



Protect the Pines, Punish the People: Forests and the State in Pre-Industrial Korea, 918-1897

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Protect the Pines, Punish the People:
Forests and the State in Pre-Industrial Korea, 918-1897

A dissertation presented

by

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**Protect the Pines, Punish the People:
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Abstract

As the main fuel source and building material of almost every society before the Industrial Revolution, wood was a fundamental component of human life. In turn, wood's primary source, the forest ecosystem, was a site of competing claims and usages. From the peasant's fuel wood to the hunter's habitat and the admiral's timbers, the pre-industrial forest was a site of contestation and, accordingly, an accordant site of laws, edicts, and codes meant to prioritize certain claims, often those of the state. State forestry, the management of forests by government personnel for state use, thus became a crucial aspect of administrative expansion in the pre-industrial world, particularly in the early modern or "late pre-industrial" era between 1400 and 1850.

This dissertation examines the political, social, and environmental implications of one of the longest state forestry systems in world history, that of Korea's Chosŏn dynasty (1392-1910). For five hundred years, the Chosŏn dynasty maintained an extensive state forestry system across the Korean peninsula largely around the protection of a single conifer, the pine. As the first English-language study of Korea's pre-industrial environmental history, I utilize Chosŏn-era administrative records, gazetteers, literati treatises, and diaries to analyze the development of Korean forestry institutions and their impact on the environment and society. I argue that the expansion of state forestry was fundamental to the expansion of the Chosŏn state and underpinned its remarkable longevity. Moreover, the government's prioritization of pine profoundly impacted Korea's environment.

During the Chosŏn dynasty's early years, pine timber provided solutions to numerous issues ranging from naval defense to edifice and coffin construction. Thus, from the fifteenth century onward, the Chosŏn government identified key pine forests along coastal and riverine areas and monopolized them for state use. Thanks to rigid enforcement, state forests along Korea's coasts and rivers grew predominantly into successional stands of *Pinus densiflora* and *Pinus thunbergii*. These forests and their timber would prove crucial during the Imjin War (1592-1598) when Korean naval victories helped defeat major Japanese invasions. In the seventeenth and eighteenth centuries, the Chosŏn state continued to expand state forestry along the southwestern coastal and island regions and into the upper Han River basin northeast of Seoul. It did so by bringing a wide array of personnel – civil officials, soldiers, licensed merchants, and even monks – into the state forestry system as inspectors, wardens, loggers, and shippers. The government utilized the same personnel to stamp out perceived threats to state forests such as vagrants, slash-and-burn agriculturalists, and illegal gravesites. Thus, state forestry in Chosŏn Korea became a vehicle for imposing particular ecologies and land-use practices on the countryside.

In the same period however, a growing population and commercializing economy brought new complications to state forestry. A booming salt industry raised demand for fuel wood and opened state forests to wider usages and avenues for corruption. Merchants around Seoul gained access to more forests outside of government cordon. Villagers formed forestry organizations to protect local woodland for their own usage. By the nineteenth century, the state forestry system was in decline due to corruption and rising disputes over forest usage rights. The pine, however, continued to dominate the Korean landscape into the modern era. This dissertation thus uses the relationship between the state and the forest to offer a fresh perspective

into Korean and global history, one that moves toward a multi-faceted, *longue durée* view of administrative expansion and environmental change in both Korea and across the pre-industrial world.

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Dedication

To the memory of my grandfather, Jin Won Lee,
who got here first.

Map of Chosŏn Korea



Introduction: A Half-Millennia of State Forestry

Sometime around the turn of the nineteenth century, near the picturesque hamlet of Kangjin in southwestern Korea, an exiled official named Chǒng Yagyong (1762-1816) came across a disturbing sight. A monk was methodically killing pine seedlings all across a hillside. Thousands of seedlings, most barely a few inches tall, were being removed to their roots and then discarded. When Chǒng inquired about the commotion, to his surprise, the monk burst into tears. Once recovered, he told his story.¹

The surrounding forest was actually a state-managed reserve for supplying naval-grade pine timber, and some years earlier, the provincial navy headquarters had charged the monk's monastery with managing the woods. The monks took the job seriously, patrolling the forest night and day, even eating cold rice "to save on firewood." They succeeded to the point that "the woodcutters of the town did not dare to approach the mountain."

Yet, the monks' labor would be in vain. One day, a military officer from the provincial navy headquarters arrived to inspect the monks' efforts. He angrily pointed at a few felled pine trees, victims of an earlier storm, and then violently punched the unfortunate monk in the chest. Though the monks pleaded that they were innocent of any wrongdoing, the officer had no sympathy, and the monks were forced to pay substantial restitution. The traumatic ordeal triggered a new realization at the monastery. Pine protection was a disastrous burden, not a duty. Minimizing forest growth could minimize chances of punishment.

Chǒng interpreted the monk's silvicultural exertions as an indictment of the Chosŏn (1392-1910) dynasty's administrative system, an assessment not surprising from a political exile with

¹ The following anecdote is from Chǒng Yagyong's poem "Sǔng palsong haeng [Monk pulling out pine trees]" published in his *Mongmin simsŏ* [Essays from the Heart on Governing the People], 5:1, "Kongjŏn" [Section on public works]. Chǒng Yagyong, *Mongmin simsŏ* [Essays from the Heart on Governing the People]. Tasan yon'guhoe, ed. (Seoul:Ch'angbi, 2000).

an axe to grind. I use this anecdote to introduce a longer story: the history of state forestry on the Korean peninsula from the fifteenth through the nineteenth centuries and its effect on government administration, the environment, and everyday social and economic life.

This dissertation is the first English-language analysis of Korea's pre-industrial environmental history. The primary subject is a relationship: between the Chosŏn state, the Korean peninsula's forests, and the people who used them. For five centuries, the Chosŏn state maintained an extensive state forestry system largely around the protection of a single type of conifer, the pine, across hundreds of forests across the Korean peninsula.² It was a system sustained through a complex bureaucracy of magistrates, military officers, wardens and stewards.³ They mobilized labor for periodic felling, managed replanting, and guarded against threats ranging from corrupt high officials to the average woodcutter and the tiny larvae of the pine moth (*Dendrolimus spectabilis*). Over the course of the dynasty, the expansion of state forestry extended the administrative reach of the state across the countryside, particularly in the coastal and riverine areas of southern and western Korea.

State forestry affected almost every facet of Chosŏn society from the central bureaucrats to the clerks and military garrisons in the provinces and down to the monastery, household, and non-human landscape. Reliance on a single, easily identifiable conifer instilled predictability and perpetuated the key role that pines played in Chosŏn culture and everyday life. The government's centuries-long emphasis on pine protection came at the expense of other types of trees, formally referred to as "miscellaneous trees" (*chammŏk* 雜木) generally open to logging.

² By "forestry," I refer to institutionalized practice of managing, protecting, and planting forests. "State forestry" thus entails the institutionalization of forest usage through laws and edicts and the accordant management of the forests through bureaucratic functions and personnel. I do not connote modern scientific notions of "forestry" in my usage.

³ Songgŭm chŏlmok [Pine Prohibition Regulations]" in *Pibyŏnsa tŭngrok* [Records of the Border Defense Command] (hereafter *PBSTR*), Sukchong 10.2.30 (1684). All entries from Chosŏn court records are cited in reign year-month-day format.

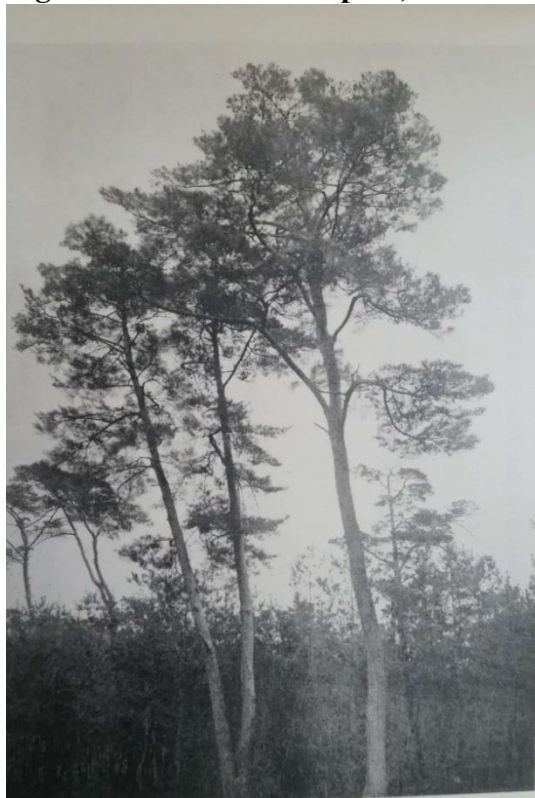
Due to government policy, *Pinus densiflora*, *Pinus thunbergii*, and related *Pinus* trees became the dominant sylvan species across much of the Korean peninsula. Accordingly, tigers and leopards steadily disappeared as more lush mixed forest gave way to thinner pine stands with less game. In southwestern Korea, horse ranches set up by the Mongols in the thirteenth century gradually transitioned to “pasture pine” as the military priorities shifted from cavalry to warships.

Culturally, pines became symbols of longevity, loyalty, virtue, even masculinity and patriarchy. Pines are the most common tree in Chosŏn poetry.⁴ A common Korean saying goes, “We were born with pines, live among pines, and will be buried in the pinery on the rear mountain.” Pine resin was the basis for common adhesives; in desperate times, pine needles and bark were considered good famine food. From high to low, across multiple spheres of Chosŏn life, pines were a critical resource. State forestry was the government’s method of privileging its access to a contested materiality.

In the first decades of the fifteenth century, the Chosŏn government recognized the fundamental importance of the wood supply and cordoned off forests around the capital city of Seoul and along the coasts as timber for “state use” (*kukyong* 國用). Later, in the seventeenth century, as the needs of naval defense grew worrisome and reports of elite land grabs and commoner slash-and-burn cultivation grew numerous, central bureaucrats promulgated law codes that further restricted access to select pine forests along Korea’s southern and western coasts. Known as Reserved Forests (*pongsan* 封山), Restricted Forests (*kŭmsan* 禁山), and Pine

⁴ Chŏn Yŏngu, *Sup kwa munhwa* [Forests and Culture] (Seoul: Puksŭhil, 2005), 217.

Figure 1: A stand of red pine, *Pinus densiflora*, in southern Korea, 1928



Source: Homiki Uyeki, *On the physiognomy of Pinus densiflora growing in Corea and sylvicultural treatment for its improvement* (Suigen [Suwŏn], Chōsen: Bulletin of the Agricultural and Forestry College, 1928), Plate VI.

Figure 2: Pines as depicted in Chosŏn art



Embroidered Screen with Longevity Symbols. 18th century, Chosŏn dynasty, silk embroidery on silk, 55 1/2 x 144 in. 141.0 x 365.8 cm., Detroit Institute of Arts, Detroit.

Fields (*songjŏn* 松田), these protected woods numbered in the range of 678 sites by the early nineteenth century.⁵

Overall, I argue that state forestry was fundamental to the rise and stability of the Chosŏn state. State forestry secured key resources for the new dynasty in the fifteenth century. State forests secured timber stands in the southwest that formed the basis of Yi Sunsin's fleets during the Imjin War (1592-1598), literally saving Korea from Japanese conquest. The expansion of state forestry in the seventeenth century helped the Chosŏn government recover from the depredations of the Imjin War and the Manchu invasions of the 1627 and 1636.

The successes of state forestry, however, came at a cost. This dissertation is also, as evident in the introductory account of the silvicidal monk, a story that runs into the intersection of state policy and local realities. Chosŏn state forestry was prone to administrative corruption and could stoke local resentment, particularly over the issue of mobilizing forestry labor. The late Chosŏn state's reliance on lower-level functionaries exposed the forestry system to inadequate enforcement. Commercialization and rising demand for fuel wood opened state forests to widening uses and new channels for corruption. Most importantly, centuries of "Pine Policies" (*songjŏng* 松政) left monocultural stands vulnerable to pests and diseases such as wilt. In the nineteenth century, such problems coincided with the broader political and economic decline of the Chosŏn dynasty and its eventual fall to Japanese colonization in 1910.

At the local level, as more and more forest land fell into the cordons of government edict in the late Chosŏn era, lineages and villagers created local organizations dedicated to managing forests around graves (*punsan* 墳山) and residences. Many of these gravesite groves and Pine Protection Associations (*kŭmsonggye* 禁松契) would survive the Chosŏn dynasty and remain

⁵ For a complete record of late Chosŏn Reserved Forest locations, see the "Songjŏng [Pine Administration]" section of the *Man'gi yoram* [Essentials of State Affairs] (1808) and the *Haedong yŏjido* [Map of Korea] (1787).

intact into twentieth century and even to the present day. The nomenclature of “Pine Associations” was no coincidence. By placing the pine at the top of the state forestry hierarchy, the Chosŏn government had cultivated a society-wide investment in pine cultivation.

Moreover, the implications of this dissertation are not just limited to Koreans and their trees. It is also a wider exploration of the sylvan underpinnings of human institutions in the late pre-industrial era. For every pre-industrial society, wood was a fundamental resource. It was the basic building block of every city, town, ship, and cart. It fueled almost every industry and heated almost every home. Wood’s primary source, the forest ecosystem, additionally generated fruit, pasture land, mulch, fertilizer, and game.⁶ Accordingly, in Chosŏn Korea and other pre-industrial societies, forests were entangled in competing social strata and multiple uses – the royalty’s palace, the admiral’s ships, the hunter’s habitat, the warden’s livelihood, the peasant’s fuelwood, and his livestock’s pasture. Central to everyday life but imbued with a multiplicity of uses and users, the pre-industrial forest was a fundamental resource and a problem, a contested materiality.

