

both often the result of negotiations between the local landholders and tax-gatherers. According to Abul Fazl, in some areas, such as Bengal, harvests were so abundant that measurement was not insisted upon.

Obviously such regions with high natural levels of population, production, trade and revenue were at the focus of imperial expansion. At the same time, though, the very riches of these areas made the long-term control of them extremely precarious. Now the military factor starts to play a crucial role. Although the excessive food production of these areas alleviated the logistical problem of supplying the huge Mughal armies, the bulk of these armies consisted of thousands of warhorses accompanied by an even larger number of bullocks and camels. One can imagine how landlords and peasants may have feared for their precious harvests at the approach of such capacious armies. But this was also the serious concern of the Mughals themselves, eager to facilitate the supply of their army and the collection of the revenue. Hence, what was needed was extensive, nearby grazing grounds offering space and pasturage to the army. This was exactly what was provided by India's Arid Zone: well-watered, rich riverine tracts intersected by extensive zones of dry, open marchland. Imperial control gravitated towards the frontier between the arable lands, whether under *zabt* or the *mawas*, and whether or not under tribute. In addition, the financial and commercial resources of the major trade routes provided the means to regulate the collection of supplies and revenue. In other words, the control of the imperial highways obviated the need for the army of plundering fields and cities. As a consequence, the process of state formation in India involved the command over both the inner frontier and the limites. In more practical terms, for the Mughals this imperative came down to the control of five or six nuclear zones of power which epitomised this combination of agrarian surplus, extensive marchland and long-distance trade routes (see Map 1.4, p. 18). In a way, these zones neatly followed the traditional tracts of the two major Indian limites: the Uttarapatha from Kabul in the northwest via Delhi-Agra to Rajnabhal in the east; and the Dakshinapatha from the crossroads of Agra-Delhi in the north to Malwa in the south. Expanding southwards, there was the extensive dry Deccan plateau interspersed with various oasis-like centres, mostly artificially irrigated by tanks, wells and, sometimes subterranean, canals. Although the Deccan provided extensive pastures for horses and cattle, local food production levels were less reliable. As a result, the bulk of the trade gravitated towards the richer agrarian resources and ports along the coast. The Maratha cities and hill forts on the slopes of the Western Ghats, strategically situated at the elevated interface of humid littoral and dry interior, benefited most from these vital east-west connections. Hence, as it has turned out, the fruitless fight to capture these hill forts. More to the southeast, the areas around Golkonda and Arcot were important in this respect and consequently provided the two final stepping stones of Mughal expansion in the south.

Nuclear zones of power²⁷

The Mughals began their Indian empire from Kabul. For Babur and his Mughals, India was their second-best choice, since they were repeatedly driven from their Central Asian homeland of Ferghana by their more powerful rivals, the Uzbeks. As a kind of nostalgia for the innocent days of their youth, for at least one-and-a-half centuries, even after they were well established in their far more sumptuous Indian capitals, the Mughals kept longing for their rugged 'paradise lost' in Samarkand. Although Kabul was conquered by Babur in 1504, it was only from 1516 that the Mughals started their raids into Hindustan. In 1522 they conquered Qandahar and four years later they decided to stay in India after they had defeated the Lodi-Afghans at the famous first battle of Panipat in 1526. After another Indo-Afghan dynasty had ousted Babur's son and successor Humayun from India in 1540, the latter – after a short humiliating asylum at the Safavid court in Iran – managed to settle himself in Kabul again. Here Babur's history repeated itself. After ruling this place for several years with Iranian support, Humayun regained his father's Indian empire after beating the Sur-Afghans near Sirhind in 1555.

