for people across a large part of the Indian subcontinent. Since we lack quantitative data on textile consumption and the workings of the internal cloth markets for the early modern period, I shall begin the discussion with estimates of average textile consumption from a later period.

Referring to Bagchi and Roy, Clingingsmith and Williamson suggest that annual per capita consumption of cotton textiles by Indians in 1920 was 11.65 yards. Further, between 1800 and 1920, India's per capita GDP grew thirty percent while the price of cotton textiles fell by half. These factors would certainly have created a greater consumption of textiles in the 1920 than in 1800.[51] Annual consumption of 11.65 yards would appear to be the bare minimum requirement of clothing in India, where an adult male and female required at a minimum one pair of *dhoti* or *sari*, each *dhoti/sari* measuring about 5 yards of unstitched cloth, while children would have required 2 yards per annum. The total population of India is assumed to have been 200 million at the turn of the nineteenth century, of which 125 million would have been adults, so there would have been demand for at least 775 million yards of cloth at the turn of the

[50] Paul C. Winther, *Anglo-European science and the rhetoric of empire: malaria, opium, and British rule in India, 1756–1895* (Lanham MD: Lexington Books, 2003), 296–98; see also Watt, *The commercial products of India*, 857.

[51] David Clingingsmith and Jeffrey G. Williamson, "Deindustrialization in 18th and 19th century India: Mughal decline, climate shocks and British industrial ascent," *Explorations in Economic History* (*EEH*) 45:3 (2008): 229. Amiya Kumar Bagchi, *Private investment in India 1900–1939* (Cambridge: Cambridge University Press, 1972), 245; Tirthankar Roy, *The economic history of India, 1857–1947* (New Delhi: Oxford University Press, 2000), 192–97. According to Douglas Haynes the per capita consumption of textiles was about thirteen yards in the early 1920s; see his *Small town capitalism in western India: artisans, merchants, and the making of informal economy, 1870–1960* (Cambridge: Cambridge University Press, 2012), 97.

nineteenth century. This a very conservative figure, for there were many people who could afford many times more, thus driving up total domestic cloth consumption considerably.[52]

Now lets us figure out how much textiles Bengal was producing for export and internal consumption at the turn of the nineteenth century. Working from the study of K. N. Chaudhuri, Clingingsmith and Williamson state that London imported 38 percent of all Bengali textiles exports in the five years leading up to 1800.[53] According to Michael Twomey, London imported 30 million yards of textiles from Bengal in 1800.[54] If Chaudhuri and Twomey are right, then Bengal exported about 78.95 million yards at the turn of the nineteenth century, a figure that does not include exports by non-British Europeans, Americans, British country traders, or Asian merchants.[55] Apart from substantial export of cotton textiles from Bengal, we can reconstruct a rough sketch of the textile production for internal consumption in Bengal.

Bengal's population of 30 million people in 1800—18 million adults and 12 million non-adults—would have needed more than 114 million yards of textiles, assuming. How did Bengal meet this demand during the eighteenth century? We have no evidence that cotton textiles were brought to Bengal from Gujarat or Coromandel. Instead throughout the eighteenth century, Bengal continued to be a major exporter for Indian, Armenian, European, and—at the end of the century— American merchants.[56]

If Bengal continued to produce textiles to meet its own requirements and export demand, the argument about the eighteenth-century deindustrialization of Bengal appears to be undermined. Indeed, Clingingsmith and Williamson are aware of this fact

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[52] The figures on domestic production and consumption of cotton cloth in 1795 have been put 1,102–1,437 and 1,080–1,415 million square yards respectively, see Tirthankar Roy, "Consumption of cotton cloth in India, 1795–1940," *Australian Economic History Review* 52:1 (2012): 72–3.

[53] Clingingsmith and Williamson, "Deindustrialization," 229; K. N. Chaudhuri, "Foreign trade and balance of payments (1757–1947)," in *The Cambridge economic history of India*, ed. Dharma Kumar, vol. 2 (Cambridge: Cambridge University Press, 1983), 820–21.

[54] Michael J. Twomey, "Employment in nineteenth century Indian textiles," *EEH* 20:1 (1983): 42, where Table 3 shows that in 1800 a total of 1,824 thousand pieces (a little more than 40 million yards) of Indian textiles were exported to United Kingdom. Bengal exported 1,331 thousand cotton piece goods in 1800; at 22 yards per piece, this is equivalent to about 30 million yards. According to Table 1 (p. 40) of Twomey, in the 1790s India annually exported 50 million yards of cotton piece goods, which according to Tirthankar Roy was just one or two percent of total cloth production in India at that time, see Roy, *The economic history of India 1857–1947*, 30. For export of 791,646 pieces of cottons to London in 1787, see BL, APAC, IOR, Home Miscellaneous, H/434, pp. 523–29, esp. p.526.

[55] According to the figure given by Indrajit Ray, Calcutta port exported 5,602,961 cotton piece-goods in 1799–1800 and if we assume the average size of a piece to be 20 yards then 112,059,220 yards were exported from Bengal alone. This figure casts serious doubts about the de-industrialization thesis and diminishing world market share for Indian piece goods at the turn of the nineteenth century. Ray also sheds some light on increasing importance of American and non-British European demands for the Indian piece goods, see Indrajit Ray, "Identifying the woes of the cotton textile industry in Bengal: Tales of the nineteenth century," *Economic History Review* 62:4 (2009): 864–866; see also Holden Furber, *John Company at work: A study of European expansion in the late eighteenth century* (Cambridge: Harvard University Press, 1951), 182–90.

[56] In the 1790s and 1800s, for the American and other European merchants' participation in Bengal textile trade, see James R. Fichter, *So great a profit: How the East Indies trade transformed Anglo-American capitalism* (Cambridge: Harvard University Press, 2010), 181–91, 198–200.

when they assert that "Textile export volumes are a bit harder to judge; while much of the export trade was carried out by the East India Company, there were also private local traders and other European Companies at work."[57] In the same paragraph they argue "the period from 1772 to 1812 saw an artificial increase in demand for Indian textile exports from East India Company servants, who used them as a vehicle to transmit their fortunes back to England." If both the EIC and private British merchants continued to export large quantities from Bengal then there would have been large production too. However, the authors do not give separate figures for the EIC servants whose exports led to "an artificial increase" in the textile export from Bengal. Another problem with Clingingsmith and Williamson's thesis is that they apply subcontinent-wide data for grain prices, wages and climatic factors to the major textile producing centres. If one focuses on individual regions such as Bengal, Gujarat and Coromandel, an entirely different picture emerges. Here I shall not go into the de-industrialization debate any further because our main concern is the internal trade and consumption of textiles.

While the environmental settings and geographical locales of major raw cotton and raw silk producing zones were located in western and eastern India respectively (more than thousand miles apart), the craft specialization in silk works and cotton weaving developed in different places. While Bengal's primacy lay in weaving cotton textiles, it sent large consignments of raw silk to Gujarat. Although weavers in Gujarat wove cotton textiles, they were famous also for silk weaving, brocade, and embroidery work. Bengal produced its own cotton, yet the "imports" from the Deccan and Gujarat were essential to keeping the large-scale production and the prices of textiles within reasonable limits.[58] Therefore the textile industries of Bengal and Gujarat complemented each other in many ways. The distribution of raw materials and skills

[57] Clingingsmith and Williamson, "Deindustrialization," 229. As late as the 1780s cities of Ottoman and Safavid empires imported considerable quantities of Indian cottons. See Parthasarathi, *Why Europe grew rich*, 122–23. If we combine the Indian textile exports to Central and West Asia with the exports to Southeast and East Asia by European private traders in collaboration with the Asian merchants in the late eighteenth century, we may have a higher figure for the export share of the Indian textiles in the world market than a mere 6–7 percent suggested by Clingingsmith and Williamson. Data presented by Ray shows a large export of textiles from Bengal towards the end of the eighteenth and early decades of the nineteenth century, see Ray, "Identifying the woes of the cotton textile industry," 864–67.

[58] "Memorandum on the present state of the culture and trade of cotton in the East-Indies," Letter from the Secretary to the Court of Directors to the Secretary to the India Board, dated the 5th September 1828, No. 57, in *Reports and Documents connected with the proceedings of the East-India Company in regard to the culture and manufacture of cotton-wool, raw silk, and indigo in India* (London, 1836), 122. It was remarked, "and during the periods when the Company's investment of cotton manufactures for exportation to London was in its once large and flourishing state, and at the same time there was an active demand for the like goods by the French, Dutch, and Danish merchants, the quantity of cotton grown in the Bengal provinces did not equal one-eighth part of the quantity worked up there into piece-goods. The necessary supply was imported from the Deccan, the Doab, and the various parts of the Mahratta country; and it appears that the then frontier custom-house of Manjee, at the confluence of the river Gogra with the Ganges, amounted in one particular year to a crore of rupees." Undoubtedly this report refers to the second half of the eighteenth century. If the information in this document can be relied upon then one crore, or ten million, rupees worth of cotton imports in Bihar and Bengal certainly points to the large scale weaving activities.

engendered reciprocity and trade relations between western and eastern parts of the subcontinent.