In the years between 1400 and 1850, the early modern or “late pre-industrial” era, the rise of more complex bureaucracies across Eurasia coincided with statist attempts to manage forest resources. Bounded by ecological limits but imbued with a multiplicity of uses and users, the forest was a problem, a contested materiality. Solutions to the problem varied across different institutional and cultural contexts, but a commonality remained: the problem of the forest drove the development of the administrative state and underpinned relations between government and the governed.

⁶ For an extended discussion of wood’s pervasive influence on pre-industrial institutions, see Joachim Radkau, *Wood: A History*, trans. Patrick Camiller (Cambridge, UK: Polity Press, 2012).

State-level sources provide a prism into the institutional implications of the problem of the forest. We see how bureaucrats conceived of the wider environment and their own status and power. Sources describing the oft-problematic implementation of forestry complicate the abstract notion of state-society interaction. Such sources add color to the grey zone between pre-industrial policies and local realities – the warden and woodcutter coming to blows on the forest floor, the monk destroying the pines he had sworn to protect. Altogether, the relationship between forests and the state provides a lens into a history rich in the immediate context of a single polity and yet broadly comparable across a wider global history.

Korea's woods are a prime entry point into a global history of the pre-industrial forest. Like the Timurids, Ming, and Muscovites, Chosŏn Korea was a centralized Eurasian state that emerged out of chaos following the collapse of the Mongol Empire in the fourteenth century. Of these states however, only Chosŏn lasted until the twentieth century still within its same territorial boundaries and ruled by the same indigenous elite. Its experience with state forestry thus provides a territorially bounded narrative, over five centuries, of a central government establishing and then attempting to maintain a forest conservation system amid ever-changing social and environmental conditions.

Pine-centered bureaucratic administration, rather than detailed ecological knowledge or forests surveys, defined the course and character of Chosŏn state forestry. The government's tight control of foreign trade isolated the peninsula from international wood sources, thus further magnifying the importance of domestic forests. Accordingly, Chosŏn state forestry laid outside of international timber markets and away from foreign centers of knowledge production. Chinese precedents gave early Chosŏn bureaucrats some legal and historical examples of forestry institutions. Geomantic notions of interconnectedness of environmental and human fortunes

further informed Chosŏn concerns about the fragility of sylvan environments. Most importantly, anxieties about deforestation and timber scarcity went hand in hand with anxieties about the Chosŏn state's legitimacy and survival and led to regulatory innovations such as the recruitment of wardens (*sanjik* 山直) from local villages and the deployment of military and monastic elements to guard forest zones.

Such a system – reliant on a single type of conifer, isolated from additional overseas sources, poor in environmental expertise or careful surveys – seems doomed to collapse. This dissertation tells the story of how state forestry worked – and did not work – for so long in the limited confines of a pre-industrial agrarian polity.

The Problem of the Pre-Industrial Forest: Views from Germany, Japan, France, and Italy

The pre-industrial forest is a subject of diverse historical interpretation. Early modern English forests, according to Christopher Hill, were key sites of “sylvan liberty,” dens of “masterless men” who specialized in “robbing those who ground the faces of the poor, enclosers of commons, usurers foreclosing on land, builders of iron mills that grub up forests with timber trees for shipping.”⁷ These wooded lairs of Robin Hood and other heroes also became centers of “rural puritanism, strange sects, and witchcraft” and “receptacle of all schism and rebellion.”⁸ In Hill's argument, the English woodland was haven and incubator for radical ideas that flourished in England's tumultuous seventeenth century, helping turn their world “upside down.”

Around the same time, on a different set of islands to the opposite end of Eurasia, a different story of state and forest emerged in Japan. Peasants rampaged through forests seeking

⁷ Christopher Hill, *The World Turned Upside Down: Radical Ideas during the English Revolution* (Middlesex, UK: Penguin Books, 1975), 44.

⁸ *Ibid.*, 46-49

fuel wood, grazing land for their animals, and the high-quality mulch fertilizer found on woodland floors. Rulers and elites sought timber for ship and building construction. Old-growth forests almost entirely disappeared under the axe and saw. In response, at the beginning of Japan's early modern era, the Tokugawa regime (1600-1863) introduced protection forestry and then, in the eighteenth century, regenerative plantation forestry to stem deforestation and guarantee wood supplies. According to Conrad Totman, residents of the Japanese archipelago from various social strata gradually acquiesced to government edicts to cut fewer trees and plant more timber. The wisdom of Tokugawa officials and the compliance of the populace saved Japan's vulnerable environment from a destiny of "desolation and human misery."⁹

What accounts for such different histories of the forest? The differences lie not necessarily in regional or cultural differences but in the perspective of the historian. Hill and Totman, for instance, are separated by respective adherences to Karl Marx and Thomas Malthus. The Marxist-influenced Christopher Hill sought to find the roots of English radicalism among the forest-dwelling vagabonds who "were liable to suffer from large-scale schemes for agricultural betterment – disafforestation, fen drainage and the like."¹⁰ Hill portrays these "masterless men" as agents of class upheaval against the traditional state and aristocracy. Totman, on the other hand, interprets the pre-industrial Japanese landscape through the grave lens of Malthus and Paul Ehrlich.¹¹ Totman observed on the Japanese archipelago a long history of populations densely packed into a geologically unstable, spatially limited environment. The

⁹ Conrad Totman, *The Green Archipelago: Forestry in Pre-Industrial Japan* (Athens, OH: Ohio University Press, 1998), 4.

¹⁰ Hill, *The World Turned Upside Down*, 43.

¹¹ Paul and Ann Ehrlich's *The Population Bomb* was a best-selling Neo-Malthusian text first published in 1968. It warned of coming environmental disaster, food insecurity, and mass starvation if humans could not harness current levels of population growth. The book raised general awareness of population and environmental issues and formed the *Zeitgeist* in which a first generation of Asian environmental historians wrote their works.

result, he argues, should have been disastrous. “Japan today, writes Totman, “should be an impoverished, slum-ridden peasant society subsisting on a barren, eroded moonscape ... But that did not happen, and we can wonder why.”¹² The hero that emerges from Totman’s forest is the conservationist state, not Hill’s anti-establishment vagabonds.

While both works are admirable classics of historical writing, their different approaches to the problem of the forest bespeak methodological issues. How does the historian unravel the various institutional, social, and cultural context of the forest without falling into the trap of cheering for (and highlighting) only one side of the proverbial woods? The solution, I argue, is to broaden the discussion of how human institutions grapple with the contested aspect of sylvan environments. The multi-faceted nature of the pre-industrial forest necessitates a multi-scalar and multi-regional approach to its history – an approach that captures the dynamics of historical change within a single polity while broadening our understanding of a common problem, the forest, and the role of the state in the early modern, late pre-industrial era. My dissertation uncovers how the development of the state in pre-industrial Korea went hand in hand with attempts to control and manage forest resources. Moreover, in between the policy-making bureaus of the Chosŏn court and the pine forests on the ground, a changing society complicated the relationship between forests and states in ways and patterns that resonate beyond the Korean peninsula.

Pre-industrial Eurasian states responded to the messiness of the pre-industrial forest in three basic ways: one, adjusting forest bureaucracies to local conditions;¹³ two, imposing

¹² Totman, 1-2.

¹³ Renaissance Venice provides a pre-industrial case of a complex forest bureaucracy utilizing quantification and surveying technologies not to eradicate local knowledge but to adapt it to conservationist aims. Karl Appuhn, *A Forest on the Sea: Environmental Expertise in Renaissance Venice* (Baltimore, MD.: Johns Hopkins University Press, 2009).

centralized forestry at the expense of customary and communal rights;¹⁴ and three, acquiring the necessary timber from frontier and overseas sources. The third option was closed to Chosŏn Korea, or to be more precise, its government closed the option. The state vigorously regulated foreign trade and did not attempt to acquire timber from foreign sources. Also, the cedar-rich zones of the northern Yalu River frontier were not easily accessible by waterway or road.

In this dissertation, I advocate a historical approach utilizing a variety of forest-related sources to contextualize both the state and wider interactions between the state and local realities. Rather than seeing the state as a singular mode of control, I highlight how different organs of the state could contest forest resources and complicate their regulation. Rather than imbuing the state with a singular posture toward forestry, I argue that different parts of a bureaucracy could have divergent experiences with sylvan landscapes. Chosŏn's Board of Military Affairs and Directorate of Construction, for instance, focused on the "high forest" of timber whereas local magistrates and wardens had to regulate the variety of "low forest" practices such as shifting cultivation, fuel wood gathering, and even competing claims over burial rights in forested areas.

On this note: one particular study that seems to hang over any historical work involving forests and the state - James Scott's *Seeing like a State*. Scott begins his book, a wide-ranging criticism of statist hubris, with a "parable" about state-run forests in nineteenth-century Germany. Conventionally, German scientific forestry is seen as the triumphant birth of state-initiated environmental conservation, a masterpiece of bureaucratic foresight that set forestry standards around the world. Scott turns convention on its head, arguing that the German imposition of monoculture tree stands actually heightened the likelihood of blights and pestilent devastation

¹⁴ Early modern France is the paragon of the second category, particularly after the imposition of the Forest Ordinance in 1669. The heavy-handed imposition of centralized forestry would incur local resentment to the French Revolution and after. Keiko Matteson, *Forests in Revolutionary France: Conservation, Community, and Conflict, 1669-1848* (Cambridge University Press, 2015).

and thus forced German foresters to enact policies that encouraged biodiversity – ironically, an artificial reversion to the forests’ pre-ordered, “natural” state. The state, argues Scott, cannot sustain a healthy society through clumsy intrusion and high-handed hubris; it must integrate practical local customs, what he terms the *metis*, rather than sacrificing them at the altar of revenue, nation, and development.

While Scott’s framework is certainly influential, I should note that this dissertation is not a theoretical statement. I use a *longue durée*, historically sensitive approach to comprehend *how* forest conservation policies, nominally meant to preserve a common-use resource for “state use,” generate other consequences and take on other social and political dimensions as they become enmeshed in a changing landscape. In this sense, I also situate my work within a small group of five environmental historians – Totman (1998), Paul Warde (2006), Carol Keiko Matteson (2015), John T. Wing (2015), and Karl Appuhn (2009) – who have similarly utilized the prism of forests to analyze broader historical patterns in early modern Japan, Germany, France, and Italy, respectively.¹⁵

Warde’s study, though situated in the southwestern German locality of Württemberg, is more than a mere history of a locality; it is a multi-disciplinary analysis that dissects pre-industrial political economy, social ecology, and the role of states and social institutions in an early modern European setting. Warde’s key argument is that the state, represented by the Duke of Württemberg, his high council, petty officials, foresters, and wardens, expanded its authority over the domain’s woodlands not at the expense of local institutions, but rather, in response to

¹⁵ Conrad Totman, *The Green Archipelago: Forestry in Pre-Industrial Japan* (Athens, OH: Ohio University Press, 1998); Paul Warde, *Ecology, Economy, and State Formation in Early Modern Germany* (Cambridge University Press, 2006); Carol Keiko Matteson, *Forests in Revolutionary France: Conservation, Community and Conflict, 1669-1848* (Cambridge University Press, 2015); Karl Appuhn *A Forest on the Sea: Environmental Expertise in Renaissance Venice* (Baltimore: Johns Hopkins University Press, 2009).

the inability of local institutions to adapt to increasing social tensions and economic swings affecting woodland usage.

The state hence enters as an arbitrator in the form of the warden, forester, and burgher. Thanks to these agents, those villagers who cheated the commune could be caught and punished; those who had disputes could settle; and those who had the guile could bribe and bargain. Altogether, Warde presents the state as a participant in a complicated political economy and ecology. The state had certain concerns, particularly the specter of wood scarcity, and such concerns produced a regulative drive. However, the Württemberg state largely did not impinge on the customs of multiple-use, and its further expansion into local affairs came as a response to local conflicts and not as a precursor to them.

At a more macro-comparative level, Warde argues that any understanding of early modern political economy is incomplete without an understanding of the ecological processes and biomass flows that underpin much of the early modern social and economic structure.¹⁶ Warde attests that, in the historiography of early modern societies, there exists a falsely stark dichotomy between the so-called “natural economies” that rely on agriculture, trade in kind, and emphasize personal networks on one hand, and the emerging “market economies” that embrace commercialization, use money for exchange, and operate impersonal transactions. In the case of early modern Germany, Warde notes that natural and market economies were inseparably enmeshed and rarely considered distinct by the subjects involved. In the historiography of Chosŏn Korea as well, one could argue that too many scholars have looked at Chosŏn through a

¹⁶ Paul Warde, *Ecology, Economy, and State Formation in Early Modern Germany* (Cambridge, UK: Cambridge University Press, 2006).

developmentalist lens that scans for markets uprooting traditional economic processes at the expense of delineating the internal mechanisms of the Chosŏn political economy.¹⁷

Warde has a solution: he proposes that early modern economies can be understood through what he calls the “two ecologies,” the territorial and the transformational. Territorial ecology, according to Warde, is the shared tendency of state, aristocrat, and peasant alike “to reinforce the integrity and functioning of a given process specifically located in space.”¹⁸ Transformational ecology, on the other hand, is the disturbance, the actions that transfer resources and biomass and induce reactions. According to Warde, it is this by-play between the desire to ensure predictable economic, ecological, and social practice and the reality of constant ecological change that ultimately forces the state to take on the duties of ensuring “territoriality” over time. Gradually, the largely ambivalent early modern state expands into the more familiar modern state that takes an active role in ensuring forest conservation, outlining property rights, and promoting economic growth.

