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Urban Ascensions

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Introduction

Urban Ascensions traces how Asian cities have risen, faltered, and reinvented themselves across a thousand years. From Angkor's monumental barays to Shanghai's hyper-dense skylines, these urban places have been shaped by monsoon rhythms, imperial ambitions, colonial gridlines, migrating peoples, and the volatile tides of commerce. The book argues that ascendance in Asia is rarely linear. It unfolds in waves—hydraulic, mercantile, industrial, socialist, and neoliberal—each layering institutions and infrastructures upon older foundations, each revealing how power meets landscape to produce distinctive urban forms.

Our comparative method is anchored in case studies that move from temple-studded agrarian hinterlands to ocean-facing ports and finance-driven city-regions. Archaeology, historical cartography, traveler accounts, cadastral records, and satellite imagery provide the evidentiary base. Read together, they show that what we call a "city" in Asia has long exceeded walls and formal jurisdictions. It has often been a negotiated landscape: a lattice of waterworks and markets, sacred precincts and craft quarters, hinterlands and maritime corridors.

Water sits at the heart of these histories. Angkor's ascent depended on an engineered hydroscape that captured and redistributed seasonal flows; Ayutthaya braided canals into its very sovereignty; Batavia's colonial canals became sites of segregation and disease; today's sponge-city experiments in China revisit, knowingly or not, older urban hydrologies. Across eras, mastery of water—its storage, circulation, and purification—has made and unmade urban fortunes, especially as climate hazards intensify. The lessons are technical and political: infrastructures succeed when they align with governance capacities and everyday practices.

Migration is the second driver of ascension. Merchant diasporas forged circuits from the Pearl River Delta to the Bay of Bengal and beyond, inserting Guangzhou, Malacca, and Manila into world trade. Later, plantation and industrial labor flows reshaped Calcutta, Bombay, and Singapore; refugee movements transformed Hong Kong and Saigon. Cities grew not only by attracting people but also by adapting to them—regularizing informal settlements, translating plural legal systems, and inventing new forms of urban belonging. When authorities failed to accommodate mobility, exclusion and precarity eroded civic trust and economic dynamism.

Colonial restructuring reoriented many Asian cities toward imperial economies, imposing cadastral grids, racial zoning, and extractive port logistics. Yet urban societies appropriated these impositions, hybridizing street markets with boulevards, kampungs with canals, hutongs with danwei compounds. Socialist and developmental

regimes later produced their own spatial logics—work-unit housing, new towns, export zones—while liberalization and global finance ushered in mega-projects and speculative skylines. In each phase, the city’s “remaking” hinged on how institutions translated global currents into local plans, property regimes, and public works.

This book speaks to contemporary policy and conservation. Climate adaptation demands that we treat heritage as living infrastructure, not a fragile remainder; equitable growth requires integrating informal urbanism into service delivery and land governance; resilient planning must be hydrologically literate and regionally scaled, acknowledging river deltas, archipelagos, and mountain basins as the city’s true frame. By reading Angkor beside Shenzhen, or Shahjahanabad beside Singapore, *Urban Ascensions* offers a vocabulary and a set of tools for decision-makers who must navigate risk, memory, and opportunity at once.

Finally, this is a story about urban possibility. Cities ascend when they convert ecological constraints into civic assets, when they welcome newcomers as co-authors of urban life, and when they invest in institutions that outlast regimes and economic cycles. The past does not supply templates, but it does reveal patterns—and cautions. If ascension is to be more than a momentary spike in land values or skyline height, it must be shared, sustainable, and rooted in the landscapes that first made these cities possible.

CHAPTER ONE: Angkor: Hydraulic Empire and Urban Cosmos

The city of Angkor did not simply emerge; it was engineered. In the ninth century, the Khmer rulers began to reshape the monsoonal plains of northern Cambodia into a landscape of power. The seasonal rhythms of the region were dramatic: heavy rains from May to October saturated the flat terrain, while the dry season left the land parched and vulnerable. Early settlements huddled near natural streams and rice paddies, but the ambitions of kings like Jayavarman II, who declared himself *chakravartin* or universal monarch in 802 CE, demanded something grander. They sought to anchor sovereignty in the earth itself. To do this, they turned to water. The landscape became a vast hydrological machine, designed not only to manage floods and droughts but to materialize cosmic order on the ground.