Kabul was the major passageway from Turan to India. But compared with the other major cities in the area, especially Herat and Qandahar, it could be considered the most northwestern part of the Indian sub-continent. For example, it was one of the last northwestern areas to experience the effects of the Indian monsoon climate, while the Kabul river ran into the Indus. More importantly, compared to its northern and western connections, Kabul was within easy distance of Hindustan thanks to the Khyber Pass, which had a low altitude, was gradual in ascent and was well watered. In spite of its all-time fame, though, it was especially under emperor Akbar that this pass became the most important highway to India, as it was made accessible to wheeled vehicles.²⁸ Equally important were Akbar's successful campaigns to make the Khyber more secure against the attacks of the Afghan tribes surrounding the pass, for which purpose he shifted the capital from Fatehpur Sikri to Lahore in the period 1585 to 1598. From Kabul the passes through the Hindu Kush to the north and west were far more difficult to cross and only traversable during a few months after April when there was little snow and the streams were low.²⁹ Hence, any army coming from the Indian plains had a natural logistical advantage compared to potential Turanian or Iranian adversaries. Nonetheless, even Indian armies were faced by tremendous logistical problems. One mid-eighteenth-century source considered the Kabul area a land of snow:

Men and cattle from India are not able to withstand the icy cold winds of that area. That is why it is difficult for the people of India to capture and occupy the Muslim countries of that area.³⁰

Looking at Qandahar, this important commercial city was far less within the easy reach of Indian armies. First of all, the southern passes across the Sulaiman hills of the Bolan, Sangar and Gomal posed tremendous problems. Although the Bolan Pass was not steep and, for example, served as a route for the Mughal artillery under Dara Shukoh in 1653, during the winter all these passes were avoided because of the extreme cold. During spring torrents could obliterate armies that tried to traverse the narrow passes too early in the season. During midsummer, scorching heat and lack of water made travel virtually impossible. Even during the autumn there could be major logistical problems because the pastoralists of the region would travel eastward making it impossible to hire camels for the westward trip. For the huge Mughal armies there was the additional problem of extensive deserts along the southern route to Qandahar, which necessitated transporting supplies over long distances. Hence, as proved by the three Mughal campaigns between 1649 and 1653, any siege of Qandahar launched from India was predestined to fail, since it had to be rounded off in a few months during the summer.

Although being more closely tied to Hindustan, Kabul stood very much at the interface between India and Central Asia. Still taking in India's monsoon climate, it also experienced the northern Parwan winds from Central Asia. According to Babur, Kabul's moderate climate was even better than the already excellent weather conditions in other metropolitan capitals, such as Tabriz and Samarkand. Indeed, Kabul was neither Turan nor Hind but combined the characteristics of both:

Nearby are regions with both warm and cold climates. Within a day's ride from Kabul it is possible to reach a place where snow never falls. But within two hours one can go where the snow never melts – except in the rare summer so severe that all snow disappears. Both tropical and cold-weather fruits are abundant in Kabul's dependencies, and they are nearby.³¹

These extreme differences within a relatively short distance were also noticed when Babur entered nearby Nangarhar from Kabul on his way to Hindustan:

When we reached Nangarhar, a new world came into view – different plants, different trees, different animals and birds, different tribes and people, different manners and customs. It was astonishing, truly astonishing.³²

Although Babur thought of Kabul as being in the midst of cultivated lands, he was, at the same time, boasting about its excellent meadows that agreed so well with horses.³³ Indeed, from the military point of view, it

was the supply of strong warhorses which made the control of Kabul so crucial to the Mughals. For about two months during the summer, Kabul's northern pastures near Parwan served to fatten these horses on their long way from Turkistan to Hindustan.³⁴ But apart from the supply of horses, Kabul served as the hub of India's trade with Central Asia and, to a lesser extent, with Iran as well. It was not only a commercial but also a financial centre where one could cash Indian bills of exchange. As a result, the agrarian, pastoral and commercial capacities of the Kabul area time and again made it a springboard for the building of Indian empires.³⁵