Conrad Totman, meanwhile, describes a remarkable forestry system in Togukawa Japan (1644-1863), a system that installed sumptuary regulations, technological restrictions, and even monocultural plantation forests in numerous parts of Japanese archipelago. Totman’s books on Japanese environmental history – *The Lumber Industry in Early Modern Japan*, and *The Origins of Japan’s Modern Forests: The Case of Akita*, and most notably, *The Green Archipelago: Forestry in Pre-Industrial Japan* – all highlight the importance of Japanese forestry policies during the Togukawa era, a period when rapid population growth, urban development, and agricultural expansion precipitated serious ecological problems.

¹⁷ An entire school of South Korean historiography known as “Internal Development Theory” (*naejae palchŏnnon*) has been dedicated to such studies.

¹⁸ Warde, 283.

How and why, asks Totman, did Togukawa Japan maintain the integrity of its forests? In the context of Asian history, this is a crucial question, as historians have pointed out that many of China's devastating nineteenth-century social problems had an environmental basis.¹⁹ Totman takes pains to make the reader understand that Japan's "green archipelago" was not a pre-ordained affair. First of all, Totman points out that Japan's unique geography renders it quite susceptible to ecological disaster. Japan has always been infamous for its troublesome seismic activity, and Japan's bedrock-ridden mountains and hillsides are also particularly prone to erosion and resultant lowland flooding. To make matters worse, Japan lacked extensive deposits of usable clay or stone. Consequently, most of the pre-modern elites' palaces and temples had to be built with wood. Such insatiable elite demand for timber only further denuded the soil-holding forests of the precarious mountains and hills.

However, Totman does not put sole blame of environmental destruction on the elites. In fact, Totman argues that, starting around the fifteenth century, commoner peasants were actually causing the most direct woodland damage due to their ravenous demand for high-quality mulch fertilizer found on forest floors, as well as fuel wood and grazing land. These agricultural demands, in turn, clashed with the ecological wants of the elites, who mostly wanted wood for building and ship construction. Thus, at the beginning of the Togukawa era, rapid deforestation was engendering serious social conflicts between elites and commoners over resource use.

Then, at that critical moment, Japan's Togukawa-era "environmental miracle" began. Over the course of centuries, the Togukawa state initiated plantation forestry programs around villages and restricted the most prodigal logging practices, such as the use of cross-cut saws and

¹⁹Elizabeth Perry *Rebels and Revolutionaries in North China, 1845-1945* (Palo Alto, CA: Stanford University Press, 1980); Kenneth Pomeranz, "The Transformation of China's Environment" in *The Environment and World History* eds. Edmund Burke III and Kenneth Pomeranz (Berkeley; Los Angeles: University of California Press, 2009), 118-164.

the direct transportation of single logs down rivers. Meanwhile, under government pressure, Japanese villagers began instituting more sustainable, communal-based forestry practices. Gradually, Japan's woodlands recovered, so that foreign visitors in the late nineteenth century would remark on the relatively pristine state of the natural environment.

Totman firmly rejects the notion that such afforestation policies were rooted in some Japanese cultural predilection for "loving nature." While Totman acknowledges the existence of a "conservation ethic" in Tokugawa Japan, he argues that such an ethic did not become prominent until the signs of overcutting became obvious. Indeed, the most profound element in Totman's thesis is his assertion that the Tokugawa regime's successful environmental record was rooted not in culture, but actually in wise regulatory policies initiated by the government, followed by the peasants' acceptance and adaptation. Such a positive dynamic, in turn, eventually crafted the Japanese "conservation ethic," a Tokugawa world-view that, according to Totman, "admonished people throughout Japan to preserve their property; nurture their resources; maximize the productivity of their lands; and bequeath a flourishing patrimony to the next generation."²⁰ Totman's implication is clear: good environmental policies and a statist sense of foresight are qualities that could exist anywhere in the world, regardless of culture and climate. If a country as ecologically unstable as Japan could preserve its forests through wise decisions and common sense, Totman implies, the modern state should likewise be able to prevent contemporary environmental catastrophes like global warming, over-fishing, and deforestation.

Totman's ideal of the conservationist state clashes with Carol Keiko Matteson's more rapacious early modern France. On first glance, the contexts seem similar. Matteson's work concentrates on the region of Franche-Comté in northeastern France, not far to the west of

²⁰ Totman, *Green Archipelago*, 184.

Warde's Württemberg, and she tracks a theme similar to Totman's – the rise of state forestry amidst burgeoning commercialization. Like Warde's Württemberg and Totman's Japan, Matteson's French state is haunted by the specter of wood scarcity in tones eerily similar to present-day hand-wringing over imminent energy shortages. However, whereas the Togukawa government entered a time of peace and demilitarization from the seventeenth century through the early nineteenth, the French state from Louis XIV onwards became interested in the use of forests for military and other statist applications. Starting with Colbert's Forest Ordinance of 1669, the French state and allied commercial enterprises began turning the communally-managed, multi-use Franche-Comté forests into fodders for the shipyard and market.

Through surveys, regulations, and intrusions, the state became “masters” of these woods. Local peasants and their customary usages of the forest for grazing fought a losing battle against commerce. The French communes' lack of adaptation to statist and commercial intrusion was not simply due to the crudeness of the state's intrusion, as geography also played a role. Unlike Württemberg, Franche-Comté had been largely isolated from state impositions and regional trade networks before 1669, and thus, there existed little sense of the state as a local participant or independent arbitrator. Accordingly, the conservation of forest resources for state and commercial use became outside impositions antithetical to perceived local interests. In a sense, one can see the French state as affirming James Scott's worst fears; it is thus little wonder that Scott's book includes early modern France as a particularly egregious example of statist hubris.²¹ Lastly, using a *longue duree* perspective quite applicable to the longevity of both the Venetian Republic and trees themselves, Karl Appuhn analyzes the history of interactions between Venetian forestry politics, knowledge concerning forests, local practices of forest exploitation,

²¹ Scott, *Seeing like the State*, 30-32.

and the regional environment. He begins in the fourteenth century with a key premise: the Venetian government was incessantly concerned over timber and fuel wood shortages. The narrative that follows is initially one of increasing state control over the region's forests. Local woodland rights gave way to state interests, backed by a full-fledged forest bureaucracy dedicated to finding suitable forests and protecting current stands.

But this is no lurid tale of high-modernist hubris and suffering locals. On the contrary, Appuhn characterizes the growth of bureaucratic forestry in Venice as a centuries-long affair supported by growing government awareness of the interconnected fragility of Venetian sylvan and water environments. Moreover, he argues that forestry officials employed quantitative surveys and mapping techniques not to impose uniformity but actually to privilege “complexity and local context over uniformity and generalization.”²² Venetian bureaucrats recognized that the state demanded different amounts and kinds of wood every year and that each forest required varying frequencies of harvesting. They utilized a variety of innovative maps and rigorous quantitative data to assess local conditions as accurately as possible. Such practices, according to Appuhn, underpinned a “unique view of the relationship between humans and the natural world,” a “managerial organicism” that enabled a bureaucratic preservation of nature and local knowledge.²³ He thus offers a challenge to Scott and Foucault's critiques of the modern bureaucratic state. Also, Appuhn rebuts older historical interpretations, particularly Carolyn Merchant's, that have highlighted profit-driven and categorical Baconian mentalities as the pre-eminent features of early modern European attitudes toward the natural world.

As Appuhn notes himself, his argument runs well with Conrad Totman's assertion that the early modern Japanese state was a vehicle for forest conservation and reforestation. Like

²² Appuhn, *A Forest on the Sea*, 269.

²³ *Ibid.*, 9.

Tokugawa Japan, Renaissance Venice was able to avoid a major timber crisis even while lacking access to oceanic timber trade such as that existed in the early modern Baltic and South China seas. The protagonist in both narratives is a state infused with what Totman calls a “conservationist ethic,” equivalent to Appuhn’s “managerial organicism,” a preservationist view of nature that “was the product of an insular society, deeply conscious of its limitations and of the fragility of its natural resources.”²⁴

Among the Rimland States: Korea’s Place in the Forest

My dissertation utilizes concepts and themes addressed by Warde, Totman, Matteson, and Appuhn. Notably, Warde’s concept of territorial and transformational ecologies is very useful for framing the by-play between the pine-centric, territorial ecology of the Chosŏn state and the broader environmental and social processes ongoing throughout the peninsula. Conrad Totman’s work provides a set foil for comparison, particularly due to the proximity and key interactions between the peninsula and the archipelago. The conflicts over forest usage rights described by Matteson bear strong parallels to problems in late Chosŏn Korea. Finally, Appuhn’s work puts a key focus on the policy-making apparatus itself and how the particular imaginaries and circumstances of bureaucrats can impact forest ecologies.

Moreover, I argue that Korea’s particular case of pre-industrial state forestry can be situated in a broader pattern found in the “rimland states,” to borrow Victor Lieberman’s terminology, of early modern Eurasia after the breakup of the Mongol Empire in the fourteenth century. Between 1400 and 1850, the “exposed zones” of Eurasia such as China, India, the Middle East, and island Southeast Asia became subject to continuous inner Asian and European influence. Meanwhile, rimland states such as Korea, Japan, and parts of mainland Southeast Asia

²⁴ Ibid., 12.

maintained their territorial integrity under the rule of the same indigenous elite into the early industrial era.²⁵ Characteristic of rimland states was a tripartite process of indigenous bureaucratic recruitment and subsequent administrative expansion, external territorial controls (particularly on trade), and the internal regulation of people and resources.²⁶ The control and restriction of sylvan space is a classic exercise of internal regulation of resources, one that expands the reach of the bureaucracy into workaday life and monopolizes a contested space for governmental affairs. While early modern France and Venice certainly had far more maritime connections than did Korea and Japan, their comparable territorialization of forests deserve more comparison, particularly considering the “rimland” position and western Europe in Eurasia during the age of Ottoman expansion into the Balkans and constant naval conflict in the Atlantic and Mediterranean. Anxiety about territory and anxiety about forests went hand in hand for the rimland states of early modern Eurasia.

Moreover, the function of early modern states often revolved around jurisdictional politics, particularly jurisdiction regarding terrestrial usage. In pre-industrial Europe, the forest was a site of much jurisdictional conflict which in turn produced interesting solutions: the Charter of the Forest in thirteenth-century England, the expansion of forest-related laws in early modern Germany, and a particular type of environmental expertise in Renaissance Venice. By situating pre-industrial Korean forestry in a broader global history, I highlight the similar ways forest usage could be contested across the world while producing a diverse array of norms, outcomes, and justifications. In turn, this dissertation helps create a conversation with non-

²⁵ Victor Lieberman, “Protected Rimlands and Exposed Zones: Reconfiguring Premodern Eurasia,” *Comparative Studies in Society and History* 50:3 (July 2008): 692-703.

²⁶ For arguments supporting the effectiveness of bureaucratic management and recruitment in pre-industrial China, Korea, and Vietnam, see Alexander Woodside, *Lost Modernities: China, Vietnam, Korea, and the Hazards of World History* (Cambridge, MA: Harvard University Press, 2006).

Asianists about the use of terminologies in forest history. Wood and forests are analytically permeable, but “charters,” “property rights,” “communal rights” and “commons” are not necessarily. In our current era, we need new terminologies that can describe the functioning of normative orders across the world: perhaps we can start with the forest.

Life as a Peninsula: Situating Korea’s Environment

Korea’s environmental history, like all environmental histories, has to be first situated in the land itself. Every Korean schoolchild learns that seventy percent of the peninsula is composed of mountains. Key ranges extend along the eastern coast of the peninsula and in the south between Chōlla and Kyōngsang provinces. Seoul itself is surrounded by four major mountains of great cultural significance. Along the western and southern coasts, hillsides and lowlands roll into endless ria shorelines and tidal flats. It is these two zones, the mountains and the coasts, where much of the drama of state and forest has unfolded in Korean history.

The Korean peninsula itself is situated at a fascinating geographic intersection. The peninsula famously lies between China, Manchuria, and the Japanese archipelago, exposing Koreans to millennia of interregional interactions and geopolitical machinations. Southern Korea lies at the far northeastern end of the Asian monsoon swing so critical to rice agriculture; northern Korea lies at the far southeastern extreme of the Siberian boreal taiga. From the west, Korea has been open to Inner Asian influences. In the thirteenth and fourteenth centuries, the peninsula was the easternmost frontier of the Mongol Empire; in the twentieth century, it became the easternmost frontier of the Communist bloc. To the east, Korea is part of the western Pacific ecumene, through which it has had a complex historical relationship with the Japanese archipelago and the wider world.

Accordingly, the peninsula is also exposed to significant climactic variations. According to one study from the 1940s based on 20-year means of 250 meteorological stations, the northernmost part of the peninsula along the Yalu River can receive between 16 and 24 weeks of daily mean temperatures below 0° C. Seoul received 8 to 12 weeks of subzero temperatures while the southwestern islands and southern coast retained a daily average above 0° C.²⁷ Precipitation is similarly protean. In wetter years, the amount of precipitation can run 90% over the mean; in the dryer years, the amount drops as low as 57% below average.²⁸ Korea is also affected by typhoons for approximately 14 days a year, particularly between July and October.²⁹

While such climactic variations can be devastating to agricultural outputs, it also lends itself to significant biodiversity. The Korean peninsula, like western and central Europe, is part of the Eurasian temperate mixed forest zone; yet, it contains far greater floral biodiversity than does comparable parts of Europe. The lack of inland ice during the Ice Age on the peninsula averted mass extinctions. In 1940, Korea had 160 families of flora with 883 genera and 3,070 species, of which only 161 species were considered imported. No less than 800 of the floral species belong to significant woody plants.³⁰ The trees generally fall into three climactic categories: cold-weather plants that thrive in higher altitudes and latitudes, such as *Quercus mongolica* and the poplar (*Populus maximowiczii*); warm-weather trees such as the camphor (*Cinnamomum camphora*), camellia (*Camellia japonica*), and black pine (*Pinus thunbergii*) that only populate the western and southern coastal littoral and the islands; and the most common

²⁷ Hermann Lautensach, *Korea: A Geography based on the Author's Travel and Literature*, trans. Eckart Dege, Katherine Dege (Berlin; Heidelberg, Germany: Springer Verlag, 1988), 92.