At the heart of this urban cosmos lies the concept of *meru*, the mythical mountain at the center of the universe in Hindu and Buddhist cosmology. Angkorian planners did not treat this as mere metaphor. The temple mountain of Angkor Wat, constructed in the early twelfth century under Suryavarman II, stands as the literal architectural embodiment of Mount Meru. Its five towers rise in a central cluster, surrounded by a moat of staggering scale—over five kilometers in perimeter and a hundred meters wide. This moat, like the barays or reservoirs that dot the region, functioned as much more than a defensive feature or decorative water feature. It was a ritual basin and a hydraulic regulator, a place where the celestial waters met the terrestrial soil. The architecture folded cosmology into infrastructure, and infrastructure into everyday life.

The barays are perhaps the most telling artifacts of Angkorian urbanism. The West Baray, stretching nearly eight kilometers in length, and the East Baray, slightly smaller, represent some of the largest man-made reservoirs ever constructed. Archaeologists using LiDAR (Light Detection and Ranging) have revealed that these were not isolated engineering feats but parts of a complex network of canals, dikes, and embankments. These systems captured monsoon runoff, redistributed it for irrigation, and stabilized rice yields across a sprawling hinterland. The ability to store water at such scale transformed subsistence agriculture into surplus production, feeding a population that may have reached up to a million people across the Angkor region at its peak. This surplus was not just economic; it was political, enabling the mobilization of labor for monumental construction and military campaigns.

Water management in Angkor was deeply tied to religious authority. The construction of reservoirs and canals was often framed as a royal merit-making activity, an act of *dharma* (righteous rule) that brought prosperity to the realm. Inscriptions on temple

walls detail the labor of thousands—artisans, farmers, and conscripted workers—who dug, leveled, and lined these basins. The scale of mobilization hints at the reach of the Khmer state. Yet it also reveals a vulnerability: the entire system depended on continuous maintenance and skilled oversight. As climatic conditions shifted, or as elite attention turned to warfare or court intrigue, the delicate balance of the hydraulic regime could falter. The city's wealth and stability were thus tied to the reliability of water.

The spatial organization of Angkor reflects this hydraulic logic. Early cities like Hariharalaya (Roluos) featured moats and reservoirs that mirrored the cosmological vision, but later capitals expanded dramatically. Angkor Thom, the walled city built by Jayavarman VII in the late twelfth century, enclosed nearly ten square kilometers within its square walls and moats. Within this enclosure stood the monumental Bayon temple, its famous towers carved with serene faces gazing outward across the city. The layout was not a grid in the modern sense but a concentric and axial arrangement, aligning temple axes with cardinal directions and cosmological landmarks. Movement through the city was choreographed: processional paths led from the gates toward central shrines, guiding both the king's ceremonial processions and the daily flows of people, goods, and water.

The houses of common people, built of wood and thatch, clustered near canals and reservoirs. Their location was practical: proximity to water for domestic use and irrigation, and easy access to markets and temple precincts. Yet the archaeological record shows that these residential areas were not uniform; they varied according to status and function. Craft quarters, agricultural villages, and administrative clusters formed a patchwork that radiated outward from the royal center. The city's "edges" were permeable, blending seamlessly into rice fields, forests, and trade routes. This was not a city of fixed boundaries but a fluid urban field, where the lines between town and countryside were defined by water flows and ritual circuits rather than walls alone.

Angkor's economy was as hydraulic as its space. Rice surpluses fed the population and supported long-distance trade. The region's forests provided timber for construction and fuel, while mountains offered stone for carving and metal ores for tools. Trade routes connected Angkor to the Malay Peninsula, Champa, and the Gulf of Thailand. Chinese merchants and Indian pilgrims passed through, bringing textiles, ceramics, and ideas. The Khmer state taxed and regulated this commerce, channeling resources toward the court and the temples. The famous inscriptions on steles record donations of land, gold, and cattle to religious institutions, illustrating how wealth circulated in a web of royal patronage and spiritual merit.