A cursory glance at the shipping lists of the coastal Indian traffic during the early eighteenth century shows the mutual dependence for raw materials between Gujarat and Bengal for their craft productions. Each year dozens of Gujarati ships sailed to Hugli, laden with the bales of raw cotton and large amounts of specie to buy raw silk, grains, and piece goods.[59] The evidence for this coastal traffic becomes more abundant from the late seventeenth and early eighteenth centuries, when occasionally unsettled conditions temporarily disrupted overland routes. Yet the cargo capacity of the coastal shipping was not sufficient to transport the entire demands of raw cotton in Bengal. Cotton was a low-value, high-volume cargo, and Gujarati merchants would not fit out extra ships to carry raw cotton if there was no guarantee of a return cargo of comparable or greater value. Furthermore, since the coastal traffic was more dependent on the rhythms of trade winds, and was seasonal in character, the raw cotton was often transported by land and river in order to meet the more perennial demand of the weavers in Bengal. For the seventeenth and eighteenth centuries, we have evidence that merchants followed overland and riverine routes from western India through Mirzapur, to Patna and Murshidabad. While the merchants utilizing the coastal, overland, and riverine traffic brought raw cotton from Gujarat and the Deccan to Bengal, many of these merchants purchased raw silk from Bengal for Agra, Gujarat, and other areas.[60]

Internal trade in cotton textiles from Bengal was no less significant. For example, Dhaka muslin was as famous in Gujarat as anywhere else.[61] A report prepared in 1800 with the help of an old and experienced *dalal* (agent) of the Company called Royjee (and after his death with the assistance of Hurry Sing) throws valuable light on the consumption of Dhaka cottons within India. In this report it is reported that in 1747, the Mughal emperor consumed one hundred thousand rupees worth of piece goods for his personal use. The Murshidabad Nawab got piece goods worth three hundred thousand for himself and the court. For home consumption, Juggut Seatt bought goods

[59] The shipping list of 1712 noted the four ships which arrived from Surat in the month of June. Together they brought 380 bales of cotton among other merchandise. Interesting these ships brought 950,000 rupees probably to purchase silk and other commodities from Bengal. See, NA, VOC, Inv. Nr. 1828, From Hugli to Batavia 31.10.1712, "Memorie der aangekomene scheepen inde Revier de Ganges van Int: equipanten, sedert den 10 Junij tot ulto: Augustus 1712," pp. 218–19. Again in 1730 it was feared that the prices of textiles will be higher on account of a weak cotton crop in Bengal and also because many Surat ships carrying raw cotton for Bengal wrecked on the Malabar coast because of a storm there, see Van Goor, ed., *Generale Missiven*, 9: 81, Diderik Durven VII, 31.01.1730.

[60]See Coolhaas, ed., *Generale Missiven*, vol. 3:342, Maetsuyker, Hartsinck, enz. XX, 16.12.1660, 342 for Gujarati merchants' use of overland route through Patna and Agra. An early nineteenth century source, reflecting on the eighteenth- and early nineteenth-century scenario, relates that, "A considerable quantity of filature silk is exported to the western parts of India: a large proportion of it is sold at Mirzapoor, and passes thence to the Mahratta dominions, and the central parts of Hindostan," see *The London encyclopaedia, or universal dictionary of science, art, literature, and practical mechanics* . . . in 21 vols. (London: 1829) vol. 4: 18.

[61] Prasannan Parthasarathi and Giorgio Riello, "From India to the world: Cotton and fashionability," in *The Oxford handbook of the history of consumption*, ed. Frank Trentmann (Oxford: Oxford University Press, 2012), 148.

amounting to one hundred and fifty thousand. Both the "Turannies" (Turks) and "Pattans" (Pathans or Afghans) took one hundred and one hundred fifty thousand rupees' worth, respectively, for the consumption in the upper province. While "Mogul" merchants spent four hundred thousand partly for home consumption and partly for foreign exports, "Hindoos" purchased piece goods worth two hundred thousand rupees for home consumption.[62] Armenians, too, purchased piece goods worth half a million rupees for the West Asian markets. For the year, 1747 the total value of piece goods purchased at Dhaka by Asian and European merchants was 2.85 million rupees. A few decades later, the total sale of piece goods at Dhaka stood at little more than 2.2 million rupees, though by 1797 the figure came down to 1.25 million rupees, with the share of Pathans, Armenians, Mughals and Hindus stood at more than six hundred thousand rupees.[63] The above figure comes from only one cotton textile production district, namely Dhaka, and when other piece-goods production centres are taken into account, a large amount of money was spent on cotton textiles for consumption within the Indian subcontinent.

There was an internal market for Bengal piece goods within South Asia. Bengal itself consumed a large proportion of coarse and fine cottons produced in the region, and textiles were also taken to the upper provinces. At the same time, raw cotton for textile production in Bengal came from western India and the Deccan. Raw silk produced in Bengal found its way to other weaving centres of the subcontinent such as Banaras, and silk weavers in Gujarat needed it in large quantities. The importance of the subcontinent-wide market networks in textiles can be imagined from the fact that out of 1.25 million rupees worth of Dhaka textiles purchased in 1797, Asian merchants accounted for about half the total, even though the major clients such as the Mughal emperor, Bengal Nawabs and Jagat Seths were no longer the formidable clients they once were.

In the above section, we focused on the internal markets, consumption, and trade in commodities of the eastern Ganga plain. We noted that a part of these goods were consumed internally. While the domestic market for textiles was large, other commodities such as opium and saltpeter were consumed in comparatively modest amounts. However all these commodities catered to external demands. The robust export markets gave an important boost to the commercial economy, production processes, and wealth accumulation in the Ganga plain. Who these foreign consumers were and the uses to which these commodities were put, I shall explore in the following section.

Section II: External Demands and Overseas Markets for Patna Goods

Towards the end of the sixteenth century, Patna emerged as an important marketing centre linking the Bengal delta with upper Hindustan. Mughal imperial expansion

[62] BL, APAC, IOR, Home Miscellaneous, H/456f, pp. 45–47.
[63] BL, APAC, IOR, Home Miscellaneous, H/456f, p. 55.

during the second half of the century had brought the Bengal delta and the coasts of Gujarat under the control of Agra and Delhi, and integration into the Mughals' imperial domains facilitated the expansion of agriculture and gave a boost to trade. The old trunk route linking the Ganga plain with the northwestern parts of India, Persia and Central Asia became more secure and serviceable for the caravans of pack animal and bullock carts. As we noted above, links also developed between flourishing trade centres of Gujarat and that of the Ganga plain. With the Mughal expansion to the east, traders and entrepreneurs also moved to the eastern Ganga plain. These merchants became conduits for the conversion of agricultural surplus into cash and facilitated revenue collection, which resulted in increased commercialization and urban development.[64] As these developments in agriculture and the economy were getting underway, European merchants appeared in the Bengal delta and the Ganga River. They gravitated towards Bihar and around the mid-seventeenth century the European Companies began opening factories at Patna. The demand for saltpeter, opium, and textiles started to accelerate from this time on.

In this section, I examine the growing demand for commodities across the seventeenth and eighteenth centuries. While on the supply side in Bihar, peasant producers, craftsmen and market institutions facilitated production and procurement of commodities, many factors fuelled European and Asian demand for these commodities. As I shall discuss below, the political situation in Europe, experiments in military technology, military organization, and state formation all spurred the consumption of saltpeter, primarily for making gunpowder.

The Markets for Bihar Saltpeter

In the early modern period, India was perhaps the most important source of saltpeter in the world. Within India, Bihar produced probably the best variety of saltpeter and had the potential to meet global demand. At the very basic level, one may ask why the demand of saltpeter surged in the early modern period. The strategic importance of saltpeter in global politics first comes into sharp focus when, acting upon the Ottomans' request in 1693, the Mughal emperor Aurangzeb prohibited the sale of saltpeter to Europeans. The Ottomans feared that the saltpeter imported by the Christians (that is, the European Companies) would be used against them and other Muslims.[65] But the fact was that the warring state of Europe really needed saltpeter to fight each other; and in addition to the need for saltpeter by the land armies of Europe, a growing need for saltpeter had been generated by the development of sea-going vessels armed with several dozen guns. These ships had a global reach and they connected destinations across the Atlantic, Indian, and Pacific Oceans. Thus Europe

[64] B. R. Grover, "An integrated pattern of commercial life in the rural society of north India during the seventeenth and eighteenth centuries," in *Money and the market in India 1100–1700*, ed. Sanjay Subrahmanyam (Delhi: Oxford University Press), 232–33.

[65] W. Ph. Coolhaas, ed., *Generale Missiven van Gouverneurs-Generaal en Raden aan Heren XVII der Verenigde Oostindische Compagnie*, vol. 5, *1686–1697* ('s-Gravenhage: Nijhoff, 1975), 593, Van Outhoorn, Van Hoorn, enz. V, 09.02.1693.

seems to have become one of the largest consumers of saltpeter in the early modern world.

As the military fiscal states of Europe geared their efforts towards greater centralization and started competing with their rivals, their need for stable supplies of gunpowder became a pressing one.[66] As the "military revolution"—some would prefer to call it evolution— progresses, the growing military needs of the states made them dependent on an unhindered supply of war materiel and ammunition.[67] Since European sources of saltpeter were limited and could not meet the expanding demands in the seventeenth and eighteenth centuries, the import of this commodity assumed a critical significance.[68] The VOC first purchased saltpeter from Bihar in the mid-seventeenth century and soon it started to procure it in substantial quantities.

The growing importance of saltpeter in Europe is evidenced from a series of royal proclamations in England about this strategic commodity starting in the late sixteenth and early seventeenth centuries.[69] Local production, importation, and storage of this commodity assumed ever-greater significance, as is seen in the claims of an English pamphlet of 1693. Around this time the Netherlands managed to keep its warehouses well stocked and the prices there had been only a third of "8 *l.* per Hundred[weight]" prevailing in England.[70] Other European states coveted saltpeter for similar strategic reasons. The pamphlet also reported that the Dutch prohibited the sale of saltpeter to their German allies, but allowed them to buy unrestricted quantities of gunpowder on which "a great Duty" was imposed by Holland. Unlike the English, who banned the export of gunpowder, the Dutch made huge profits on selling this commodity to the English plantations in the West Indies. Furthermore, a number of ancillary industries such as glass making, silver refining and woollen dying depended

[66] Charles Tilly, *Coercion, capital, and European states, AD 990–1992* (Cambridge: Blackwell, 1992).