²⁸ *Ibid.*, 93

²⁹ *Ibid.*, 103

³⁰ *Ibid.*, 128

eurythermic types flexible across Korea's climactic extremes. The last category includes not only numerous wild fruit and nut trees but also the most common tree species in Korea today and the centerpiece of Chosŏn-era forest policy, the red pine (*Pinus densiflora*, *S. and Z.*).³¹

The pine is well-adapted to the vicissitudes of Korea's environment and its history. Its prevalence is a product of a process, one begun in nature and then accelerated, turned, and rerouted by human action. Much of Korea's primeval old-growth forest was removed during the first millennia C.E. in an era of intensive state formation and population growth on the peninsula. The proliferation of iron technology brought the iron axe, spade, and a wave of new forest succession. Over time, the shade-intolerant pine prospered as their competitors were reduced.³² By the Koryŏ era, pine had become widespread enough to achieve uncontested prominence in both literary and architectural sources. The Koryŏ royal family granted the tree with great geomantic value, literati celebrated its beauty and utility, and buildings remaining from the Koryŏ era contain a higher amount of pine than any other tree.³³

³¹ Ibid., 129

³² Kong Usŏk, *Hanbando siksaengsa* [Vegetation history of the Korean peninsula] (Seoul: A'k' Janet, 2003), 124-127.

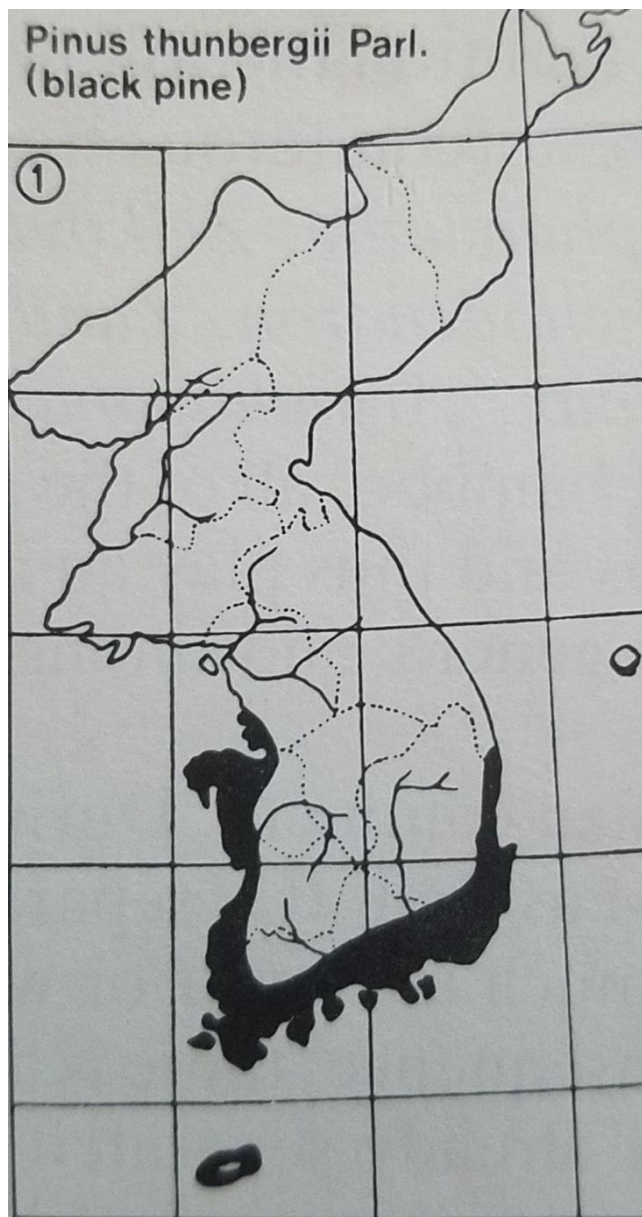
³³ For analysis of the tree composition of Korean historical buildings, see Pak Wŏn'gyu, I Kwanghŭi, "Uri nara kŏnch'uk e sayong toen mokchae sujong ūi pyŏnch'ŏn [Changes in tree species used in Korean architecture]" *Kŏnch'uk yŏksa yŏn'gu* 16:1 (February, 2007), 9-27.

Figure 3: Present-day range of *Pinus densiflora*



Source: Kim Chinsu, *Sonamu ūi kwahak: DNA esō kwalli kkaji* [Science of *Pinus densiflora*: from DNA to management] (Seoul: Koryō taehakkyo ch'ulp'anbu, 2014), 19.

Figure 4: Range of *Pinus thunbergii*, late 1930s.



Source: Hermann Lautensach, *Korea: A Geography based on the Author's Travel and Literature*, trans. Eckart Dege, Katherine Dege (Berlin; Heidelberg, Germany: Springer Verlag, 1988), 130.

Other environmental factors further imprinted this particular type of pine onto the landscape. Bedrock of granite and gneiss underlies seventy percent of the Korean peninsula, creating slightly acidic topsoil prone to erosion and flood-related hazards. Granite and gneiss topsoils, moreover, are not conducive to deep rooting, leaving taller trees at the mercy of windstorms.³⁴ Pines, while also vulnerable to strong winds, are hardy enough to thrive in both the coastal lowlands and the more temperamental soils of the hillsides and mountains. Even after clear-cuttings and storm-related disasters, pines quickly emerge again in Korea's gneiss soils, spouting and then towering over pioneering shrubs.³⁵ Chosŏn-era policies further exacerbated the "natural" process of pine succession on the Korean peninsula. By placing pine at the top of the sylvan hierarchy and opening mixed-forest to cutting, the Chosŏn state allowed a single tree to dominate much of the Korean landscape.

Human action similarly reshaped Korea's forest fauna. Historically, Koreans forests were home to tigers, leopards, bears, wild boars, and five species of deer. The Siberian Tiger (*Panthera tigris altaica*), once the peninsula's apex predator, became victims of widespread state-sponsored hunting during the Chosŏn era.³⁶ Population growth led to more tiger-human encounters and wider alarm about tiger attacks. In addition, the expansion of thinner, pine-dominant stands left tigers with less precious space in which to roam and hide. By the early twentieth century, foreign and native hunters had largely eliminated the tiger from the Korean

³⁴ In an early analysis of deforestation in Korea, Japaense forest ecologist Miyake Masahisa noted the particular vulnerability of Korean forests to windstorms, a problem he argued was rooted in the composition of the bedrock and soils. *Chōsen hantō no rin'ya no kōhai no gen'in: shizen kankyō hozen to shinrin no rekishi* [The causes of the devastation of forests on the Korean peninsula: A history of nature conservation and forests] (Nōrin Shuppan, 1976).

³⁵ Lautensach observed red pine-dominant forests emerging across similarly deforested landscapes in late colonial Korea. Lautensach, 136.

³⁶ State-sponsored hunting of tigers and leopards is discussed in Chapter 2.

peninsula.³⁷ The Amur Leopard (*Panthera pardus orientalis*) suffered a similar fate. In turn, the wild boar (*Sus coreanus* Heude), its main predators happily reduced, prospered in the Chosŏn and colonial eras to become the bane of Korean farmers.

Domestic animals, as well, helped tilt forest cover toward pine dominance. Unlike medieval western European farmers, pre-industrial Koreans did not raise pigs in woodland areas. Pigs released into forests tend to root out and spread acorns, and accordingly, support oak coverage. The great oak forests of Western Europe are by-products of centuries of foraging pigs. Koreans, on the other hand, tended to keep their most valuable work animal, the cow, close to fields so that the urine and manure could be cycled into fertilizer. The one domestic animal that did graze in Korea's forests, the horse, enjoys a wide diet of shrubs, grasses, and young deciduous trees, but it generally avoids young coniferous trees such as pines. Just as in eastern North America in the nineteenth century, "pasture pine," dense pine-dominant stands, emerged over old horse ranches along the Korean peninsula's southern littoral.

My environmental treatment of Korea's past is greatly aided by ecological studies and geographies published in Korean and English. In addition in the past decades, a growing corpus of English-language scholarship has begun analyzing Korea's modern environmental history. David Fedman has produced an exemplary study of Japanese forestry in colonial Korea.³⁸ As of now however, there is no major English-language scholarship centered on Korea's pre-industrial environmental past. Conrad Totman has written a comparative environmental history of pre-

³⁷ For more analysis of the tiger in Korea's environmental history, see Joseph Seeley and Aaron Skabelund, "Tigers – Real and Imagined – in Korea's Physical and Cultural Landscape," *Environmental History* 20 (2015): 475-503.

³⁸ David Fedman, "The Saw and the Seed: Japanese Forestry in Colonial Korea, 1895-1945" (Ph.D. diss., Stanford University, 2015)

industrial Korea and Japan, but the work is hampered by his lack of access to Chosŏn-era primary sources and Korean-language secondary scholarship.³⁹

In South Korea, the term “environmental history” (*hwan'gyŏngsa*) has only recently become part of the historiographical discourse. Though environmentally-centered historical studies are still few, Korean-language scholarship has tackled numerous forest-related issues from the perspectives of social history and anthropology. Kim Tongjin has produced a recent study of Chosŏn's environment as well as exemplary histories of the Korean tiger.⁴⁰ Kim Sŏn'gyŏng and Kim Kyŏngsuk have thoroughly analyzed changing patterns of forest-usage rights and forest-related lawsuits in Chosŏn Korea.⁴¹ Most importantly, a wide range of Korean historical ecologists, botanists, geographers, and architectural historians have researched the impact of human action on Korea's environment.

Environmental-historical arguments of decidedly Malthusian flavor have been broached by a school of economic historians known as the “Naksŏngdae School,” after their eponymous research institute. These scholars' research is primarily concerned with a salient question – why did the Chosŏn dynasty decline and fall? The Naksŏngdae scholars argue that Korea's nineteenth-century decline stemmed from severe economic problems, including falling

³⁹ Conrad Totman, *Preindustrial Korea and Japan in Environmental Perspective* (Leiden: Brill, 2004).

⁴⁰ Kim Tongjin, *Chosŏn ūi saengt'ae hwan'gyŏngsa* [An Environmental History of Chosŏn Korea] (Seoul: P'urŭn Yŏksa, 2017); *Chosŏn chŏn'gi p'oho chŏngch'aek yŏn'gu: nongji kaegan ūi kwanjŏm esŏ* [A study of tiger hunting policy in the early Chosŏn era from the perspective of land reclamation] (Seoul: Sŏnin, 1998); Kim Tongjin, “16 segi samnam ūi p'ohop'i cheyŏk kwa pangnap ūi wisang: Mukjche ilgi rŭl chungsim ūro [The status of exemption payments in tiger and leopard furs and tribute contracting in the southern provinces during the sixteenth century: with focus on the Mukchae ilgi]” *Chibangsa wa chibang munhwa* 16:2 (Nov. 2013)

⁴¹ Kim Sŏn'gyŏng. “Chosŏn hugi sansong kwa sallim soyugwŏn ūi silt'ae [Gravesite lawsuits and the conditions of forest usufruct rights in the late Chosŏn era]” *Tongbang hakchi* 77-78-79 (1993); Kim, Sŏn'gyŏng. “17-18 segi yangbanch'ŭng ūi sallimch'ont'aek sajŏm kwa unyŏng [Yangban monopolization and management of *sallimch'ŏntaek* in the seventeenth and eighteenth centuries]” *Yŏksa yŏn'gu* 7 (2002); Kim Kyŏngsuk, *Chosŏn ūi myoji sosong* [Gravesite lawsuits in the Chosŏn dynasty] (Seoul: Munhak tongne, 2012)

productivity, incomes, and wages.⁴² Some of the scholars, notably Yi Uyŏn, have further attested that these economic problems had roots in widespread deforestation. The bare and denuded hillsides of late Chosŏn Korea, according to this argument, engendered landslides and lowland flooding that only added to the simmering rural unrest of the nineteenth century.⁴³

While I do not necessarily disagree with the Naksŏngdae School's conclusions, I want to make clear that my dissertation is not a direct inquiry into *why* the Chosŏn dynasty stagnated or declined. Rather, I want to comprehend *how* state forestry developed with the emergence and expansion of the Chosŏn state from the fifteenth through the eighteenth centuries. Thus, my dissertation adds further insight into the primary vehicle of Chosŏn forestry: the state.

Anatomy of the Brokered State: Situating the State in Chosŏn Forestry

In Chosŏn historiography, perhaps the only generally accepted judgment is that the dynasty underwent problems after 1800. Perspectives on what happened beforehand remain varied; as Eugene Park notes, “there is still no comprehensive paradigm that explains the local history in all parts of the late Chosŏn countryside.”⁴⁴ The internal development school of Kim Yongsŏp has unearthed a vast array of changing social dynamics in late Chosŏn society but tends to emphasize a path of upheaval, progress, and “sprouts of capitalism.”⁴⁵ In North America, James Palais has characterized the Chosŏn order as an “aristocratic-bureaucratic balance,” that is,

⁴² *Suryang kyŏngjesa ro tasi pon chosŏn hugi* [A Cliometric Re-examination of the Late Chosŏn] ed., Yi Yŏnghun (Seoul: Seoul Taehakkyo ch'ulp'anbu, 2004).