Although Babur and Humayun made their fortunes from Kabul, it was to be the latter's son Akbar who would strike firm roots in India by further expanding its limits deeper into the sub-continent. During his reign, Akbar shifted the capital from Agra (1556–71) to the new palace of Fatehpur Sikri (1571–85), to Lahore (1585–98), and back to Agra (1598–1605). Apart from these more or less fixed capitals, Akbar continuously moved his military camp from one place to the other, but mostly kept within the strategic triangle Agra–Ajmer–Lahore depending on the focus of expansion: Agra looking east towards Bihar and Bengal, Ajmer looking west towards Gujarat, and Lahore looking north towards Kabul. In the centre of this triangle there was Delhi, which was destined to become the centre of the empire from Shah Jahan's time onwards. As we have seen already, this area more or less overlapped with the ancient centre of Madhyadesha, which stood at the crossroads of the Utara- and Dakshinapatha. Part of its traditional importance grew out of its rich agrarian fields along the Ganges and Yamuna rivers. Immediately to its west, though, began extensive wilderness. This dry area at the south of the Sivalik mountains and connecting the Indus and Ganges–Yamuna river systems, is still called Jangal Desh or Jungle Country, and although it was less conducive for settled agriculture, it was important as a grazing area for pastoral breeders as well as for invading armies from the northeast. For example, the so-called Lakhri Jungle near the Sutlej river developed as one of the best horse-breeding grounds in India thanks to the repeated addition of Turkish horses taken from the invading armies.³⁶

Not surprisingly, these marchlands at the gate of the sedentary riches of the Ganges–Yamuna doab became the site par excellence for India's most decisive battles, from the imaginative Kurukshetra of the *Mahabharata* to the well-attested battles of Tarain and Panipat, which marked the Muslim invasions of northern India. This area also served as the last extensive grazing station for cavalry armies heading east. After having crossed the Yamuna the military logistics became entirely different – less focused on grazing, and more on supplies coming from the rivers. This also suggests that the area was a major zone of transshipment linking the overland traffic of camels and bullocks to conveyance by riverboats. Indeed, the northern rivers considerably eased the rapid transportation of bulk goods, with

relatively low costs, in both directions and during all seasons. As far as Bengal, this brought a great deal of economic and cultural coherence to the river valleys and tied them more closely to the capital in Agra. As we have seen already, Lahore was an important strategic centre for the Khyber Pass, as well as being easily connected with some well-cultivated areas of the Punjab and with the Indian Ocean through the Indus river. Lahore, however, was far less well situated for taking care of the affairs of Gujarat and Bengal, both conquered in the early 1570s. As we have seen, for the latter Agra was the most suitable, whereas for the former Ajmer was the site to be, especially as long as the Mughals did not fully control Khandesh in southern Malwa, that other gateway to the eastern ports, which was only taken in 1601. Hence, from 1576 to 1580 we see Akbar almost annually heading for Ajmer to do pilgrimage at the shrine of the Chishti saint Mu'in al-Din. This worked particularly well as long as the saint's death-anniversary (*urs*) in the Islamic month of Rajab coincided with the arrival of the camel caravans from Surat and Ahmadabad in September. But in 1580 Akbar himself had to admit that 'these good old customs (of pilgrimage) were not religious exercises except under certain conditions, and ... royal expeditions were not meritorious if undertaken without consideration of the public weal'.³⁷ At that time his attention was fully drawn towards quenching a revolt of Turkish and Afghan amirs in Bengal. As we have seen, some years later he even shifted the whole capital to Lahore in order to pacify the northwestern Khyber and the southern Indus route.

For our purpose, it is most noteworthy that the whole area between Lahore, Agra and Ajmer was of prime importance for the empire since it gave relatively easy access to all parts of northern and central India. Closely related to this, at the watershed of the fertile and highly productive Indus and Ganges river systems, the area contained extensive pastures that could sustain armies with large numbers of warhorses, camels and bullocks. In addition, Lahore, Delhi and Agra were all huge commercial entrepôts along the Grand Trunk Road, all in close contact with the major ports of the Arabian Sea. Hence, the first thing Akbar attempted to do, after he had conquered this area in about 1558, was to run to the coasts in order to literally cash in on his conquests.³⁸ First, after the campaign into Malwa (1560–1) and the famous sieges of Chitor (1567–8) and Ranthambor (1569; see Plate 5) he almost smoothly took Gujarat in 1572–3. Akbar's second target was Bengal.