[67] For a constructive criticism and endorsement of the "military revolution" thesis of M. Roberts and the changing nature of warfare in Europe, see also Geoffrey Parker, "The 'military revolution', 1550–1660—a myth?" *Journal of Modern History* 48:2 (1976): 195–214; For the evolutionary pattern of military techniques in Europe, see also Jeremy Black, "A revolution in military cartography?: Europe 1650–1815," *Journal of Military History* 73:1 (2009): 49–68; In 1578, hectic efforts went into constituting a union comprising Gelderland, Zutphen, Holland, Zeeland, Utrecht, Overijsel, Vriesland, Groningen, Omlanden, Lingen and Drent. It was only by forming a larger union that the smaller states of the lowland countries could survive. They formed the United Provinces of Netherlands in 1579, see *Extract uit de Resolutien van de Edele Mogende Heeren Raaden van Staate der Vereenigde Nederlanden* (Donderdag den 28 Augusti 1777) unpublished printed documents of 1578, 1579 and 1580, n.p. Preserved at Bijzondere Collecties (Special Collections) of Leiden University Library. The unification of the lowland countries prepared the background and perhaps motivated the Nassau cousins to build the first uniform standing army in order to give teeth to the United Provinces.

[68] Frey, "The Indian Saltpeter trade," see especially pp. 531–54.

[69] See a proclamation, *By the Queene A Proclamation for the calling in and frustrating all Commissions for the making of Salt-peter granted forth before to George Evelin and others, the 28 of January 1587* (London, 1595), n.p.

[70] *REASONS Humbly offered to . . . the Honourable House of Commons*, n.p. For the royal ban on the export of saltpetre, especially fearing hostilities from the French, see *By the King and Queen, A PROCLAMATION to Prohibit the Exportation of Salt Petre* (London, 1689), n.p.; Chaudhuri gives the sale price of the Company's saltpeter in London at 4.84 *l.* per cwt. in 1693, see K. N. Chaudhuri, *The trading world of Asia and the English East India Company, 1660–1760* (Cambridge: Cambridge University Press, 1978), Appendix, 531.

on saltpeter. The pamphlet complained that the English East India ships brought only about 60 tonnes of saltpeter in the preceding year.[71] The data given in K. N. Chaudhuri's work shows that while the English Company imported no saltpeter in 1691, it brought in 6,107 cwt (310 metric tonnes) of saltpeter in 1692.[72] One may suspect that the pamphleteer was deliberately quoting lower import figures in order to make a strong case for passing a bill to allow the importation of saltpeter by private English merchants, but its emphasis on the importance of saltpeter for strategic and commercial purposes stands out clearly. But how did the market for saltpeter operate in the Netherlands and who were the prominent customers?

The Netherlands emerged as an important market for gunpowder and catered to the needs of different European states in the seventeenth century.[73] The gunpowder mills in several Dutch towns needed huge amounts of saltpeter to keep the production and trade going. Before the VOC became an important supplier of saltpeter, the gunpowder mill-owners imported it from the other parts of Europe, particularly Poland and Russia. In the early seventeenth century Joost Willemsen, a merchant from Amsterdam, at times purchased 100 tonnes of saltpeter from Poland. In 1609, the Russian Czar "donated" fifty tonnes of saltpeter to the Dutch Republic in the hope of securing Dutch help in containing the expansion of Catholic Poland.[74] European saltpeter was subject to exorbitant export duties and high tolls, which increased the cost dramatically, but even so these sources could hardly meet the burgeoning demands of saltpeter in early modern Europe. Since importing this commodity from India was more cost-effective, several European states such as France, Austria, Prussia, Sweden, the

[71] *REASONS Humbly offered to . . . the Honourable House of Commons*, n.p.

[72] Chaudhuri, *The trading world of Asia*, see Appendix, 531. In 1692, the Mughal *wazir* (the minister) Asad Khan prohibited saltpeter export from Bihar on behest of an appeal made to Aurangzeb by the Sultan of Turkey who feared that saltpeter brought to Europe by the Companies will be used against the Ottomans. The ban was lifted in 1694, see Prakash, *The Dutch East India Company*, 58–59.

[73] There was an export trade in armaments and gunpowder from the Netherlands since the sixteenth century. After the creation of the United Provinces in 1579 following the *Unie van Utrecht* (Union of Utrecht) such export was regulated by the States General in order to suit its strategic interests. See, Hans Vogel, "Arms Production and exports in the Dutch Republic, 1600–1650," in *Exercise of arms: warfare in the Netherlands, 1568–1648*, ed. Marco van der Hoeven (Leiden: Brill, 1997), 199. Occasionally, depending on its strategic calculations, the government banned the export of armaments from the Dutch Republic. As the Twelve Years Truce (1609–21) ended with Spain, in following year, in 1622, a "placcaet" or regulation from the States General prohibited the export of saltpeter, gunpowder and other armaments, see *Placcaet van de hoghe ende mog: Heeren Staten Generael […] inhoudende scherp verboth, van uyte Vereenighde Nederlanden, op eenige havenen, steden ofte plaetsen, wesende onder't gebiedt vanden koningh van Spaengien en desselfs adherenten, geen toe-voer te moghen doen van eenigh salpeter*, Pamflet 1622: 15 ('s Graven-haghe, 1622), n.p., Bijzondere Collecties, Leiden University Library.

[74] For the Dutch official request made to the king of Poland and council of Danzig for allowing the imports of saltpeter to the Dutch Republic, see J. G. Smit, ed., *Resolutiën der Staten-Generaal*, nieuwe reeks, *1610–1670*, vol. 4, *1619–1620* ('s-Gravenhage: Martinus Nijhoff, 1981), 546 and p. 465 for another request to the king of Denmark to allow the toll-free passage of Danzig saltpeter; see also http://www.historici.nl/Onderzoek/Projecten/BesluitenStaten-generaal1626–1651 check the webpage for 23 April and 24 August for Joost Willemsen; for the reference to the donation of saltpeter by Russia, see Frey, "The Indian saltpeter trade," 542.

United Provinces, and England attempted to obtain saltpeter from Bihar.[75] However, the Dutch, English, and French remained the dominant players in the market until the eighteenth century.

From about the mid-seventeenth century till the third quarter of the eighteenth, saltpeter from Bihar played an especially important role in the Dutch Republic. The seventeenth century was crucial in terms of the proliferation of gunpowder mills in the Netherlands. While the Republic was at loggerheads with Spain for most of the first half of the century, its wars with France and England provided sufficient grounds for the expansion of the industry in the second half. In the Netherlands, there were already a number of gunpowder mills in such towns as Delft (established in 1597), Vlissingen (1603), Enkhuizen (before 1606), Rotterdam (1608), Utrecht (1622), Monnikendam (before 1623), and Stavoren (1639). Towns such as Arnhem, Apeldoorn, and Neer (Limburg) were also important centres of gunpowder manufacturing. Amsterdam alone had not less than six such mills around 1660, and two more were founded in the 1670s.[76] As the VOC's supply of saltpeter from Bihar peaked in the second half of the century, prices fell in the Dutch Republic. This would have been a major factor behind the expansion of the gunpowder industry and the increasing export of gunpowder from the Netherlands.[77] It is suggested that during the first half of the seventeenth century the Netherlands exported over 5 million pounds of gunpowder, with, at a rate of 5 guilders per pound, a value of 25 million guilders.[78] Although, presently we do not have comparable export figures for the second half of the century, there is no reason to believe that it did not expand further.[79] The increased supply of saltpeter not only catered to the needs of gunpowder in the Netherlands; its export became a lucrative sector of the Dutch economy. The importance of saltpeter continued in the seventeenth and well into the next century. For example, for the sixth extension of the charter to the VOC from 1755 to 1774, the Company authorities undertook to pay 1.2 million guilders and 1.5 million pounds of saltpeter to the States-General of the Dutch

[75] Frey, "The Indian saltpeter trade," 540–42. For Swedish imports of Bihar saltpeter, see also Koninckx, *The first and second charters of the Swedish East India Company*, 252, 254–55.

[76] H. J. Reitsma, *Geschiedenis van het buskruit in Netherland van de 14^{e} tot de 20^{e} eeuw* ([S.I.: s.n.], cop. 2010), 26–27. Reitsma suggests that in 1640 there were at least fifteen big saltpeter mills in the Dutch Republic.

[77] Gerrit de Bruin, *Buscruytmaeckers: Ervaringen en lotgevallen van een merkwaardig bedrijf in Holland* (Amsterdam: Nederlandsche Springstoffenfabrieken, 1952), 12.

[78] Vogel suggests that the export of gunpowder from the Dutch Republic was "truly impressive," see Hans Vogel, "Arms production and exports," 197–210, the reference to export figure is from p. 210. Many VOC high-ranking officials as well as their family members took active part in the gunpowder manufacturing business in the Dutch Republic, see Paul van der Heijden, *Buskruit voor de wereldzeeën: de opgraving van kruitfabriek De Eendracht in Middelburg* (Hoorn: Uniepers, 2010), 32.