⁴³ Yi Uyŏn “18-19 segi sallim hwangp'ye wa nongŏp saengsansŏng [Deforestation and Agricultural Productivity in Korea during the 18th and 19th Centuries]” in *Suryang kyŏngjesa ro dasi pon Chosŏn hugi*, Yi Yŏnghun, ed. (Seoul: Seoul Taehakkyo chulp'anbu, 2004); Yi Uyŏn, *Hanguk ūi sallim soyujedo wa chŏngch'aek ūi yŏksa, 1600-1987* [A history of Korean forest usage institutions and policies, 1600-1987] (Seoul: Ilchogak, 2007).

⁴⁴ Eugene Park, “Military Examinations in Late Chosŏn: Elite Substratification and Non-Elite Accommodation.” *Korean Studies* 25:1 (2001): 23.

⁴⁵ Michael D. Shin, “Introduction,” in *Landlords, Peasants and Intellectuals in Modern Korea*, eds. Pang Kie-Chung and Michael D. Shin (Cornell University East Asia Series, 2005), 6-14.

a ruling elite marked by hereditary ascription but additionally defined by service in the central bureaucracy. By limiting the entrance of political newcomers and checking any emergence of pure nobility or royal despotism, this aristo-bureaucratic hybrid, Palais argues, maintained Chosŏn's "remarkable stability" without application of major structural reforms.⁴⁶

While Palais's theory aptly describes the workings of the capital ruling elite, it overlooks another important interaction – that between the center and the localities. I argue that from the early sixteenth century to the end of Chŏngjo's reign in 1800, a period we can call the "High Chosŏn" era, interaction between center and locality on the Korean peninsula was increasingly mediated through an array of brokers. I refer to the trend as *the rise of the brokered state*. By "state," I mean not only the capital-based government (the court, the central bureaucracy, the capital-based military) but also the wider administrative apparatus represented by magistrates, clerks, and military officials in the countryside. Together, the central government and its local arms fit Max Weber's definition of the state as an organization that monopolizes legitimate physical force over a given territory. Moreover, the Chosŏn bureaucracy served as a mechanism for what Pierre Bourdieu refers to as "the symbolic violence over a definite territory."⁴⁷ By instilling the need for "proper" rituals and "correct" gender roles, establishing "orthodox" interpretations of scholarship, and demarcating jurisdictional authority over key resources and their distribution, the Chosŏn state realized itself not just in the king and his ministers but also in social and mental structures, in the aspirations of the upwardly mobile, in the workaday distribution of goods and currency.

⁴⁶ James Palais, "Confucianism and the Aristocratic/Bureaucratic Balance in Korea." *Harvard Journal of Asiatic Studies* 44:2 (Dec., 1984), 427-468.

⁴⁷ Pierre Bourdieu, Loic J. D. Wacquant, and Samar Farage, "Rethinking the State: Genesis and Structure of the Bureaucratic Field," *Sociological Theory* 12 (1994): 3.

The rise of this particular blend of bureaucratic and cultural order, however, required a departure from previous trends in Korean history. The process required a vast array of brokers, intermediaries who could fulfill the government's needs. In Chosŏn, such brokerage was provided by a wide range of local elites, middlemen, administrators, and soldiers who managed and intermediated increasingly complex links between Seoul and the provinces.

I use the term “brokered state” to further distinguish the High Chosŏn era from the patrimonial centralization of Korea's medieval period, the Koryŏ dynasty (918-1392). Historical sociologist Charles Tilly used the term “patrimonialism” to define the tribute and feudal levy-based regimes that predominated in Europe until the fifteenth century. Tilly then applied the term “brokerage” to describe the subsequent period between “roughly 1400 to 1700 in important parts of Europe” when “rulers relied heavily on formally independent capitalists for loans, for management of revenue-producing enterprises, and for installation and collection of taxes.” The transition from patrimonial to brokered states was tantamount to European state formation – a process, according to Tilly, made possible by the changing “stakes of war.” The medieval pattern of patrimonial extraction transitioned to territorialized brokerage as “closely administered territories became assets worth fighting for, since only such a territory provided the revenues to sustain armed force.”⁴⁸

The Chosŏn context was somewhat different. In comparison to western Europe, Chosŏn bureaucracy extended far more formally into the countryside from an earlier date. There was little to no feudal legacy; local warlordism was not an issue after the early Koryŏ era. Local elites, military officials, and lower-level clerks, rather than merchants, were far more important to the functioning of Chosŏn state. Long periods of international peace overruled the state-building

⁴⁸ Charles Tilly, *Coercion, Capital, and European States, AD 990-1990* (Oxford: Oxford University Press, 1990), 29.

exigencies of wartime. Yet, the vocabularies of patrimonialism and brokerage remain useful. Karen Barkey reinterpreted Tilly's concepts in the context of the early modern Ottoman Empire to produce an exemplary study of how the Ottoman state incorporated networks of nomads, soldiers, and local notables.⁴⁹ Scholars of late imperial China, likewise, have meticulously detailed how imperial officials and local elites collaborated to broker state interests, developing what Prasenjit Duara calls a "cultural nexus of power" through which the imperial state could use various channels - temples, market networks, kinship groups, patron-client relationships – to reach into local communities.⁵⁰

Amidst the unreliable infrastructure and incomplete information that bedeviled pre-industrial Eurasia, middlemen and intermediaries were essential tools of governance. Research on societies as disparate as ancient Egypt, the Roman Empire, and early modern France has highlighted the critical role played by local elites, tribal chieftains, tax farmers, and military garrisons in cementing central rule and facilitating the wider dissemination of goods and information.⁵¹ South Korean historiography likewise has highlighted the rise of assertive local elites, particularly the so-called *sarim* faction in the sixteenth century, as a key turning point away from the centralizing tendencies of the dynasty's founding elites.⁵² Economic historians of

⁴⁹ Karen Barkey, *Empire of Difference: The Ottomans in Comparative Perspective* (Cambridge, UK: Cambridge University Press, 2008), 1, 10, 14-15.

⁵⁰ Prasenjit Duara, *Culture, Power, and the State: Rural North China, 1900-1942* (Stanford: Stanford University Press, 1988), 15-40

⁵¹ An illustrative recent study is *Fiscal Regimes and the Political Economy of Premodern States*, eds. Andrew Monson and Walter Scheidel (Cambridge, UK: Cambridge University Press, 2015).

⁵² Michael Shin, ed., trans., Edward Park, co-trans., *Everyday Life in Joseon Korea: Economy and Society* (Leiden: Brill, 2014), 12-13.

Korea have put forth detailed studies of the middlemen brokers such as the merchants who facilitated the expansion of the late Chosŏn economy.⁵³

However, such studies have been largely descriptive: at most, they highlight the broker's role in the functioning of a larger political or fiscal system. I propose to go small step further. The broker in the High Chosŏn era was not simply a cog in a web of state institutions – he constituted the very matter of the web that was the High Chosŏn state. Local elites, notably the *yangban* stratum,⁵⁴ disseminated, articulated, and practiced the dominant cultural ethos, notably Confucianism, and rendered them synonymous with the Chosŏn cultural order and the state's very legitimacy. Clerks, military officials, and tribute merchants distributed the resources that underpinned the state's revenue and security. The array of brokers who arose in the High Chosŏn distinguish the era and inscribe it in the *longue durée* between the medieval patrimonialism of the Koryŏ dynasty (918-1392) and the era of crisis and reform after 1800.

What Chosŏn experienced between the early sixteenth century and 1800 was not decentralization. The state did not “lose control.” Rather, brokered interactions between center and local changed and reshaped the nature of the state. The mechanisms of developing and imposing political, social, and economic norms required the involvement of various elements that had not been nearly as significant or robust before the sixteenth century. The brokered state

⁵³ For an English-language work, see Owen Miller, “The silk merchants of the Myonjujon: guild and government in late Chosŏn Korea” (PhD diss., School of Oriental and African Studies, University of London, 2007). For Korean language, see Kang Man'gil, *Chosŏn sidae sanggongŏpsa yŏn'gu* [A History of Mercantile Activity in the Chosŏn Era] (Seoul: Han'gilsa, 1984); Ko Tonghwan, *Sŏul sanŏp paltalsa yŏn'gu* [The Development of Commerce in Late Chosŏn Seoul] (Seoul: Chisik sanŏpsa, 2002).

⁵⁴ The *yangban*, literally meaning “two orders,” were the elite stratum of Chosŏn society and politics, their proportion of the population being in the range of ten percent during the late Chosŏn period. *Yangban*, nominally, were all state examination passers, upper bureaucrats, and their kin and descendants, as well as country families who engaged in Confucian practices and education and could claim some sort of *yangban* descent. From the seventeenth century onward, certain *yangban* lineages would dominate important positions in central politics, while the majority of their status-group compatriots lived in the provinces. There, through powerful organizations and state-sanctioned privileges such as exemption from military service, they would dominate local social and economic life through the end of the dynasty.

arose after the turmoil of Yönsangun's reign (1494-1506) and concluded with a century of increasing stability, population growth, and cultural and economic efflorescence, an era that built much of the popular imagination of what constitutes "traditional Korea." Hence, it is appropriate to term this period as the High Chosön era, in the same way the years 1001 to 1300 are termed the "High Middle Ages" for Europe and the period from the late seventeenth century to the end of Qianlong's reign in 1796 is termed the "High Qing era" in Chinese history. Culturally and ideologically, the High Chosön was the era when Confucian beliefs and practices permeated the Korean peninsula. At the institutional level, brokered administration was the High Chosön's state's *modus operandi*, its mechanism for expansion and its basis for enduring stability.

The rise of the brokered state between early sixteenth century and 1800 can be observed in four salient trends: one, the rise of local elites as key cultural and economic brokers in the sixteenth century; two, the growing role of local status-group, academic, and kinship organizations; three, the expanding functions of clerks and local military garrisons; and four, the increasing role that local brokers played in managing resources meant for state use (*kukyong* 國用) after 1600. The rise of local elites in the sixteenth century engendered a symbiotic relationship between themselves and the government. Local elites required state sanction to maintain their status and privileges; the state required local elite assistance to rule the country. After the devastating Hideyoshi invasions (1592-1598) and Manchu incursions of 1627 and 1636, the government utilized clerks, military officials, and similar local bureaucratic organs to reassert control over a devastated countryside. Thus, the brokered state was the effect of a two-tiered process beginning with the mounting prominence of elites in the early sixteenth century and intensifying after 1600 as a widening array of military officials, clerks, and other lower-level officials brokered the links between capital and countryside.

State forestry provides an excellent prism into the rise of the brokered state in Korean history. The new Chosŏn regime in the fifteenth century was built upon an ambitious program of centralized power that included Korea's first major state forestry system. However, without the necessary brokers, fifteenth-century ambitions fell to pre-industrial infrastructural realities. By the sixteenth century, a new stratum of local elites was spearheading land reclamation and tiger-hunting initiatives for the state, and when needed, monopolizing forest resources for their own use. After the Imjin War, an expanded array of military garrisons helped strengthen the state forestry along the western and southern coasts and even expanded it into the island zones. The government even brought Buddhist monasteries into the state forestry system, ordering monks to protect forests along the coasts and in remote mountains. By the eighteenth century, commercialization had taken off in Seoul, and an array of lower officials and contracted merchants managed the flow of wood from the mountains of Kangwŏn province down to Seoul. The growth of state forestry relied upon not only edicts of bureaucrats but also the ability of the Chosŏn government to expand the scope of the bureaucracy to include new agents, both formal and informal.

The Three Landscapes: Methodology and Sources

Because this dissertation is going into new historiographical ground within Korean studies, I also propose a methodological template for approaching pre-industrial Korean environmental history, a template I call the "three landscapes." Certainly, pre-industrial Koreans did not have vocabulary equivalent to "environmentalism" or "sustainability." Chosŏn bureaucrats were not environmental experts; nor were their claims on forest usage underpinned by any claim to environmental expertise. What does emerge, however, in the study of Korea's pre-industrial environment are three epistemic landscapes:

1) *Cultural landscapes*: Korea has a long tradition of geomancy (K: *p'ungsu*, C: *fengshui* 風水) that still plays a key role in South Korea to this day. Geomancy involves the interpretation of signs and topography to select auspicious sites for habitation. In the Chosŏn era, it was essential for picking gravesites and even interpreting life events. Geomantic interpretations also had severe political implications; interpretations of natural phenomena could be used to justify purges and rebellions. Geomantic sources as well as painting, poetry, and literature provide insights into how pre-industrial Koreans inserted the environment into a certain cultural context.

2) *Institutionalized landscapes*: The primary subject of this dissertation is state forestry, that is, a sylvan space that was managed by the Chosŏn state and its agents. The state forest is an example of an institutionalized landscape, a space whose nomenclature and usage are regulated through law or edict. Institutionalized landscapes are well-represented in the archives of the Chosŏn era. The Chosŏn government kept detailed court records that laid out the minutiae of policy proposals, debates, and reports from the provinces. Government maps, surveys, and gazetteers provide additional insight into the how the environment, from forests to farms and water, was organized according to the eyes of the state.

3) *Utilized landscapes*: One can see a tree in a painting or read about the government's need for forests – but how was wood used in everyday life? The high forest of timber was not the priority of the average Chosŏn Korean; nor were geomancy and poetry workaday concerns. The use of forests for fuel, farming, grazing, and food is a fundamental aspect of pre-industrial life, an aspect that Chosŏn state in turn sought to control and delimit around its state forest zones. The utilized landscape, the environment as materially used in variegated ways on the ground, is fundamental to understanding the formation of state forestry and the resultant byplay between

the government and governed. The utilized landscape appears in Chosŏn-era sources such as diaries (*ilgi* 日記), literati treatises, and agricultural manuals (*nongsŏ* 農書).