Between Agra and Bengal was the richest and most settled agrarian area of Hindustan. Of course, to control this area was of crucial importance to the Mughals. Although, through its rivers, naturally tied to the Delhi–Agra region, at times of political weakness in the latter area, the former tended to become autonomous, as in the case of the fifteenth-century sultanate of Jaunpur or the eighteenth-century Mughal successor-state of Awadh, following the sack of Delhi by Timur and Nadir Shah respectively.

Sher Shah Sur, the main rival of Babur and Humayun, also came from the same area in between the Ganges and Gogra rivers. But at times when power was well established around the western capitals, it appears that the better supply of mounted warriors as well as warhorses gave a natural military preponderance to the northwest. It was only in the most humid eastern parts of Hindustan that warhorses lost their ascendancy to other forms of warfare, mostly based on riverboats and infantry. Because as the climate of Bengal was very injurious to horses, Akbar had even doubled the allowances of the nobles stationed in Bengal.³⁹ Indeed, the humid conditions of Bengal, in combination with its extensive network of waterways hindering the movement of cavalry, contributed to Bengal's relatively independent position throughout its history. The Mughals considered it an area of almost permanent sedition, a *buldukkhana*, or a 'house of strife', as they called it.⁴⁰ For the mounted archers of the west, the natural location at which to halt was at the head of the Bengal delta which was one of the driest parts of Bengal. Some geographers describe it as an arid tropical steppe full of grass and bush; in more historical terms, it was the most eastern part of the Arid Zone, the last natural campsite for the mounted armies of the northwest.⁴¹

Situated near the Padma river, this area was situated at the head of the western delta and, as such, was by far the best place to control the riverine traffic. At this stage even river boats had to adjust to different circumstances, the boats of the mid-Gangetic region being more flat and spherical to avoid sandbanks, whereas the boats of the delta were more slender to give them stability in rapid streams.⁴² All in all, this area north and south of the Padma river served as a dual funnel zone with, on the eastern side, converging river traffic, and on the other side converging caravan routes. Hence, almost all medieval capitals were located in this area, such as Nudiyā under the Senas, Lakhnauti under the Delhi Sultanate, Pandua under the Ilyas dynasty, Gaur under the Husain-shahis and Tanda under the Afghans.

The Mughals seized Tanda from the Afghans in 1574. Two years later, after their defeat at Rajmahal, the latter retreated into the dense forests of Bhati or the eastern part of Bengal, which was unfamiliar ground for the Mughal cavalry. In the early 1590s the Mughals under Man Singh took Orissa, which remained, however, too remote for close Mughal control. Having lost their stick, the Mughals had to try their luck by carrot alone. Although they built their own capital in Rajmahal, again in the western part of the Delta, it took them more than three decades before they could annex the eastern Delta as well, this time with the help of a huge flotilla of war boats. In the end, the Mughals succeeded partly because the main river courses had gradually shifted eastward, which enabled them to remove their capital from Rajmahal to Dhaka in 1610.⁴³ This eastward movement of Bengal's rivers also linked the Ganges to the Brahmaputra and thus opened up a new limites towards the north into Assam. But even after

that date, the Rajmahal area remained of importance as a resting place for cavalry armies from the west and as an area giving access, albeit with increasing difficulty because of the silting process, to the major Bengali seaports along the Hugli river. What is most important from the military point of view, Rajmahal served as a natural terminus for Mughal armies heading east. Beyond, military logistics and technology became entirely different.