[79] J. P. Puype and Marco van der Hoeven, ed., *Het arsenaal van de wereld: De Nederlandse wapenhandel in de Gouden Eeuw* (Amsterdam: De Bataafsche Leeuw, 1993), the focus remains on the first half of the seventeenth century in the most of the essays collected in this volume; for 50,000 pounds gunpowder export from the Dutch Republic to Portugal in the early eighteenth century, see A. J. Veenendaal jr, ed., *De briefwisseling van Anthonie Heinsius 1702–1720*, vol. 2:1703 ('s-Gravenhage: Martinus Nijhoff, 1978), 422–23.

Republic.[80] Indeed, saltpeter was a valuable commodity often subject to negotiation in discussions over extending charter of the VOC.

From the early years of its operation, the VOC itself was an important buyer of war materials in the Netherlands. According to one estimate, between 22 and 29 percent of outfitting costs was spent on military hardware. While expenditures by the *West-Indische Compagnie* (WIC, the Dutch West India Company) were comparatively smaller than those of the VOC, expenditures on gunpowder, canon and other such goods constituted a large share of the costs for putting a fleet to sea.[81] As the number of ships employed by the VOC and WIC grew during the seventeenth and eighteenth centuries, the need for ammunition expanded proportionately. During the war years particularly, gunpowder demands must have skyrocketed.[82] In the eighteenth century, the Dutch *Middelburgsche Commercie Compagnie* (MCC) exported large quantities of gunpowder to West Africa.[83] As the VOC's imports of saltpeter from Bihar constituted the single largest source of supply to the Dutch Republic after the mid-seventeenth century, it is safe to assume that gunpowder exports from the Netherlands drew heavily upon Bihar saltpeter. During the eighteenth century the cutthroat competition among the Europeans Companies in the saltpeter markets of Bihar makes more sense if we appreciate growing warfare in Europe and the global strategic importance of gunpowder.

The VOC also exported saltpeter to its other settlements in Asia. For example, the Dutch factory at Pulicat had its own gunpowder mill from at least the 1620s. Pulicat had easy access to Coromandel saltpeter until the mid-seventeenth century and subsequently, to Bihar saltpeter. As Wil O. Dijk suggests, Pulicat had an excellent harbour and offered good shipping facilities. Therefore the Dutch merchants there kept the other VOC settlements such as Batavia, Malacca, and Ceylon well supplied with munitions. It is not clear whether the coastal climate at Pulicat had some positive effect on the quality of gunpowder, which was considered more durable than that supplied from the Dutch Republic.[84]

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[80] H. J. den Heijer, *De geoctrooieerde compagnie: de VOC and WIC als voorlopers van de naamloze vennootschap* (Deventer: Kluwer, 2005), 156.

[81] Michiel de Jong, *'Staat van oorlog': Wapenbedrijf en militaire hervorming in de Republiek der Verenigde Nederlanden, 1585–1621* (Hilversum: Verloren, 2005), 138. For the East Indies in the years 1610 and 1630 respectively, the Dutch ships carried 78,100 and 120,000 ponds of gunpowder. For the same years, the ships leaving for the West Indies took 60,000 and 48,000 ponds, see p. 118.

[82] For example, the war-ships and armed vessels were provided with canon-balls and gunpowder. A VOC ship of 200 last was fitted with 28 guns and 75 muskets and it took on board 46,800 ponds of canon-balls and 10,000 ponds of gunpowder, see M. A. G. de Jong, "'Staet van oorlog': Wapenbedrijf en militaire hervorming in de Republiek der Verenigde Nederlanden (1585–1621)," PhD diss., Leiden University, 2002, 95; see also Reitsma, *Geschiedenis van het buskruit*, 94.

[83] Van der Heijden, *Buskruit voor de wereldzeeën*, 34; Also, personal communication with Professor Henk den Heijer on 21 May 2012 at Leiden.

[84] Wil O. Dijk, *Seventeenth-century Burma and the Dutch East India Company, 1634–1680* (Singapore: Singapore University Press, 2006), 44–5. It has been suggested that gunpowder shipments from Europe to India were not very significant and that the European Companies normally produced their own saltpeter in India; see Henry A. Young, *The East India Company's arsenal and manufactories* (Oxford: Clarendon Press, 1937), 62–65.

Saltpeter also had markets in Southeast Asia too. An early eighteenth-century English traveller, Charles Lockyer, notes saltpeter and gunpowder among the merchandises brought to the port of Aceh by the Moors.[85] Indeed, there existed a network in saltpeter between Bengal and Aceh during the seventeenth century. The Nawab Buzurg Ummed Khan's ships were carrying opium and saltpeter from Patna to Aceh in 1684, and the Dutch were particularly concerned that such trade potentially threatened Dutch commercial and strategic interests in Southeast Asia.[86] Mughal rank holders were also sending cargos of saltpeter to Colombo in 1656, when the Portuguese and Dutch were busy fighting for the possession of the island kingdom.[87] The VOC ships too carried saltpeter from Bengal to Ceylon and Batavia for gunpowder production there.[88] Om Prakash has studied the Bengal shipping lists between 1680 and 1718 and shown that the Asian merchants' traffic to Southeast Asia also carried saltpeter.[89]

As we discussed above, Bihar saltpeter was exported to different markets in Europe and Asia. Scholars are beginning to appreciate the importance of this commodity for world history. In the European context, the military revolution thesis is seen as closely linked to the massive expansion of trade in saltpeter in the early modern period.[90] Although the effect of the saltpeter trade in European history is easily recognized, we know far less about the commodity market integration and its implications for Bihar. Scholars generally agree that the Patna market exported saltpeter primarily against bullion and that this trade constituted an important source of money supply in the seventeenth and eighteenth centuries. This pattern of trade was obviously based on an earnest cooperation between local merchants and ruling groups on the one hand and the European Companies on the other. Yet, the existing historiography has largely ignored the evolving patterns of relationships between local and foreign merchants and their shifting loyalties in the course of the seventeenth and eighteenth centuries. I will discuss the interactions between the local and European merchants and cash-nexus in the Chapters 6 and 7. But in order to give a larger background against which to analyse merchant activities and the growing use of money

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[85] Charles Lockyer, *An account of the trade in India: containing rules for good government in trade, …with descriptions of Fort St. George . . . Calicut . . . to which is added, an account of the management of the Dutch in their affairs in India* (London, 1711), 34–5.

[86] W. Ph. Coolhaas, ed., *Generale Missiven van Gouverneurs-Generaal en Raden aan Heren XVII der Verenigde Oostindische Compagnie*, vol. 4, *1675–1685* ('s-Gravenhage: Martinus Nijhoff, 1971), 724, 727, Camphuys, Hurdt, enz. IV, 30.11.1684.

[87] NA, VOC, Inv. Nr. 1212, Memorie . . . door Joan Verpoorten, 28.10.1655, fo. 212r: "en d' Hr Samsamdaula op Persia accomoderende d' Hr Nawasischan met 't aanvaarden van 4500: man salpeter tot 2 ½ R o/a de man die voornemens was geweest op Colombo te doen vervoeren."

[88] For saltpeter needed for Ceylon to be procured at Patna, see NA, VOC, Inv. Nr. 1569, From Hugli to Batavia 30.09.1695, "Aen den Hoogh edelen heere, Mr. Willem van Outhoorn…," p.121; for gunpowder production in Batavia and others places in Asia, see C. O. van der Meij, "De VOC onder de wapenen," in *Het arsenaal van de wereld*, ed. Puype and Van der Hoeven, 50–51.

[89] Prakash, *The Dutch East India Company*, see table on p. 28.

[90] Frey, "The Indian saltpeter trade," 531–54.

in the eastern Ganga plain, I will consider the overseas markets for two other significant bullion-drawing commodities.

Opium Markets

It is unclear as to when Chinese and Southeast Asian societies became familiar with opium and its uses. Joseph Needham believes that Nestorian missionaries introduced Western medical knowledge into China, including Claudius Galen's *De Theriaca*, and the formulas for a universal antidote made with a number of substances such as gall, myrrh, opium, and hemp.[91] According to Trocki, specialized knowledge about the medicinal use of opium from the ancient Greek treatise of Galen (130–200 AD) may well have circulated through the Eurasian trade routes.[92] However, recent research shows that before the emergence of the Muslim seafarers, Nestorian Christians from Sassanid Persia were very active in the Indian Ocean trade networks that extended up to China.[93] Therefore, an Indian Ocean circuit of the transmission of medical knowledge cannot be ruled out and it is likely that the Nestorian Christians may have been an agency for such knowledge transfer among coastal East Asian societies. In the previous chapter, we referred to the medicinal use of opium for rat bites mentioned in a ninth-century work on toxicology from Malabar. Earlier medical treatises written in northern India do not mention the medicinal use of opium, and it is doubtful that such knowledge was transmitted via overland routes to the northern parts of the subcontinent.

The transmission and exchange of skills, culture and goods accelerated when Persian and Arab merchant-navigators began exploiting the Indian Ocean trade networks in the second half of the first millennium AD, and from that point onwards, opium probably became some sort of medicinal merchandise sold at the ports of the Indian Ocean. By the time Melaka came to be founded in 1400, West Asian opium had long been in circulation along the Indian Ocean networks.[94] In the sixteenth century and earlier, the Gujarati and other merchants already sold opium in the different markets across the Indian Ocean.[95] If we may place some reliance on the sixteenth-century Venetian merchant Caesar Frederick's account, it appears that opium was sold at Pegu and Aceh. Rather in a dramatic way, Frederick tells us that he narrowly missed an

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[91] Joseph Needham, *Science and civilization in China*, vol. 1, *Introductory orientations* (Cambridge: Cambridge University Press, 1954), 205.