Chapter Organization

In my first chapter, “Landscapes Interpreted and Institutionalized: The Rise of State Forestry on the Korean Peninsula, 918-1471,” I trace the development of state forestry on the Korean peninsula from its geomantic origins the Koryŏ era to the resource-driven, institutionalized landscapes of the Chosŏn dynasty (1392-1910). I trace a distinctive shift in the relationship between state and forest. From Koryŏ to Chosŏn, the narrative of state forestry shifts from *interpreted* landscapes of portentous trees to *institutionalized* landscapes of managed timber forests. In the state records of the Koryŏ dynasty, trees appear far more commonly as allusions and interpretive signifiers than as components of a legally defined space. Only in the Chosŏn dynasty did forests broadly proliferate in government records as managed spaces denied to the general populace and subject to “state use” (*kugyong* 國用). The key mechanism for the shift, I argue, was the development of a more expansive central bureaucracy in the early Chosŏn era capable of protecting pine timber for government needs such as shipbuilding and edifice and coffin construction.

In my second chapter, “Between Tigers and Timber: The State, Forests, and Local Realities, 1471-1592,” I address the consequences that Chosŏn forestry policies wrought in the late fifteenth and sixteenth centuries. I argue that the Chosŏn government was forced to accommodate local practices that it had previously discouraged. For instance, earlier in the dynasty, the state banned private hunting, swidden, and logging in restricted game reserves (*kangmujang* 講武場). By the early sixteenth century however, the state began to prioritize land reclamation over expensive hunting excursions and military exercises, and accordingly, the

government opened up game reserves to logging and even swidden. Meanwhile, local elites increasingly found ways to guarantee legal protection over their own private forests (*sasan* 私山), particularly by establishing tomb sites in woodland areas and assigning private slaves to guard them as wardens. State forestry in this period had to accommodate pre-existing and emerging practices, thus reflecting the growing complexity of Chosŏn local society as well as growing challenges to state forestry.

Chapter 3, “Intense Conflict and Intensive Rehabilitation: State Forestry in a Postwar Landscape, 1592-1684,” explains why the Chosŏn government and the military in particular expanded state control over forests in the seventeenth century. From 1592 to 1598, the Chosŏn dynasty suffered invasions from Japan that displaced much of the Korean population and devastated the economy and environment. The crucial role of the navy during the war, along with a dire postwar situation, heightened government anxieties about deforestation and timber scarcity. Thus, in the seventeenth century, the Chosŏn government expanded administration over forests, particularly pine forests, across the coasts and islands of southwestern Korea. The key vehicle for the expansion was the military. Due to wartime and postwar exigencies, the military became the late Chosŏn state’s primary organ for management of wood resources for state purposes.

New state forests were established along the coast and in inland riverine areas. Former state ranches (*mokchang* 牧場) were transformed into state forests called Reserved Forests (*pongsan* 封山) and Pine Fields (*songjŏn* 松田). I argue that the post-Imjin expansion of state forests was motivated by broad military, political, and environmental concerns. Government officials worried about dwindling supplies of timber for warships and edifices. The rise of vagrancy and the spread of new social practices such as gravesite burial further deepened

government anxieties about wood shortages. Accordingly, the expansion of state forestry was the late Chosŏn state's solution to a perceived postwar crisis.

The fourth chapter, "The Challenges of Growth: State Forestry in the Changing Society of Eighteenth-Century Korea," examines the impact of commercialization and economic change on the state forestry system. The rise of private shipbuilders and timber merchants in Seoul complicated the enforcement of the state forestry throughout the peninsula. Moreover, rising demand for products such as salt diversified the usage of Chosŏn forests. Intruders increasingly violated state forests, particularly those along coast, to cut wood for salt kilns. In response, the Chosŏn government intensified the management of forests around Seoul and in the southwest. In mountain regions, new laws incorporated monks into the state forestry system as wardens and laborers. Massive new projects such as the construction of Hwasŏng fortress engendered new forestry and afforestation efforts.

The final chapter, "For Whom the Tree Falls: Local Alternatives and Critiques of Forest Management in Late Chosŏn Korea," analyzes the diverse array of forestry and wood utilization practices that developed in eighteenth and nineteenth-century Korea. At the local level, alternative forms of forest management such as the Pine Protection Association emerged. Agricultural manuals and diaries reveal the wide spectrum of forest usage patterns in late Chosŏn society that emerged outside of the timber-centric interests of the state. The dissertation ends with a view of Chosŏn state forestry's decline and fall in the nineteenth century through the lens of a local Korean literati and Japanese colonial scientists.

Chapter One

Landscapes Interpreted and Institutionalized: The Rise of State Forestry on the Korean Peninsula, 918-1471

Trees, particularly pine trees, and the fate of Korean regimes have long been intertwined. Sometime in the eighth century, an official with a penchant for geomancy named Kim P'alwŏn was trekking through Puso Mountain near present-day Kaesŏng. Observing its denuded slopes, Kim made a grand prophecy to a local man named Kangch'ung: whoever planted enough pines on the mountain to cover its rocks would produce the unifier of the Korean peninsula. Kangch'ung accordingly planted pines along Puso Mountain's southern slopes. The mountain was renamed Songak (松嶽), meaning "Pine Ridge," and around this site would arise Kaesŏng, the capital of the Koryŏ dynasty (918-1392), a dynasty started by none other than Kangch'ung's great-great grandson, Wang Kŏn (877-943).¹

The veracity of the story is suspect, as it is part of a fabricated genealogical preface meant to legitimize Wang Kŏn's rule. Nonetheless, the anecdote's content remains notable. Planting trees, moving settlements, and creating a new dynasty underlie the legitimating power of geomancy. Control of the environment, in the form of planting trees and preventing mountainside erosion, is coupled with an auspicious prophecy legitimating both the ruler and the site of his capital.² Even nomenclature was affected: for centuries thereafter, Kaesŏng would be alternatively called Songdo (松都), the "City of Pines."

¹ The anecdote is from the "Royal Genealogy" (*Koryŏ sega* 高麗世家) section in the *Koryŏsa* [The History of the Koryŏ Dynasty], hereafter referred to as KRS. See also Michael Rogers, "P'yŏnnyŏn T'ongnok: The Foundation Legend of the Koryŏ State" *The Journal of Korean Studies* 4 (1982-1983), 6-7.

² Remco Breuker, "Mountains and Streams: Architecturalizing Landscapes in Medieval Korea" in *Architecturalized Asia: Mapping a Continent through History*, eds., Vimalin Rujivacharakul, et al. (University of Hawaii Press, 2014): 55-57.

In this chapter, I trace the development of state forestry on the Korean peninsula from its geomantic origins in the Koryŏ era to the resource-driven, institutionalized landscapes of the Chosŏn dynasty (1392-1910). I trace a distinctive shift in the relationship between state and forest. From Koryŏ to Chosŏn, the narrative of state forestry shifts from *interpreted* landscapes of portentous trees to *institutionalized* landscapes of managed timber forests. In the state records of the Koryŏ dynasty, trees appear far more commonly as allusions and interpretive signifiers than as components of a legally defined space. Only in the Chosŏn dynasty did forests broadly proliferate in government records as managed spaces denied to the general populace and subject to “state use” (*kugyong* 國用). The key mechanism for the shift, I argue, was the development of a more expansive central bureaucracy in the early Chosŏn era capable of protecting pine timber for government needs such as shipbuilding and edifice and coffin construction.

This chapter asks and answers a question essential to the rest of the dissertation: why did the Chosŏn state, from its very beginnings, so vigorously protect pine forests? The answer lies in what came before, in the transition from the very different relationship between state and forest that existed in the early-to-mid Koryŏ era. The shift from interpreted to institutionalized landscapes began in the thirteenth century when the Mongols invaded and occupied parts of the Korean peninsula, a cataclysm that forged a critical early link between warfare, state authority, and forest exploitation. Even after the Mongols retreated from the peninsula in the fourteenth century and Koryŏ fell into decline and turmoil, elements within the court and central bureaucracy pushed for stricter regulation of forest resources. The subsequent Chosŏn regime expanded state control over forests across the Korean peninsula in order to ensure the new dynasty’s military, political, and cultural interests. The state’s survival and expansion became wedded to warships, palaces, and coffins. Their main source, the pine, thus remained tied to

dynastic survival, just as it had been in the Koryŏ era. However, whereas trees had largely served the state as portents and signifiers in the Koryŏ era, the Chosŏn government would transform pine forests into resources to be protected and exploited by a far-reaching bureaucracy.

Trees and Forests as Part of the Koryŏ Interpreted Landscape, 918-1392

From the perspective of the Koryŏ state,³ trees (*mok* 木) were part of the “mountains and streams (*sansu* 山水), a Koryŏ-era term which Remco Breuker astutely translates as “landscape.”⁴

Landscapes, according to the dominant Koryŏ-era view, were full of environmental factors that informed Koryŏ understandings of themselves, of current events, and the future. Human events, in turn, informed how landscapes were conceptualized.⁵ A misshapen tree could be interpreted as “rotten” and correlated to disasters such as plagues of rats and the mass death of chickens.⁶ Political turmoil could coincide with reports of frost, floods, and landslides; terrestrial damage could be interpreted as tantamount to social chaos or even collapse of the state.

Koryŏ politics and culture were woven into a pluralist array of Buddhist, geomantic, Confucian, and shamanistic ideas. As Sem Vermeersch has noted, there are very few records about how Koryŏ policy “was understood or practiced outside a small circle of aristocrats based in the capital.”⁷ Our understanding of the Koryŏ sylvan environment thus relies heavily on records left by state and religious institutions and the recorded system of beliefs.

³ In this chapter, I define the “state” as the combination of the royal court and top officials and generals in the capital and government-associated administrative institutions in the capital and provinces. I separately use the term “central government” when I specifically denote the royal court and capital-based officials.

⁴ Remco Breuker, “Mountains and Streams,” 54.

⁵ Remco Breuker, *Establishing a Pluralist Society in Medieval Korea: History, Ideology and Identity in the Koryŏ Dynasty* (Leiden: Brill, 2010), 378.

⁶ KRS 54:8, *ohaeng*.

⁷ Sem Vermeersch, *The Power of the Buddhas: The Politics of Buddhism during the Koryŏ Dynasty* (918-1392). (Cambridge, MA: Harvard University Press, 2008), 5.

Koryŏ-era beliefs included correlational understandings of change in which trees played a crucial role. Central was the concept of the Five Elements of geomantic correlative cosmology, of which wood was third in cosmological order.⁸ Geomancy informed these correlations, and they are crucial to any understanding of Koryŏ-era Koreans and their forests. Geomancy was prevalent in Koryŏ state responses to what we would now call “environmental” issues. Koryŏ-era geomancy was a “professional technology” that managed landscapes via explication.⁹ It chose the sites of cities and graves, gave meaning to (or forced meaning onto) current events, and portended the ever-uncertain future. Most importantly, geomancy helped legitimize a Koryŏ state built on bloody foundations.

Trees were part of this interpreted landscape. Yet there was another side to the sylvan world of Koryŏ: the categories of forest (*sallim* 山林) and woodland (*si* 柴). Sylvan categories, for the most part, are interpreted and imagined. There is no static, “natural” group for an individual human to belong to; likewise, there is no natural population for a tree to belong in. In the Koryŏ state record, a tree is an individual type such as pine or bamboo or the tree is part of dense floral ecosystem deemed important enough to document. These ecosystems are left in the Korean historical record as either woodland, *si* 柴, a low-density environment of shrubs and smaller trees used by humans for firewood or animal grazing, or forests, *san* 山 and *im* 林, the more high-density sylvan environments marked by larger trees and higher canopies. Forests and woodland may have held vibrant pools of vegetation and animal life, but they are also conceptual categories representing resources organized by institutions for a purpose.

⁸ “Of the five elements, wood is third.” KRS 54:8, *ohaeng*.

⁹ Breuker, “Mountains and Streams,” 55.

The very notion of “forest” reflects human delimitation and planning. According to French historian Roland Bechman, “the word evokes a decision, a human decision, a zoning choice; it is a space whose vocation was imposed.”¹⁰ Trees, on the other hand, can be more directly defined as an economic resource or cultural symbol. As Mark Elvin has argued in his environmental history of China, “trees were ... part of the rich world of rhetoric and allusion in late-archaic and early classical China. But not forests.”¹¹ A tree was a particular economic or cultural resource for any early agrarian state; a forest was wooded land to be cleared or cordoned off.

Because control of the landscape was so tied to the Koryŏ state’s legitimacy and worldview, the government regularly recorded tree-related phenomena.¹²

Table 1: Major tree-related phenomena recorded in the Koryŏsa

Year	Description
938	A fallen Pagoda Tree in the palace courtyard righted itself.
973	Entwined trees appeared in Ch’ungju. (Entwined trees 連理木 were regarded as symbols of eternal love).
1016	A withered pine revived itself within a year.
1022	In the tenth lunar month, a major rainstorm brought winds that knocked down trees. The rain would not stop so a rain relief ritual (<i>kich’ŏng</i>) was ordered.
1025	Two Ardisia trees were sent up from Posŏng.
1027	An Ardisia sent up from Yŏnggwang is reported as being two meters tall and having 81 branches.
1100	In the fifth lunar month, Major pine infestation. [Breuker blog]
1110	In the second lunar month, rainfall led to frost forming on trees.
1111	The cherries of a tree in front of the Chancellery of State Affairs (<i>Chungsŏmunhasŏng</i>) were found to be as large as ginkgos but empty inside and lacking seeds.

¹⁰ Roland Bechmann, *Trees and Man: The Forest in the Middle Ages*, trans. Katharyn Dunham. (New York: Paragon House, 1990), 14.

¹¹ Mark Elvin, *The Retreat of the Elephants: An Environmental History of China* (New Haven, CT: Yale University Press, 2004), 48.

¹² KRS 54:8, *ohaeng*.