Labor organization was essential to Angkor's ascension. The state could call upon vast *corvée* labor for public works, but this was not a simple system of coercion. The mobilization of labor required administrative capacity: lists of villages, quotas of

workers, schedules for maintenance, and provisions for food and tools. Local elites and village heads played critical roles in organizing these tasks, embedding the royal projects within local social structures. This produced a resilient but fragile system. When central authority wavered, local managers could step in, but if neglect persisted, canals silted up, barays dried, and agricultural yields dropped. The city's fate was inseparable from the health of its hydrological systems and the competence of its administrators.

Angkor's architecture was both a tool of power and a mirror of the cosmos. The temple mountains, with their towering spires and intricate bas-reliefs, were not only places of worship but also political statements. They proclaimed the king's divine lineage and his capacity to order the world. The bas-reliefs at Angkor Wat depict scenes from the *Ramayana* and the *Mahabharata*, as well as historical processions and celestial battles. These narratives served to legitimize royal rule and to instruct the populace in mythic histories. The temples also functioned as economic centers, managing lands, workshops, and markets. Their wealth and autonomy sometimes rivaled that of the palace, creating a dynamic tension between royal and religious power.

The material culture of Angkor reveals a society of remarkable sophistication. Bronze casting, stone carving, and textile production reached high levels of skill. Ceramics from kilns in the region show evidence of organized workshops and standardized techniques. The city's inhabitants enjoyed a variety of foods: rice, fish from the barays, fruits, and meat from domesticated animals. The archaeological record of bone and plant remains points to a diet that was relatively rich and varied for a pre-modern urban population. Music, dance, and theater flourished, often performed in temple precincts or royal courtyards. The urban experience in Angkor combined ritual grandeur with everyday practicality, creating a vivid tapestry of life.

At its height, Angkor was one of the largest urban agglomerations in the world. Estimates of its population vary, but many scholars suggest that the core city and its surrounding settlements housed between 500,000 and a million people. This density was made possible by the hydraulic system's ability to produce reliable food surpluses. Yet this scale also created new vulnerabilities. The reliance on a centralized water infrastructure meant that disruptions—whether from drought, siltation, or poor maintenance—could cascade through the entire urban system. The city's prosperity was thus a double-edged sword: it demonstrated the state's capacity to shape the environment, but it also linked civic survival to the careful management of natural forces.

Angkor's decline has been the subject of much debate, and it is crucial not to treat it as a simple collapse. The thirteenth and fourteenth centuries saw shifts in climate, with drier conditions and more erratic monsoons. The hydraulic system, already strained by the sheer scale of its operation, struggled to adapt. Siltation reduced the capacity of reservoirs, and canals required constant upkeep. At the same time,

political focus shifted southward toward coastal ports like Phnom Penh, where riverine trade with the wider Southeast Asian world was more direct. Economic patterns changed: maritime commerce grew in importance, and the overland routes that had fed Angkor's prosperity diminished. These transitions did not wipe out the population or destroy the city overnight; rather, they reoriented urban life.

The urban field of Angkor did not vanish; it transformed. People continued to live in the region, farming, fishing, and maintaining smaller temple complexes. The monumental stone temples, however, were gradually abandoned to the forest, their grandeur slowly swallowed by jungle vines and monsoon rains. The inscriptions stopped. The great ceremonial processions ceased. Yet the hydraulic infrastructure persisted in fragments, and local communities continued to rely on barays and canals for irrigation. The city's physical remains became part of the landscape, shaping subsequent settlement patterns and agricultural practices. The memory of Angkor lived on in oral traditions and in the religious practices of later Khmer kings, who often modeled their own capitals on Angkorian precedents.