[92] Carl A. Trocki, *Opium, empire and the global political economy: A study of the Asian opium trade 1750–1950* (London: Routledge, 1999), 17–20.

[93] Pius Malekandathil, *Maritime India: Trade, religion and polity in the Indian Ocean* (Delhi: Primus Books, 2010), 3–4.

[94] Kenneth R. Hall, "Local and international trade and traders in the Strait of Melaka region: 600–1500," *JESHO* 47:2 (2004): 251; for the reference to the merchants of Aden bringing opium among other commodities to the west Indian ports, see K. N. Chaudhuri, *Trade and civilization in the Indian Ocean: An economic history from the rise of Islam to 1750* (Cambridge: Cambridge University Press, 2005), 109.

[95] M. N. Pearson, *Merchants and rulers in Gujarat: The response to the Portuguese in the sixteenth century* (Berkeley: University of California Press, 1976), 10 and for a passing reference to opium being produced in Gujarat Sultanate, see p. 20.

opportunity to become rich when he carried sixty parcels of Cambay opium worth 2,100 ducats to Pegu. Unfortunately he suffered a net loss of 1,100 ducats when a large ship sailing from Cambay to Aceh with "great quantitie of Opium" was forced off course in a violent storm in the Bay of Bengal. The ship reached Pegu just a day before Frederick's and drove down the opium price there.[96] However, within a century opium had become a far more important commodity in the eastern Indian Ocean. Bihar was probably growing opium during the first half of the seventeenth century, and it was around 1652 that the VOC started purchasing opium from Patna for export to Southeast Asia.[97]

Opium consumption in Southeast Asia remained relatively low until the late seventeenth century. Scholars such as Trocki have located the reasons for the expansion of the opium markets in Southeast Asia and China in two significant developments. These were the cultural modes in which the drug came to be ingested and the economic transformations and the availability of small denomination coins to labourers who spent their money on such leisurely pursuit. It is believed that the Dutch carried the practice of smoking tobacco along with a pinch of opium and arsenic to Java in order to ward off the threats malaria posed to their health. This blend, called *madak*, was soon picked up by the Chinese, and the habit of smoking remained confined to Dutch trading posts in Taiwan and in the areas of Fujian.[98] (It is interesting to note that madak seems to come from the Sanskrit *mada*, meaning intoxication, and the term may have gained currency in the Javanese/Malay speaking groups.) However, another mild drug, tobacco, introduced in China around the mid-sixteenth century probably by Spaniards in Manila, had already become "the opiate of the people" by the mid-seventeenth century, according to Zheng Yangwen. While chewing opium was prevalent in South Asia and perhaps elsewhere, first the Fujianese and later other Chinese picked the habit of smoking tobacco. There may have been a link between the existing practice of tobacco smoking and later the opium ingestion in a similar fashion.[99] Referring to the Javanese annals of 1601, John Crawfurd has suggested that the Dutch introduced the

[96] M. Caesar Frederick, *The voyage and travail*, 37–38.

[97] The first reference to opium purchase by the VOC at Patna come in the year 1652, see W. Ph. Coolhaas, ed., *Generale Missiven van Gouverneurs-Generaal en Raden aan Heren XVII der Verenigde Oostindische Compagnie*, vol. 2, *1639–1655* ('s-Gravenhage: Martinus Nijhoff, 1964), 622, Reniers, Maetsuyker, enz. VII, 24.12.1652. But even before the VOC started buying opium from Bihar, the Muslim merchants seems to have been purchasing this commodity for Southeast Asia. This becomes clear from the cargoes of one of the two ships which both were captured in 1649 by Leyel, a Danish commander, before they reached Balasore. The ship with opium was destined for Aceh, see Coolhaas, ed., *Generale Missiven*, 2:348–49, Van der Lijn, Caron, enz. VIII, 18.01.1649. In 1641 the VOC was already buying some opium at Surat for the Malabar Coast, see Coolhaas, ed., *Generale Missiven*, 2:145, Van Diemen, Van der Lijn, enz. XVII, 12.12.1641.

[98] Martin Booth, *Opium: A history* (New York: St. Martin Press, 1998), 105; Rudolph P. Matthee, *The pursuit of pleasure: Drugs and stimulants in Iranian history, 1500–1900*, (Princeton: Princeton University Press, 2005), 212; Frank Dikötter, Lars Laamann, Zhou Xun, *Narcotic culture: A history of drugs in China*, (London: C. Hurst, 2004), 32–36.

[99] Zheng Yangwen, *The social life of opium in China* (Cambridge: Cambridge University Press, 2005), 26–30. Zheng refers to the archaeological evidence and suggests the porcelain pipes for smoking tobacco were already manufactured in 1550.

practice of tobacco smoking in Java.[100] Whether the Chinese already knew how to smoke or the Dutch introduced the practice, the changed methods of ingestion transformed opium from being a medicinal drug to a little luxury smoked along with tobacco by many who could afford to buy a little. By 1689, the well-known Westphalian medical practitioner in VOC service, Engelbert Kaempfer had found the Javanese smoking madak.[101] It is hard to determine whether demand triggered supply or supply stimulated demand, but in the course of the seventeenth and eighteenth centuries both the supply and consumption continued to grow in Southeast Asia and China.[102] During the early nineteenth century, when Crawfurd was in Java, he noted the islanders' passionate addiction and habitual use of opium.[103]

Another reason for the expansion of opium markets is linked to the economic changes associated with mining and plantation work and the growing influx of Chinese labourers in many parts of Southeast Asia. According to Leonard Blussé, Chinese labourers started to migrate to Batavia and its hinterlands, or *Ommelanden*, in large numbers towards the end of the seventeenth century.[104] Contrary to the general agreement that locates the migration of Chinese labourers in the eighteenth century, in fact such migration grew steadily in the 1600s.[105] As opium consumption gradually became more widespread, the VOC's trade in Bihar opium became more important and the Dutch imported increasingly larger quantities to Southeast Asia especially from the closing decades of the seventeenth century.[106]

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[100] John Crawfurd, *History of the Indian Archipelago: Containing an account of the manners, arts, languages, religions, institutions, and commerce of its inhabitants* vol. 1 (Edinburgh, 1820), 104.

[101] Trocki, *Opium, empire and the global political economy*, 34–36; see also Engelbert Kaempfer, *Amoenitatum Exoticarum Politico-Physico-Medicarum Fasciculi V, quibus continentur variae relationes, observationes & descriptiones rerum persicarum ulterioris Asiae, multâ attentione, in peregrinationibus per universum Orientem, collectae* (Lemgoviae, 1712), 650, "Vidi in Javâ tabernas levidenses ex arundine, in quibus id genus tabaci hauriendum exponebatur praetereuntibus. Nulla per Indiam merx majori lucro divenditur à Batavis, quàm *Afiuun*, quô carere adsueti non possunt, nec potiri, nisi navibus Batavorum ex Bengalâ & Choromandelâ advecto."

[102] Amar Farooqui believes that "opium consumption became widespread in China as a result of aggressive marketing of the drug in south-east Asia by the Dutch and subsequently by the English." See book-review of Zheng Yangwen's *The social life of opium in China* by Amar Farooqui in *Social History of Medicine* 20:1 (2007): 183; see also Farooqui, *Smuggling as subversion*, 13.

[103] Crawfurd remarked that "the general use of this drug is but of comparatively recent introduction. They may have been taught the use of it by the Arabs; but the extensive and pernicious consumption which now distinguishes the manners of the Indian islanders, is to be ascribed to the commerce of the Europeans, and to the debauching influence of Chinese manners and example." See John Crawfurd, *History of the Indian archipelago*, 1:105.

[104] Leonard Blussé, "Batavia, 1619–1740: The rise and fall of a Chinese colonial town," *JSAS* 12:1 (1981): 169–70.

[105] Hui Kian Kwee, "Pockets of empire: Integrating the studies on social organizations in Southeast China and Southeast Asia," *Comparative Studies of South Asia, Africa and the Middle East* 27:3 (2007): 618–20; see also for the problems with environmental sustainability, the mid-seventeenth century crisis in the seventeenth century Guangdong province. This might have given a push towards migration to Southeast Asia, see Robert B. Marks, *Tiger, rice, silk, and silt: Environment and economy in late imperial south China* (Cambridge: Cambridge University Press, 1998), 137–62.