1122	In the seventh lunar month, pines infested by pests. Monks were sent to pray for seven days
1138	A commoner household in Kōch'ang had a fallen pear tree right itself. Its leaves and branches sprouted once again.
1138	A fallen oak tree in Hwanggan righted itself.
1138	A fallen tree in Ian righted itself.
1138	In the eleventh lunar month, frost formed on trees.
1141	Just south of Myot'ong temple, a Sacred Fig made a noise like a leopard.
1151	In the eighth lunar month, there was another pine infestation. Subsequent report stated that infested, bare trees would muddle governance and bring chaos to the world.
1152	In the twelfth lunar month, frost formed on trees.
1155	In the first lunar month, frost formed on trees.
1155	In the first lunar month, frost formed on trees.
1156	In P'ungju, pests were eating pine leaves. An altar was set up to exorcise them.
1157	In the first lunar month, two reports of frost forming on trees.
1160	In the tenth lunar month, frost formed on trees.
1161	In the first lunar month, frost formed on trees.
1164	In the eleventh lunar month, frost formed on trees.
1165	Just north of the P'yōngyang military headquarters, an elm tree cried for over ten days.
1167	In the first lunar month, frost formed on trees.
1202	In the second lunar month, frost formed on trees.
1208	In the second lunar month, frost formed on trees.
1213	In Paekchu, a fallen tree righted itself.
1223	Insects were devouring pine leaves.
1224	Pine infestation near Anhwa Temple in Kaesōng.
1229	In the first lunar month, two reports of frost hitting trees.
1234	In the twelfth lunar month, frost formed on trees.
1235	In the first lunar month, two reports of frost forming on trees.
1243	In the first lunar month, frost formed on trees.
1246	In the tenth lunar month, frost formed on trees.
1251	In the tenth lunar month, frost formed on trees.
1252	In the eleventh lunar month, frost formed on trees.
1254	Three reports of frost forming on trees.
1258	In P'yōngsan, a fallen tree righted itself.
1260	In the first lunar month, frost formed on trees.
1261	In the first lunar month, frost formed on trees.
1263	Two reports of frost forming on trees.
1268	In the eleventh lunar month, frost formed on trees.
1270	In the twelfth lunar month, frost formed on trees.
1275	Insects were devouring pine leaves.
1278	In the eleventh lunar month, frost formed on trees.
1279	In the first lunar month, frost formed on trees.
1280	Three reports of frost forming on trees: one for the first lunar month, and two for the

	eleventh lunar month.
1281	In the eleventh lunar month, frost formed on trees.
1285	In the first lunar month, frost formed on trees.
1289	In the first lunar month, frost formed on trees.
1293	In the fifth lunar month, all fruits fell off their trees.
1294	In the twelfth lunar month, frost formed on trees.
1305	In the eleventh lunar month, rainfall led to frost forming on trees.
1308	Two reports of rainfall leading to frost on trees: one in the first lunar month, another in the second lunar month.
1310	In the twelfth lunar month, two reports of rainfall leading to frost on trees. In one case, the frost lingered on the trees for two straight days.
1317	In the twelfth lunar month, two reports of frost forming on trees.
1321	In the first lunar month, frost formed on trees.
1322	In the ninth lunar month, frost formed on trees.
1324	In the first lunar month, frost formed on trees.
1328	In the eleventh lunar month, frost formed on trees.
1330	In the eleventh lunar month, frost formed on trees.
1333	Pine infestation.
1335	In the second lunar month, rainfall led to frost forming on trees.
1337	In the first lunar month, rainfall led to frost forming on trees.
1339	A ginkgo tree in front of the main courtyard suddenly fell. Two reports of frost forming on trees: one in the tenth lunar month, another in the twelfth lunar month.
1341	Two reports of frost forming on trees: one in the second lunar month, the other in the twelfth lunar month.
1344	Three reports of frost forming on trees: one in the first lunar month, two in the second lunar month.
1345	In the first lunar month, two reports of frost forming on trees.
1346	In the eleventh lunar month, frost lingered on trees for two straight days.
1347	In the first lunar month, frost formed on trees.
1349	In the first lunar month, two reports of frost forming on trees.
1352	In the second lunar month, frost formed on trees.
1353	In the ninth lunar month, insects were eating pine leaves. In the eleventh lunar month, frost formed on trees along with a fog so heavy that people and things could not be told apart.
1354	In the first lunar month, two reports of frost forming on trees. In the sixth lunar month, insects were eating the pines so there were orders to catch them. In the twelfth lunar month, frost formed on trees.
1356	Insects were eating pines so there were orders to catch them.
1357	Two reports of frost forming on trees: in the ninth lunar month and the tenth lunar month.
1358	Two reports of frost forming on trees: in the tenth lunar month and the eleventh lunar month.
1359	In the sixth lunar month, frost formed on trees.
1361	Report of tree infestation. In the eleventh lunar month, rainfall led to frost forming on trees. In the twelfth lunar month, frost formed on trees.

1362	In the second lunar month, frost formed on trees for three straight days.
1364	Insects were eating pine leaves.
1365	In the eleventh lunar month, two reports of frost forming on trees.
1366	In Kangdong, all of the peaches on a tree only had one side covered in fuzz. Near Tansok Temple in Chinju, a fallen pine tree righted itself.
1369	Two reports of frost forming on trees: one in the tenth lunar month, another in the twelfth lunar month.
1371	In the second lunar month, frost formed on trees.
1372	Two reports of frost forming on trees: one in the eleventh lunar month, one in the twelfth lunar month.
1373	In the tenth lunar month, two reports of frost forming on trees.
1374	During a heavy rainstorm, fish fell from the sky.
1375	Due to heavy rain in Hanyang, both Samgak Mountain and Kukmang Peak experienced landslides.
1376	In the ninth lunar month, frost formed on trees.
1377	In the twelfth lunar month, frost formed on trees.
1378	In the eleventh lunar month, two reports of frost forming on trees.
1379	In the tenth lunar month, rainfall led to frost forming on trees.
1382	In Kūmju, there was a tree whose fruit had the texture of powder and the shape of a human hand. The villagers called the fruit “rice cakes” but their taste was nothing like a rice cake. In the tenth lunar month, frost formed on trees. In the eleventh lunar month, there were two reports of frost forming on trees. In the twelfth lunar month, frost formed on trees.
1383	In the eleventh lunar month, frost formed on trees. In the twelfth lunar month, there were two reports of frost forming on trees.
1385	In the first lunar month, frost formed on trees. In the eleventh lunar month, there were two reports of frost forming on trees.
1389	In the first lunar month, frost formed on trees. In the fifth lunar month, insects were devouring pine leaves so the Council of Generals (<i>Chungbang</i>) mobilized people from the Kaesŏng Administrative Office (<i>Opu</i>) to catch the pests. In the sixth lunar month, monks at Kusan Temple chanted the Heart Sutra and cast rituals to exorcise the pine-eating insects. From the fourth through the eighth lunar months, rain fell continuously, and mountains had landslides.
1390	In the second lunar month, frost formed on trees. In the fourth lunar month, insects were devouring pine leaves on Songak Mountain so people from the Kaesŏng Administrative Office were mobilized to catch the pests.
1391	In the fourth lunar month, insects were devouring pines leaves on Songak Mountain so people from each village and each district in the area were mobilized to catch the pests. In the twelfth lunar month, there were two reports of frost forming on trees. The first occurrence lasted three straight days. In Sŏnju, there was a large tree that withered and rotted every year. However, this year, it grew healthy again and spread its branches. The people took this as a sign of a new dynasty coming.
1392	In the fifth lunar month, insects devoured pine leaves on Songak Mountain and then devoured the pine trees around the Supreme Shrine (<i>T'aemyo</i>). This particular pine infestation had already lasted five or six years but only now had it reached the pines around the Royal Ancestral Temple.

Source: KRS 54:8, *ohaeng*

Table 2: Types and occurrences of major tree-related phenomena

Type	Number of recorded occurrences
Frost appearing on trees	107
Infestation of trees by insects	18
Fallen trees righting themselves or spontaneously reviving	10
Other strange tree-specific occurrences	10
Landslides	2

Source: KRS 54:8, *ohaeng*

There were clear material reasons to record all these: trees and wood were important for workaday purposes, as the basic construction material, chemical matter, and fuel of people high and low. Hence, the majority of recorded events were breakouts of frost on trees and pine infestations. Frost could crack trunks and branches, rendering them more vulnerable to other calamities, or it could just kill trees outright. Insects could irreparably damage whole stands. The government did recognize the economic impact of such disasters. In 988, King Sōngjong (r. 981-997) even decreed that farmers afflicted by floods, droughts, frost, or insect-related disasters would receive relief from taxes and corvée labor duty.¹³ During the Koryō dynasty's last years in the fourteenth century, reports of such disasters grew more frequent. In 1375 we even see reports of landslides afflicting the mountains around Kaesōng, perhaps due to deforestation.

However, Koryō experiences with forest management cannot be solely explained through a contemporary-sounding narrative of climatic variables, sylvan ailments, deforestation and erosion. Far more prominent was the world of geomantic interpretations and ritualized responses that pervaded Koryō approaches to the environment. When a major insect infestation afflicted pine trees around Kaesōng in 1102, the state ordered Buddhist monks to exorcise the pests by

¹³ KRS 80:34, *sikwa* 3.

chanting the Flower Garland Sutra for five days. Only later were soldiers dispatched to remove the pests.¹⁴ When another infestation hit in 1122, the government ordered monks to perform the Buddha Topknot Ritual (*Pulchŏng toryang*)¹⁵ for seven days around the infested trees.¹⁶ Throughout the dynasty, Buddhist monks performed the Buddha Topknot Ritual and similar rites to protect the state against political and environmental calamities: rebellion and invasions, droughts, floods, plagues, and infestations.¹⁷

Buddhist monks were not alone in holding such beliefs. Early Koryŏ rulers continued the Silla practice of offering sacrifices to mountain and river gods.¹⁸ The scholar-official Yi Kyubo (1168-1241) was famous for his Confucian scholarship, but he still composed prayers thanking the mountain god of Pine Peak for “supporting the whole country.”¹⁹ The same god, according to Chinese and Korean sources, supposedly had transformed the pines of Pine Peak into an army that drove away Khitan invaders.²⁰

This connection between trees and state protection has larger implications. Older Korean historiography has depicted Koryŏ Buddhism as a “State Protectionist” (*hoguk pul’gyo*) tool meant to ward off delegitimizing portents, rebellions, invasions, and any other destabilizing elements. Vermeersch, though, has convincingly argued that Koryŏ Buddhism cannot be reduced to such as a broad yet simplistic category. Koryŏ Buddhism fulfilled too wide range of cultural

¹⁴ KRS 54:8, *ohaeng*.

¹⁵ Translation of the term from Sem Vermeersch *The Power of the Buddhas: The Politics of Buddhism during the Koryŏ Dynasty* (918-1392). (Cambridge, MA: Harvard University Press, 2008), 322.

¹⁶ KRS 54:8, *ohaeng*.

¹⁷ Kim Suyŏn, “Koryŏ sidae Pulchŏngdoryang yŏn’gu [A study of the Buddhist Topknot Ritual in the Koryŏ period]” *Ihwa sahak yŏn’gu* 38 (2009).

¹⁸ Vermeersch, *The Power of the Buddhas*, 116.

¹⁹ *Ibid.*, 120

²⁰ *Ibid.*, 120

and economic functions to be simply categorized as a socio-political tool.²¹ Moreover, as Vermeersch and Brueker have pointed out and as we have seen above, Buddhism was not the sole vehicle for interpreting connections between the landscape and political affairs in Koryŏ Korea. Geomantic beliefs critically bound together political legitimacy, environmental factors, and social stability for Koryŏ people of various backgrounds.

Tree-related phenomena could even be reinterpreted in the style of geomantic prophecy to retroactively color previous events. The *History of the Koryŏ Dynasty* was compiled during the Chosŏn dynasty more than a century after Koryŏ's fall, and hence it is not surprising that the compilers highlighted certain environmental factors to legitimize the demise and rise of certain regimes, particularly their own. For instance, in 1388, a general named Yi Sŏnggye (1335-1408, r. 1392-1398) overthrew a Koryŏ monarch. Accordingly, in 1389, the state record suddenly includes an influx of environmental disasters, including infestations, floods, and landslides. With the dynasty seemingly in peril, the government dispatched people to exterminate tree-eating pests and again sent monks to exorcise these evils.²²

However, such efforts would not save the Koryŏ dynasty. In 1391, in the town of Sŏnju in what is now Pyŏngan province, a large tree that had “withered and rotted every year” suddenly “grew healthy again and spread its branches.” It was reported that the local people “took this as a sign that a new dynasty was coming.”²³ And indeed, in 1392, Yi Sŏnggye dethroned his puppet king and established a new dynasty, the Chosŏn. Interestingly the same year, insects were reported to be devouring the pine trees around the main ancestral temple of the Koryŏ royal

²¹ Ibid., 17-20.

²² KRS 54:8, *ohaeng*.

²³ KRS 54:8, *ohaeng*.

family.²⁴ Just as the dynasty's origins include a myth about a royal ancestor planting pines around the future capital, the dynasty's demise is marked by a story about insects devouring pines around the royal ancestral shrine in that same capital. The stories may seem contrived, but the connection between political and environmental fortunes remains significant. The legitimacy and power of the Koryŏ state partly rested on interpretations of a landscape of which trees were a vital node.

The Limits of Koryŏ Forest Administration

The legal dimensions of sylvan protection in the Koryŏ period are rather lacking in documentation. There exists ample information about how the Koryŏ state interpreted trees and tree-related phenomena, and as we have seen, the Koryŏ state even deployed various methods to protect trees from insects. Yet, we know comparatively little about how the Koryŏ state protected trees from far more dangerous creatures: people.