Angkor's legacy is not only archaeological; it is foundational for understanding urban ascension in Asia. The Khmer experiment reveals how the interplay of cosmology, water management, and political authority can produce a monumental urban form. It demonstrates the extraordinary capacity of pre-modern states to mobilize labor and transform landscapes. It also shows the risks that accompany such ambition: when ecological conditions change or administrative competence falters, even the grandest cities can falter. Angkor is a case study in both the possibilities and limits of hydraulic urbanism, a reminder that cities are always provisional works, shaped by the constraints and opportunities of their environment.

The excavation and study of Angkor have been transformed in recent decades by advances in remote sensing. LiDAR surveys have pierced the forest canopy to reveal the full extent of the city's grid of roads, canals, and mounds. These images show an urban landscape far more extensive than earlier maps suggested, with planned neighborhoods, agricultural plots, and waterworks arranged in a coherent pattern. They also reveal the subtle ways in which the city adapted to changing conditions, such as the construction of smaller reservoirs when large ones became difficult to maintain. This technological lens allows historians and archaeologists to reconstruct Angkor's urban processes with unprecedented precision, moving beyond the temples to the everyday infrastructures that sustained them.

The broader significance of Angkor extends beyond Cambodia. It is a touchstone for comparative urban history, illustrating how different regions of Asia developed distinct urban forms in response to environmental and political pressures. While Angkor's hydraulic empire was unique in its scale and cosmological framing, similar patterns appear elsewhere: the management of water in Indus Valley cities, the canal networks of Chinese plains, the monsoon-adapted ports of Southeast Asia. Each city or urban

region faced the challenge of aligning social organization with ecological realities, and each produced solutions that reflected local knowledge, technological capacity, and religious imagination. Angkor's story thus helps situate Asian urbanism within a broader tapestry of human settlement.

Reading Angkor alongside later cities highlights the continuity of certain urban themes: the centrality of water, the role of ritual in legitimizing power, the mobilization of labor for public works, and the capacity of cities to concentrate trade and knowledge. It also reveals the diversity of outcomes. While Angkor's stone temples endure as monumental ruins, other cities have rebuilt and reinvented themselves countless times. The differences in urban form—whether a walled enclosure, a riverine port, or a coastal entrepôt—reflect divergent strategies for managing resources, people, and power. Angkor provides a baseline for understanding these variations, a point of reference for the subsequent chapters that trace the rise, fall, and reinvention of Asian cities.

Angkor remains a living landscape. The temples are global heritage sites, attracting tourists and scholars from around the world. The surrounding communities continue to farm and live amidst the ruins, drawing on long traditions of water management and land use. Modern efforts at conservation, flood control, and sustainable agriculture intersect with this layered history, creating opportunities for heritage-based development as well as challenges of preservation. Understanding Angkor's past offers insights for present-day urban planning, particularly in regions facing climate variability and water stress. The city's original engineers confronted many of the same dilemmas that modern planners face: how to store water, how to distribute it equitably, and how to maintain infrastructure in the face of changing environmental conditions.

The study of Angkor also illustrates the importance of integrating urban history with environmental science. The city's rise and transformation were not just stories of kings and temples, but of soils, rainfall, and vegetation. The clearance of forests for construction and agriculture altered local microclimates and hydrology, creating feedback loops that affected urban stability. These lessons are relevant for contemporary cities, where land-use changes, water management, and climate adaptation are increasingly recognized as interlinked challenges. Angkor's experience underscores the need for urban planning that is ecologically informed and socially inclusive, balancing ambition with the realities of natural systems.

Finally, Angkor's story invites a reframing of urban ascension itself. The city did not simply grow and then collapse; it evolved, adapted, and ultimately transformed into a different kind of settlement. Its hydraulic foundations left enduring marks on the landscape, and its cultural legacy continues to shape Khmer identity. By reading Angkor in this nuanced way, we gain a richer understanding of how Asian cities have navigated the interplay of environment, power, and culture. This perspective sets the

stage for the subsequent chapters, which explore a range of urban forms and trajectories across the continent. Each city, like Angkor, is a product of its particular ecological and historical context, and each offers lessons for the ongoing making and remaking of urban life.

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