[106] Prakash, *The Dutch East India Company*, 148–56; see also Luc Nagtegaal, *Riding the Dutch tiger: The Dutch East Indies Company and the northeast coast of Java 1680–1743* (Leiden: KITLV Press, 1996), 143–45; During the seventeenth century, in other parts of Southeast Asia such as the Vietnamese

There was probably some connection between the expansion of mining and rice, pepper, sugar, and gambier growing run and managed by the Chinese and the increased role of opium in such complexes. Although the Chinese *kongsi* system of organizing mining enterprises by the Chinese is assumed to be based on egalitarian principles, as Trocki suggests an unequal economic relationship often coloured the mining and plantation complexes of the eighteenth and nineteenth centuries. Labourers at these complexes often had to pay several times the prevailing market price for provisions and other basic necessities. The headman of these *kongsis*—the *taukeh* or big brother—often monopolized the supply of provisions, including opium, as well as the purchase of the products of mines or plantations and earned hefty profits. In the course of the eighteenth century, Chinese migrant labourers became increasingly dependent on opium and by the early nineteenth century they would simply desert if opium supply failed to reach them. For the *taukeh*s the drug became an essential tool to keep labourers permanently indebted and assume control of their shares in the *kongsi* and secure the ownership of the mines and plantations for themselves.[107]

Although the above pattern of economic change underlines the role of opium in the emerging political economy of the eighteenth and nineteenth centuries, one may suspect an increasing consumption of the drug at least since the late seventeenth century when Chinese migrant population in Southeast Asia was already fairly large. In the last quarter of the seventeenth century, Alexander Hamilton, an English merchant, wrote of the growing market for opium near Melaka:

> The *Dutch* have another Factory right opposite to *Malacca*, on the Side of a large River, called *Bankalis*. . . . The Company vends a great Deal of Cloth and Ophium there, and brings Gold-dust in Return. That beneficial Trade was not known to the *Dutch* before 1685. that one Mr. *Lucas*, a Factor in the Company's Service at *Malacca*, was advised by a *Malaya* to send some *Surat Baftaes* dyed blue, and some *Berams* dyed red, which are both coarse Cotton Cloth much worn in that Country; and Ophium is as much in Request there, as Tea is with us. In 10 Years that he kept that Trade wholly to himself, tho' in other Mens Names, he got an Estate of 10 or 12 Tuns of Gold, or about 100000 Pounds *English*, and then revealed the Secret to the Company, who took that Trade altogether into their own Hands.[108]

If Hamilton's estimate of Lucas's profits are correct, then opium consumption was already well on its way to becoming widespread in Southeast Asia. In 1676,

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states, the Philippines, Pattani and Banten, Chinese traders formed the largest group of foreigners, see Anthony Reid, "Economic and social change, c. 1400–1800," in *The Cambridge history of Southeast Asia*, vol. 1, pt. 2, *From c. 1500 to c. 1800*, ed. Nicholas Tarling (Cambridge: Cambridge University Press, 1999), 150–51, 155.

[107] Carl A. Trocki, "A drug on the market: Opium and the Chinese in Southeast Asia, 1750–1880," *Journal of Chinese Overseas* 1:2 (2005): 8–10.

[108] Alexander Hamilton, *A new account of the East Indies: Being the observations and remarks of Capt. Alexander Hamilton*, vol. 2 (Edinburgh, 1727), 124–25; italics in the original.

probably just a year after Lucas started running his opium empire from Melaka, VOC servants in Bengal were able to smuggle 140,000 pounds of opium.[109] Even though the VOC followed an active "marketing policy" to expand its trade in opium in Southeast Asia, as argued by Reid and others, the same could hardly be said of the unorganized Dutch officials who conducted a sizable clandestine trade in opium on their private account.[110] Increased opium consumption fuelled by the wider availability of the drug and, concomitantly, an increasing number of Chinese migrant labourers to Southeast Asia, explains the market expansion on the demand side.

Chinese migrants, however, were not the only people addicted to opium. As we saw above, Aceh was already importing opium in the late sixteenth century, when Caesar Frederick was a peddler in the Indian Ocean trade. In the mid-seventeenth century Leyel, a Danish commander, captured two ships originating from Bengal one of which was bound for Aceh with opium and one hundred fifty packs of cloth among other merchandise on its hold, the total value of which was around 50,000 real of eight.[111] In the early eighteenth century, Charles Lockyer wrote about opium imports into Aceh,[112] and he further reported that the "Mallayans are such Admirers of Ophium, that they would mortgage all they hold most valuable to procure it." He also noted the addictive power of the drug and its use among the people for pleasure rather than as a medicine.[113] As opium consumption was expanding in the eighteenth-century Malay world, the migration of Chinese labourers might have further fuelled its consumption and demands.

A recent study has discussed the longstanding cultural appeal of opium in China and its growing importance since the mid-Ming period, when the drug reached the court as a part of tribute from different Asian polities. Since the late sixteenth century, opium appeared more frequently in Chinese medical treatises as an ingredient in formulas to improve "the art of sex."[114] By the mid-seventeenth century, opium and tobacco smoking had become familiar modes of relaxation in southeastern China and Southeast Asia. Zheng suggests that following a reduction in the import tax on opium in Zhangzhou (Fujian) between 1589 and 1615, larger quantities of opium found their way to China. She has attributed the spread of opium smoking culture in China, Java, and the Malay Peninsula to the cyclical movement of Chinese merchants and labourers.[115]

Owing to the factors ranging from a change in consumption method, an increased supply of the drug, and the mining and plantation concerns run with the Chinese migrant labourers, opium markets expanded slowly but steadily. During the eighteenth and nineteenth centuries, drug consumption and supply reached an unprecedented peak. According to Trocki, by the mid-eighteenth century, the Dutch

[109] Prakash, *The Dutch East India Company*, 154; cited, XVII.B. 18.10.1677, K.A. 458, n.f.
[110] Anthony Reid, "Economic and social change," 155.
[111] Coolhaas, ed., *Generale Missiven*, 2:348–49, Van der Lijn, Caron, enz. VIII, 18.01.1649.
[112] Charles Lockyer, *An account of the trade in India*, 34.
[113] Charles Lockyer, *An account of the trade in India*, 60–61.
[114] Zheng, *The social life of opium in China*, 17–20.
[115] Zheng, *The social life of opium in China*, 43–44.

were importing 100,000 pounds sterling worth of opium into Java. After the British took over Bengal's opium production, almost a third of the entire production found its way to Southeast Asia.[116] According to Gerrit Knaap's estimates, between 1774 and 1777 Batavia annually handled the import and export of opium worth 300,000 rixdollars.[117] During the late-eighteenth century, opium and Indian textiles were Melaka's two most important imports.[118]

From this discussion we can conclude that the volume of trade in opium increased rapidly from the seventeenth century onwards. The Dutch procured increasingly larger quantities of opium from Bihar starting in the mid-seventeenth century in order to cater to the demands in Southeast Asia. There may have been a clandestine trade in opium run by the Dutch officials. After the fall of Bantam to the Dutch in 1682, Asian and other European merchants moved to other areas such as Benkulen in southwest Sumatra and Aceh and continued supplying opium and other goods.[119] As was true for saltpeter, the growing demand for opium in overseas markets had a positive effect on the economy of Bihar. This trade brought a regular stream of bullion into the eastern Ganga plain. Yet another commodity of long-lasting importance was textiles. Although the trade in textiles was carried on from the different parts of Bengal, Bihar too played a fairly significant role.

Textiles Markets

From at least the late sixteenth century, Bihar was producing cotton textiles far in excess of what it consumed. Therefore trade developed in this commodity. The overland route through Agra and Lahore to Central and West Asia attracted good quantities of Patna textiles in the course of the seventeenth and eighteenth centuries. Referring to a report of 1639, Bruce Stanley suggests that between twenty and twenty five thousand camels loaded with cotton textiles from India crossed Herat on their way to Persia.[120] Central Asian merchants' journey to the eastern Ganga plain was disrupted from time to time, yet they continued to buy until around the mid-eighteenth century. Apart from the overland route, Patna textiles were increasingly exported from the ports at the Hugli on the Bay of Bengal.[121] The expanding global markets for textiles help us

[116] Trocki, *Opium, empire and the global political economy*, 54–56.
[117] Gerrit Knaap, "All about money: Maritime trade in Makassar and west Java around 1775," *JESHO* 49: 4 (2006): 497.
[118] Nordin Hussin, *Trade and society in the Straits of Melaka: Dutch Melaka and English Penang, 1780–1830* (Copenhagen: Nordic Institute of Asian Studies, 2007), 55.
[119] Om Prakash, *The new Cambridge history of India: European commercial enterprise in pre-colonial India* (Cambridge: Cambridge University Press, 2000), 217.
[120] Bruce Stanley, "Herat," in *Cities of the Middle East and North Africa: A historical encyclopedia*, ed. Michael R. T. Dumper and Bruce E. Stanley (Santa Barbara: ABC-CLIO, 2007), 170.
[121] For the first half of the eighteenth century, we have some interesting evidence in the Dutch sources about the Asian merchant shipping from Gujarat, Coromandel and other parts of the Indian subcontinent. From the shipping list of coastal vessels it appears that while chintz came from Coromandel to Bengal, bales of cloth were taken to Coromandel, see NA, VOC, Inv. Nr. 2862, From Hugli to Batavia 15.02.1755, "Lijst van zodanige inlandsche en andere vreemde schepen," Hougly in't Fort Gustavus den 16.12.1754, pp. 836–837; and NA, VOC, Inv. Nr. 2862, "Lijst van zodaenige inlandse en andere

to put cotton textiles production in Bihar in a larger perspective as European merchants emerge alongside Asians as important buyers of textiles for both the Asian and European markets since the seventeenth century.

Southeast Asia and China were important markets for Indian cotton textiles in the first millennium. During the Chola political expansion of the eleventh century, trading links with Southeast Asia strengthened,[122] and in the course of the second millennium AD, commercial ties across the Bay of Bengal became still more robust and enduring.[123] There already exists a standard literature on the expansion of textile consumption and changing consumer tastes, the value of textiles as prestige goods or status markers, their use in death rites, as precious heirlooms to be passed on to successive generations, and for paying services or taxes and so on in Southeast Asian societies.[124] Our discussion will focus on the Southeast Asian ports and European markets that imported textiles from the Bengal region during the seventeenth and eighteenth centuries.