Tracing our steps back to the Delhi-Agra region, going south along the junction of the Dakshinapatha, the next strategic terminal offering a combination of high food production, excellent pasturage and a flowering commercial market was the larger Malwa region, i.e. including Khandesh to its south. Being more or less identified with the Vindhyas and Satpura Ranges, this area is often considered the almost perennial borderland between north and south India. Parallel to the mountains run, in a westward direction, the Narmada and Tapi rivers. Like all the southern rivers of the sub-continent, although these are not navigable, they provide rich alluvial soil and opportunities for irrigation.⁴³ Hence, situated in the midst of the extremely dry or less fertile surroundings of Rajasthan and the western Deccan plateau, the Malwa-Khandesh region served as the essential springboard for further military operations towards the south, the more so because the hills provided it with excellent opportunities for fortified defence and storage. During the early fifteenth century the area gained independence under the Khaljis who came into prominence as so-called 'wardens of the marches', protecting the long-distance trade routes towards the south.⁴⁴ Perhaps even more important than the southern connection, though, was Malwa's hold over the rich coastal provinces of Gujarat and the northern Konkan. During Mughal times, there was an intensive overland trade between Surat on the coast and Burhanpur, the trade centre situated at the homonymous north-south gap of the Satpura Range. Especially during the dry seasons, this route was preferred to the desert route via Ajmer, since it could be traversed by ox-carts which were more efficient than either camels or bullocks.

In a similar way to Rajmahal and the Bengali ports, through Ajmer, and especially through Burhanpur, it was easily possible to control the ports of the northwestern coast. As a result, the Mughals gave Gujarat a relatively free rein, the more so because the province itself was hardly suitable for large-scale cavalry armies. Of course, in its drier western parts, in Kachchh and Kathiawar, it possessed one of India's best breeding areas for horses, but these were situated off the major highways connecting the coast with the interior. By contrast, Malwa and Khandesh provided more than enough space for advancing armies from the north; its drier western parts, the so-called Nimar area, was even famous for its excellent breeding ground for black cattle.⁴⁵ The logistical problems facing the Mughal army at the frontier of Malwa and Gujarat are well attested by emperor Jahangir's

description of the changing countryside. Entering Gujarat near Dohad, leaving the extensive jungles of Malwa behind, he exclaimed:

it was from this stage that all things appeared different. The open plains and soils are of a different kind; the people are different and the language of another description. The jungle that appeared on the road has fruit-bearing trees, such as the mango and khirni and tamarind, and the method of guarding the cultivated field is with hedges of zaqqum. The cultivators separate their fields with cactus and leave a narrow road between them for coming and going.⁴⁷

Not surprisingly, a few instants later, Jahangir dismounted from his horse to step into a cart. Here one may conclude that the Mughals ruled Gujarat from the trade routes and marchlands of the interior, partly from Rajasthan but mainly from Malwa. Although Akbar conquered Malwa as early as 1561, it was only forty years later that he definitively annexed Khandesh, including Burhanpur and its fort Asirgarh. Thanks to the supplies and transport facilities of Malwa and, not least, the financial facilities of the Burhanpur-Surat axis, Akbar successors could start to think about heading deeper south.

nuclear zones of state formation at the Western Ghats. From about 600 metres : rise towards 2,500 metres in the south; ... are less high and more gradual. For the tremendous Mughal armies of the north, the Deccan tableland was difficult to cross, not because of the lack of pasturage, but mainly because of the lack of local supplies. The Deccan rivers seem to drain the country rather than to water it as they flow rapidly in deep rocky valleys. Only nearer to the coast have dams been thrown across them and their waters used for irrigation. Many of the political centres of the interior are at some distance from the rivers bringing the water by underground channels.⁴⁸ The driest parts of the Deccan were situated in the west, where the Western Ghats created an extensive shadow-zone of very low rainfall. Although not conducive to intensive cultivation, it contained excellent pasturage for horses and cattle, the pastoralists of the region often taking their cattle up and down the slopes of the Western Ghats.⁴⁹ For example, during the Bahmani sultanate, the Bhima valley served as a rallying point for the sultan's armies en route to do battle with the armies of Vijayanagara, and as a resting point for the Islamic armies returning from wars in the south.⁵⁰ Later it became the foremost breeding place for Maratha warhorses, as well as the permanent camping ground for the imperial Mughal army during the later 1690s. Before turning towards Islampur along the Bhima in 1695, the army had stayed for five years at Galgala along the Krishna river, an