Initially the VOC purchased chiefly the coarse variety of cotton textiles from Coromandel to barter for Southeast Asian commodities. Towards the end of the seventeenth century, the focus shifted to the Bengal markets where textiles cost less. Before this shift occurred the merchants based at Coromandel were already bringing textiles from Bengal for re-export to Southeast Asia and other regions of the Indian Ocean.[125] This pattern of coastal trade on the Bay of Bengal might have prompted the VOC officials in Coromandel to venture into Bengal for lower-priced textiles. On the demand side, around the mid-seventeenth century the VOC and the rulers of Kedah, Bangery, Mataram, and Palembang signed treaties that in principle gave the Company monopoly rights to sell specific types of Indian textiles, according to the taste and preferences in the region. In return, the Company was allowed to buy spices and non-precious metals mined in those kingdoms. According to the figures given by Om Prakash, the VOC's exports of Bengal textiles to the Indonesian archipelago peaked towards the end of the seventeenth century, when the Coromandel regions became less competitive. In the last thirty-three years of the seventeenth century, the VOC exported

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vreemde schepen als er geduurende deese Noorder Mousson successive uijt de Ganges vertrocken zijn," Hugli, 20.03.1755, pp. 1079–1081.

[122] Hema Devare, "Cultural implications of the Chola maritime fabric trade with Southeast Asia," in *Nagapattinam to Suvarnadwipa: Reflections on the Chola naval expeditions to Southeast Asia,* ed. Hermann Kulke, K. Kesavapany and Vijay Sakhuja (Singapore: Institute of Southeast Asian Studies, 2009), 178–92.

[123] Geoff Wade, "An early age of commerce in Southeast Asia, 900–1300 CE," *JSAS* 40:2 (2009): 221–65.

[124] Kenneth R. Hall, "The textiles industry in Southeast Asia, 1400–1800," *JESHO* 39:2 (1996): 92–94; Lotika Varadarajan, "Syncretic symbolism and textiles: Indo-Thai expressions," in *Commerce and Culture in the Bay of Bengal, 1500–1800,* ed. Om Prakash and Denys Lombard (New Delhi: Manohar, 1999), 361–81; Fiona Kerlogue, "The early English Textile trade in South-East Asia: The East India Company factory and the textile trade in Jambi, Sumatra, 1615–1682," *Textile History* 28:2 (1997):150–51. See also Prasannan Parthasarathi and Giorgio Riello "From India to the world," in *The Oxford handbook,* ed. Trentmann, 154–56.

[125] Sinnappah Arasaratnam, *Maritime India in the seventeenth century* (Delhi: Oxford University Press, 1994), 158.

226,343 pieces of textiles from Bengal, an annual average of only 6,858 pieces. Between 1700 and 1718, however, the Company exported 698,566 pieces—an annual average of 38,809 pieces—which were sold in the markets of Arakan, Pegu, Siam, Sumatra, the Malay Peninsula, and Manila.[126]

Between 1728 and 1734, VOC fetched a profit of 29.75 percent on the sale of textiles worth *f.* 656,279 at Batavia, which was well below the benchmark of gross profits of 40 to 50 percent set by the Company authorities in Batavia and the Dutch Republic. The textiles market at Bantam was much smaller, although the Company netted a profit of 50 percent there during the same period.[127] According to Susil Chaudhuri, for its intra-Asian trade the VOC exported more than 215,000 pieces of textiles annually between 1730 and 1735, of which about 54 percent was shipped to Batavia, while Japan and Persia received 21.42 and 6.07 percent respectively. The other 19 percent went to ports in southern India, Ceylon, Siam, Malacca, and Makassar. The VOC's annual procurement gradually decreased to about 129,000 pieces in 1740–45, and about 86,000 pieces per annum during 1745–50.[128] In the course of the eighteenth century, the VOC's profits on textiles in Southeast Asia declined, primarily because of the commercial activities of country traders and other competitors who operated on a lower profit margin. Private European merchants continued to supply Bengal textiles to Southeast Asian markets.[129] Towards the end of the eighteenth century, the VOC tried to make the best of this heightened competition and started exacting levies on Indian cloth imported on the north coast of Java, which earned the Company considerable revenue.[130] However, the VOC trade in textiles with Europe expanded rapidly from the late seventeenth century, and it is this expansion that kept the Company servants busy in the Bengal markets.[131]

The VOC and EIC began carrying textiles between Asia and Europe in the seventeenth century, but it was only towards the end of the century that this trade expanded rapidly thanks to the so-called "calico craze" and an aggressive "marketing

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[126] Prakash, *The Dutch East India Company*, 142–44, and for the figures, pp. 146–47, table 6.1. Though textiles constituted of five different varieties of cotton and silk, the overwhelming majority remained of the ordinary cotton calicoes.

[127] Prakash, *European commercial enterprise*, 216.

[128] Sushil Chaudhury, *From prosperity to decline: Eighteenth century Bengal* (New Delhi: Manohar, 1995), 197.

[129] Cotton piece goods also featured in the list of goods in the Indian coastal traffic plied by the European and Indian Europeans merchants. Based on Lambert's report bearing figures of 1793, it has been suggested that the eastward and westward country trade in the Indian Ocean used 20,000 tonnes of cargo space while the coastal trade utilized 80,000 tonnes capacity, see Holden Furber, *John Company at work*, 182–90.

[130] Els M. Jacobs, *Merchant in Asia: The trade of the Dutch East India Company during the eighteenth century* (Leiden: CNWS Publications, 2006), 91–93.

[131] For the expansion of the VOC's textiles trade with Europe, see F. S. Gaastra, "De textielhandel van de VOC," *Textielhistorische Bijdragen*, 34 (1994): 51–56. For an increasing use of the Indian cotton textiles in the Netherlands, especially in the eighteenth century, see Hanneke van Zuthem, "Boeren en burgers in katoen," in *Sits: Oost-West relaties in textiel*, ed. Ebeltje Hartkamp-Jonxis (Zwolle: Waanders, 1987), 65–75.

policy" followed by the British in European markets. John Cary, a Bristol merchant who sought a ban on Indian calicoes, wrote in 1695,

> It was scarce thought about twenty Years since that we should ever see *Calicoes*, the Ornaments of our greatest Gallants (for such they are, whether we call them *Muslins*, *Shades*, or anything else) when they were then rarely used. . . ; but now few think themselves well drest till they are made up in *Calicoes*, both Men and Women, *Calico Shirts*, *Neckcloths*, *Cuffs*, *Pocket-Handkerchiefs*, for the former, *Head-Dresses*, *Night-royls*, *Hoods*, *Sleeves*, *Aprons*, *Gowns*, *Petticoats*, and what not; for the latter, besides *India-Stockings* for both Sexes.[132]

If we believe Cary, then it appears that calicoes had become popular amongst different classes of people in England.

As a result of the mobilization of the pamphleteers, the British parliament put a number of legal restrictions on the imports of painted, stained, or dyed Indian calicoes during the late seventeenth and early eighteenth centuries. Yet, in spite of such protectionist measures, the English Company's procurement from Bengal kept increasing.[133] This expansion of the calico trade was a result of the well-executed commercial policy of the EIC under the leadership of Joshua Child.[134] Since the intra-Asian trade was more important to the VOC than to the EIC, the former was slow to recognize the enormous market potential for textiles in Europe. However, the VOC reoriented its attention to tap the lucrative trade in textiles for the European market. The earnest desire to profit from the Indo-European trade resulted in many initiatives.

One such initiative was to develop artistic patterns and designs suited to the tastes and preferences of European consumers. Hence, in the last quarter of the seventeenth century, the VOC directors recruited painter and textile trader Gerrit Clinck to go to Coromandel and Bengal and train local weavers and painters in the styles and patterns required for the European markets. He instructed Indian painters to paint flowers not too close to each other and in sweeping whirls and curves so that they would appear more graceful. The changes introduced by Clinck were successful and for many years to follow the VOC demanded "designs according to the drawings of the merchant Clinck."[135] Apart from these artistic innovations by the Dutch merchant, there

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[132] John Cary, *A discourse concerning the East India Trade, shewing it is unprofitable to the Kingdom of England* (London, 1699), 4–5; italics in original.

[133] Indrajit Ray, *Bengal industries and the British Industrial Revolution (1757–1857)* (London: Routledge, 2011), 55–57.

[134] Woodruff Smith, "The European-Asian trade of the seventeenth century and the modernization of commercial capitalism," *Itinerario* 6:2 (1982): 83. Some scholars argue that the revolution in western consumer tastes prepared the background for the upcoming Industrial Revolution and economic imperialism of the nineteenth century, see K. N. Chaudhuri and Jonathan I. Israel, "The English and the Dutch East India Companies and the Glorious Revolution of 1688–9," in *The Anglo-Dutch moment: Essays on the Glorious Revolution and its world impact*, ed. Jonathan I. Israel (Cambridge: Cambridge University Press, 1991), 408–9.

[135] Heleen B. van der Weel, '*In die Kunst en wetenscha p gebruyckt': Gerrit Claeszoon Clinck (1646–1693), meester kunstschilder van Delft en koopman in dienst van de Verenigde Oostindische Compagnie*

were some traditional varieties of textiles such as Lucoris or Lucorns, from the Lakhwar area near Patna, and Patna chintz that were sought after by the EIC and VOC for the European markets.[136] From a report of 1791 it appears that Bihar remained a foremost procurement zone for the cotton goods demanded by the VOC. According to the demand list, the goods to be supplied from Bihar included "cassas," "malmollen," "termdaans," "tansjeebs" and "baftassen" 6,900 pieces in total, and purchased with *f*.50,117.2. Although this sum constituted less than 5 percent of the total money (*f*.1,101,874.4) invested in textiles, yet for the Company Bihar remained the seventh most important textiles supplier after (in descending order) Birbhum and Burdwan (*f*.205,739.19), Hendiaal (*f*.111,694.28), Herriapaal and Dhenniacallij (*f*.97,224.18), Bourong (*f*.76,166.3), Santipur (*f*.71,487.11) and Jeggernaatpoer (*f*.68,726.16).[137]

From the early decade of the eighteenth century, the Europe-bound ships of the VOC carried large consignments of Indian textiles. Els Jacobs suggests that the profit on the VOC's textile trade was 125 percent at the turn of the seventeenth century, but the margins subsequently declined to 80 percent in the course of the eighteenth century.[138] Femme Gaastra argues that the Company was wary of bringing too large consignments of textiles for fear eroding its profit margin.[139] Yet, in the eighteenth century, the VOC continued importing impressive quantities of Indian textiles, primarily from Bengal.

Among the biggest customers for Indian textiles was the Dutch West India Company, which used them in the slave trade in West Africa. They employed primarily the coarse variety of goods and the names of textiles featured in ships' manifests include *nicanees*, *inlandse chintz*,[140] *salampouri*, *bafta*, *bonte cassa*, *gebloemde zijd*, and *witte graaties*. A number of other Dutch traders also sold Indian textiles to the WIC.[141]

(Hilversum: Verloren, 2002), 86–87, 92; see also F. S. Gaastra, *The Dutch East India Company: expansion and decline* (Zutphen: Walburg Pers, 2003), 137. Merchant Clinck's provided samples of flowers to be drawn on Patna chintz, see NA, Collectie Alting, 1.10.03, Inv. Nr.21, Instruction to the Bengal Director and Council by Van Rheede, 1687, p.168.

[136] NA, VOC, Inv. Nr. 9544, "Extract uijt den eijsch van retouren uijt India voor den Jaar 1711," and "Provisioneele beantwoordinge op en nevenstaanden Eijsch van Retour goederen door de Ed: Hoog Agtb: heeren XVII voor den loopende Jaare 1711 uijt dese directie gedaan," Hugli, 31.10.1711, pp. 192–93, in 1711, the VOC demanded 12,000 pieces of Patna chintz and 5,000 pieces of Lucoris. For a rise in the demand of different sorts of textiles from Bihar between 1735 and 1764, see NA, VOC, Inv. Nr. 3075, MvO Taillefert to Vernet, Hugli, 17.11.1763, "De lijwaat handel," paragraph 120, fos. 1368r–1369v.

[137] NA, VOC, Inv. Nr. 3918, "Memorie van 't geen op den 23 Junij 1786 na den eisch van anno 1782 aanbesteeden wat daarop door de kooplieden te dier tijd is geleeverd, met aanwijzing van 't inkoop bedraagen der leverancie, te weeten," Hugli, 21.03.1791, fos. 252r–254r.

[138] Jacobs, *Merchant in Asia*, 94.

[139] Gaastra, "De textielhandel van de VOC," 61.

[140] *Inlandse chintz* was a variety of textiles, first imported as plain textiles from India and later printed in the Dutch Republic.

[141] See for the West Africa bound West India Company ships' cargo lists, NA, West-Indische Compagnie (hereafter, WIC, toegang nr. 1.05.01.02), Inv. Nr. 1282, "Factura van d coopmanschappen die geladen zijn in't schip Juffr. Margarita Catharina…," Received on 05.02.1701, see for the guinee cloths which

Textiles formed the most important export item from Bengal, followed by saltpeter and opium. Contrary to commonly held assumptions, the textile trade continued to be a leading sector of the economy in the second half of the eighteenth century and scores of weaving villages supplied piece goods to the Companies and private traders alike. It is true that at times the weavers were forced to supply cloth below the market price, and the market system itself was subordinated to the superior political authority wielded by the English Company after it secured from the Mughals the diwani in 1765. As coercion assumed distressing proportions, as investigation from Shantipoor showed, the President and Council adopted some resolutions to ameliorate weavers' conditions. These resolutions forbade any forced advances either by the Company agents or private merchants upon the weavers.[142] Around the 1770s, following a Dutch complaint about the forcible collection of cloth they had bought against cash at Malda, the English even removed the *gomashta* (broker or agent) who was found to be troublesome.[143]

Above I have discussed overseas markets and how external demand for piece goods of the eastern Ganga plain lent momentum to the commercial economy. Demand-driven growth and expansion of productive capacity continued during the seventeenth and eighteenth centuries. Factors such as growing population and food production supported the process for most of the time, while political disturbances and climate shock after the mid-eighteenth century temporarily disturbed the process. After about one and a half decade of turmoil following the political transition in 1757, the economy would continue to be productive in the second half of the eighteenth century. The question of the "de-industrialization" in the Ganga plain, insofar as it relates to the weaving and export of cotton textiles, becomes relevant only for the nineteenth century.

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were sold to the West India Company by several Dutch traders, n.p.; NA, WIC, Inv. Nr. 1283, "Facture van de koopmanschappen door d' Ed: heeren Bewindhebber der geoctroijeerde Westind: Comp: ter camer Zeelant doen laden in 't schip genaamt Duijnenburg, …," Middelburg 01.01.1702, see for the purchase of blue bafta from the VOC and blue guinee cloths, chintz etc. from other traders, n.p.; NA, WIC, Inv. Nr. 1284, "Factura van d' coopmanschappen die gelaaden sijn in 't schip de Tijger,…," Amsterdam, 26.04.1703, n.p., "Factura van de coopmansschappen die geladen sijn in't schip de Juffr: Christina, …," Hoorn, 25.04.1703, see for the Indian textiles such as white Salampuri in the cargo list n.p., "Facture van de coopmanschappen door de Ed: heeren bewindhebberen van de geoctroijeerde Westind: Comp: ter camer Zeeland doen laden in't schip genaamt de Fortijn,…," Middelburg, 15.05.1703, see for guinee cloths, "nicanesen," "inlandsche sitsen" and other cotton goods from India in the cargo list. n.p.; NA, WIC, Inv. Nr. 1285, "Factuure van de coopmanschappen door d' Ed: heeren bewindhebberen der geoctro: Westind: Comp: ter camer Zeeland doen laden in't schip gent: Duijnend,…," Middelburg, 01.07.1704, n.p.; NA, WIC, Inv. Nr. 1286, "Factura van d' coopmanschappen die gelaaden sijn in 't schip de Beurs van Amsterdam,…," Amsterdam, 23.10.1705, n.p.; see also Henk den Heijer, *Goud, ivoor en slaven; Scheepvaart en handel van de tweede Westindische Compagnie op Afrika, 1674–1740* (Zutphen: Walburg Pers, 1997), 117; Henk den Heijer, "Een Afrikaan in Leids laken: De Nederlandse textielhandel in West-Afrika, 1600–1800," in *Alle streken van het kompas: Maritieme Geschiedenis in Nederland,* ed. Maurits Ebben, Henk den Heijer and Joost Schokkenbroek (Zutphen: Walburg Pers, 2010), 287.

[142] BL, APAC, IOR, P/2/3, Bengal Public Consultations, Fort William 12 April 1773, pp. 311–22; Om Prakash, "From negotiation to coercion: Textile manufacturing in India in the eighteenth century," *MAS* 41:6 (2007): 1331–68.

[143] BL, APAC, IOR, Home Miscellaneous Series, H/117, pp. 21–22, although it was alleged that the Dutch complaints "to be ill founded or at least greatly exaggerated."

Conclusion

In this chapter I have argued that in the course of the eighteenth century the eastern Ganga plain assumed a distinct political and economic orientation. As the hinterland of the Bengal coast, Bihar was firmly incorporated into the global maritime economy by the eighteenth century. The VOC invested close to a million rupees in buying merchandise from Bihar, the investment by the English Company would have been even higher considering its surging demands compared to the Dutch rival.[144] The French and Danish Companies' trade added into the region's foreign trade and growing demands gave further boost to the economy.

Although the quantitative data on the total share of Bihar in eastern Ganga plain's overseas trade is lacking at the moment, the qualitative evidence suggests an increasing participation of the European Companies in trade from Bihar. Saltpeter, opium and textiles became important merchandise for the overseas markets, and their quantity grew enormously in the course of the late seventeenth and eighteenth centuries. This growing demand had important implications for the region.

The expansive and resource-rich hinterland of Bihar, relatively dense population, the Ganga as trade highway and the composition of its political and mercantile elites markedly differed from other South Asian regions such as the Coromandel Coast and Gujarat. Perhaps the merchants and political elites, being themselves immigrants and lacking long-standing regional roots, did not find it strange to side with other immigrant merchants from Europe. An alliance with the latter appeared to give them more opportunities to make money. The easy conquest of Bengal by the English Company with the support from some of the Mughal rank holders, bankers and merchants in 1757 perhaps underlines the economic interest these groups had in aligning with a regime engaged in the maritime commerce. The expansion of the commercial economy in the Ganga plain gave rise to the formation of interest groups that sought to benefit from the maritime linkages and the imports of specie.

By the first half of the eighteenth century, overseas trade was the most important source of uninterrupted money supply, and the leading merchants in the region, together with the European Companies, assumed a far more important role in the political economy. They became puppet-masters in the political drama that unfolded during the mid-eighteenth century. How did the rising prosperity of merchants and political elites redefine their mutual relationships? In what ways did the money-flows along the Ganga influence marketing hubs such as Patna? How did participants in the cash-nexus become capable of undermining the existing political regime in eastern India? In Chapter 6, I will explore these questions by inquiring into the dynamics of the Patna hub and looking at the trading activities of local and European merchants along the Ganga.

[144] Van Goor, ed., *Generale Missiven*, 10: 476, Valckenier IX, 31.03.1740, and p. 619, Valckenier XIII, 25.03.1741 for the sums the Dutch were spending in the Patna markets. For the English Company's growing trade, see Prakash, *European commercial enterprise*, 275–76.