The earliest record of sylvan protection in Koryŏ Korea is from 988, the same year that King Sŏngjong had promised tax relief for victims of natural disasters. That year, Koryŏ official named Yi Yang proposed to prohibit (*kŭmji* 禁止) the killing of sacrificial livestock and felling of trees following the midpoint of the first lunar month. His motive was to reserve food and materials for major spring rituals.²⁵ Half a century later, the court seems to have confirmed the proposal; a *Koryŏsa* entry from 1030 mentions the prohibition of felling after the midpoint of the first lunar month, though the ban probably only applied to specific forests around the capital.²⁶

Around the same time, in 1012, a state record cites two classical Chinese texts – the Book

²⁴ KRS 54:8.

²⁵ KRS 47:1, Sŏngjong 3.2.7 (988). For more on the context of Koryŏ state rituals, see Vermeersch 114-6.

²⁶ KRS, *kŭmryŏng*.

of Rites (禮記) and the Record of the Grand Historian (史記) – in order to justify the protection of pines during certain seasons:

The Classic of Rites says: “To cut a tree not in the proper season is contrary to filial piety.” The Record of the Grand Historian says: “The pine and cypress are the finest of trees.”²⁷ Now we hear that people are cutting down pines and cypresses out of season. So henceforth, we will punish all those who cut pines out of season, outside of uses for the government (*kongga* 公家).²⁸

Again, this ban only applied to specific pine forests around the capital reserved for government use. These sylvan protections were meager compared to the extensive conservation programs launched during the Chosŏn dynasty, but the early precedent is still worth noting. The early Koryŏ state cordoned off and protected trees in the name of “government uses,” which included the spring rituals mentioned by Yi Yang, workaday government functions, and as will be discussed later in this section, the prebendal allotment of woodland (*si* 柴) to key officials and other elites.

In 1088, the government levied a “mountain tax” (*sanse* 山稅) on chestnuts and nut pines. Taxes in the Koryŏ period came in three varieties: lands taxes paid to the state or prebend holders; corvee labor duties; and special local products sent as tribute items to Kaesŏng. The mountain tax belonged to the third variety. Trees were to be divided based on their size into three tax grades, with the larger trees inducing a higher tax. There is no further information, however, about whose trees were to be taxed or how it would be enforced. The only record of

²⁷曾子曰：“樹木以時伐焉，禽獸以時殺焉。”夫子曰：“斷一樹，殺一獸，不以其時，非孝也。” Zengzi said, “Trees are felled and animals and killed only at the proper seasons.” The Master said, “To fell a single tree, or kill a single animal, not at the proper season, is contrary to filial piety.”

²⁸ KRS 85:39.

any mountain tax being paid is from 1342, when Kangrŭng (now Kangwŏn) province sent three thousand pinecones to Kaesŏng.²⁹

As one can see in Table 3 below, the Koryŏ state was not an overly active forest administrator. The few relevant records include the aforementioned initial bans from 988 and 1012, the mountain tax-related entries, and a few minor references from the eleventh and fourteenth centuries. There are no records of protected forests for the broad span between 1030 and 1325.

Table 3: Tree-related bans recorded in the Koryŏsa

Year	Description
No date	Punishment for anyone who cut down trees around someone's tomb. Those who cut down a small number of trees were beaten, and those who cut down a larger number were exiled.
988	A Koryŏ official named Yi Yang (?-?) proposes banning the killing of sacrificial livestock and the cutting of trees after the midpoint of the first lunar month.
1012	Government cites the Classic of Rites: "To cut a tree not in the proper season is contrary to filial piety." Cites the History: The pine and cypress are the finest of trees." Now we hear that people are cutting down pines out of season. So henceforth, we will punish all those who cut pines out of season, outside of uses for the state.
1017	The catching of fish and cutting of trees are banned around Sejang Pond and the Yongim Foothills in Hwangju.
1030	Cutting of trees prohibited after the midpoint of the first lunar month.
1325	"Forests, streams, and marshes are to be jointly utilized with the common people. Recently, powerful households have been monopolizing these lands for themselves. This should be prohibited, and the Office of the Inspector-General should prosecute trespassers."
1352	The Censorate (<i>Kamch'alsa</i> 監察司) calls for a ban on forest fires. ³⁰
1356	The government notes that aristocrats and local notables are monopolizing state tax revenues and thus depleting state revenues (國用). It then declares that forests should be placed under the authority of the Construction Office (<i>Sŏn'gongsi</i>). ³¹

²⁹ KRS 83:37, *kongbu*.

³⁰ KRS 85:39.

³¹ KRS 83:37, *kongbu*.

Why did the Koryŏ government record so many tree-related phenomena yet enforce so few tree-related laws? The answer lies in the relationship between the central government and the local socio-political order. The Koryŏ central government's ability to directly administer the provinces was rather limited. Centralization along the Tang Chinese model did accelerate during the reign of King Sŏngjong (r. 981-997); he also presided over the first sylvan protections in Koryŏ's history. However, any further centralization would have meant overcoming the local strongmen and powerful families who had dominated the countryside since the fall of the previous Silla dynasty.³²

Even as the Silla order collapsed, local elites had continued to utilize the former administrative hierarchy once bestowed by the Silla central government. Thus, according to John Duncan, local elites were already well-organized by the early Koryŏ period into a hierarchical administrative system "where control prefectures (*chugun*) controlled subordinate prefectures and subordinate counties (*sokhyŏn*), and control counties (*chuhyŏn*) controlled other subordinate counties."³³ The early Koryŏ government did its best to cooperate with this established local order, such as by recognizing and granting Chinese-style surnames and other privileges to strongmen and their families in exchange for their support and service. Foundations were thus laid for stability but also for structural obstacles to strong central rule.³⁴

Without a strong claim over the peninsula's forests outside the capital region, the Koryŏ state could not administer broad sylvan protections. In unclaimed or uninhabited areas, forests were simply part of the broader category of "forests, streams, and marshes" (*sallim ch'ŏnt'aek* 山林川澤) that, in theory, could be utilized by anybody without restrictions. Without

³² John Duncan, *The Origins of the Chosŏn Dynasty* (Seattle: University of Washington Press, 2000), 30-32.

³³ *Ibid.*, 31.

³⁴ *Ibid.*, 32.

a penetrative bureaucracy, it is difficult for any state to assert territorial rights over forests. Such was the case in not only Koryō but also in much of medieval Eurasia between 900 and 1300.³⁵ Across the Tsushima Strait on the Japanese archipelago, the Heian, Kamakura, and Muromachi shoguns exercised limited supervision over forests, and most local barons paid little attention to sylvan matters until the sixteenth century.³⁶ In medieval France as well, the lack of strong royal authority precluded any effective forest management before the thirteenth century.³⁷

Unlike medieval Japan, Koryō did not degenerate into feuding fiefs; the central government would remain in power until the end of the dynasty. Part of the reason for Koryō's longevity was the central government's ability to placate and incorporate potentially troublesome elites. The government's creation of the woodland prebend (*siji* 柴地) provides an instructive example. The early Koryō government utilized the sylvan resources under its immediate control to accommodate strongmen and powerful families, creating a prebendal system that reserved fields and forests in the capital region for loyal subjects – the Field and Woodland Rank System (*chōnsikwa* 田柴科).

The institutional distinction between “forest” and “woodland” is important. In the Koryō state records, forests were represented by the Chinese characters 林, 山, or the compound 山林. They appear in the record more often in the fourteenth century when the central government was trying to reassert control over lands and revenues. Woodland was represented by the

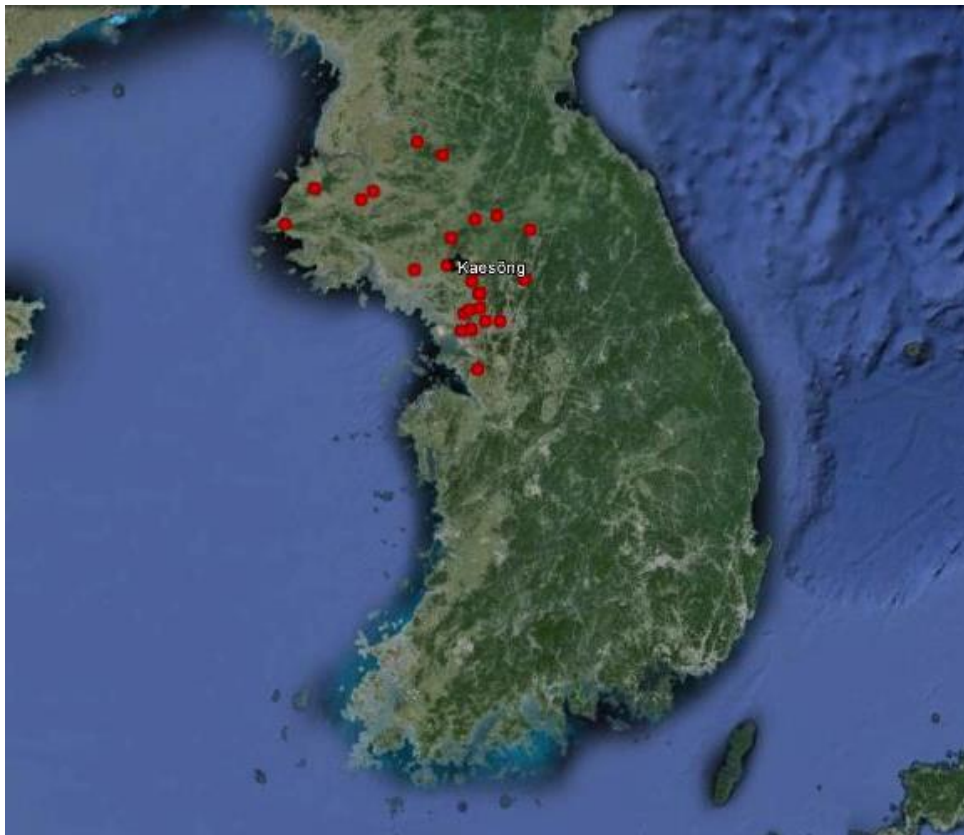
³⁵ A major exception in the medieval world was perhaps Northern Song and Liao China, where a well-organized bureaucracy and advanced engineering technologies allowed for more effective administration of environmental resources such as wood and water. See Ling Zhang, *The River, the Plain, and the State: An Environmental Drama in Northern Song China, 1048-1128* (Cambridge, UK: Cambridge University Press, 2016); “Changing with the Yellow River: An Environmental History of Hebei, 1048-1128,” *Harvard Journal of Asian Studies* 69.1 (2009): 1-36; “Ponds, Paddies, and Frontier Defence: Environmental and Economic Changes in Northern Hebei in Northern Song China (960-1127),” *Journal of Medieval History* 14.1 (2011): 21-43.

³⁶ Conrad Totman, *The Green Archipelago: Forestry in Pre-Industrial Japan* (Athens, OH: Ohio University Press Series in Ecology and History, 1998), 38.

³⁷ Bechmann, *Trees and Man*, 236

character 柴 or the compound 柴地 and denoted wooded areas that, together with fields, the state allotted to subjects in return for their service. Recipients were allowed to use a certain number of fields and woodland for their income, but the state retained the right to tax the lands as well as recover them upon the recipient's death.³⁸ Since the Koryŏ state did not actively manage forests outside the capital region, all woodland prebends were located “one or two days (日程)” from Kaesŏng (Figure 3).³⁹

Figure 5: Locations of woodland prebends (siji 柴地) in Koryŏ Korea



Data based on KRS 78:32

³⁸ Duncan, *Origins of the Chosŏn Dynasty*, 46, 89; James Palais, “Land Tenure in Korea: Tenth to Twelfth Centuries,” *Journal of Korean Studies* 4 (1982-1983): 86.

³⁹ KRS 78:32

In the century between the first prebend distribution in 976 and the third distribution in 1076, however, the number of woodland prebends rapidly diminished. In the prebend distribution of 976, officials received woodland in descending amounts relative to rank, with the highest-ranking officials receiving 110 *kyŏl* of woodland and the lowest officials (rank eighteen) receiving twenty-five *kyŏl*. In the second distribution conducted in 998, the highest officials received only seventy *kyŏl*, officials of rank fifteen received a paltry ten, and officials of rank sixteen and below received no woodland at all. By 1076, the highest-ranking officials were receiving only fifty *kyŏl* of woodland; the lowest recipients, now rank fourteen, were left with a mere five.⁴⁰

Why did the number of woodland prebends so dramatically diminish? Hong Sun'gwŏn argues that the main culprits were land reclamation (*kaegan* 開墾) and the widespread desire to turn unused land (*hwangmuji* 荒無地) into arable fields. Hong goes further to argue that the chief attraction of woodland prebends may not have been their fuel or timber as much as their proximity to reclaimable land. Land reclamation was a lucrative way for anyone to expand their holdings, and woodland and the plains and foothills surrounding any woodland would have been prime candidates to render into arable fields.⁴¹

There is some evidence that supports Hong's argument. While the amount of prebendal woodland decreased over time, the number of prebendal fields (*chŏnji* 田地) remained relatively steady, particularly for higher-ranking officials.⁴² New fields could be created through clearing

⁴⁰ Pak Chaegŭn, *Chosŏn t'oji chedosa* [A History of the Korean Land System], vol. 1 (Seoul: Sinsŏwŏn, 1994), 201-203; Hong Sun'gwŏn, "Koryŏ sidae ūi siji e kwanhan koch'al [An overview of woodland prebends in the Koryŏ period]" *Chindan hakpo* 64 (1987), 123-4

⁴¹ Hong Sun'gwŏn, 130-2

⁴² Pak Sihyŏng *Chosŏn t'oji chedosa*, 201-203; Hong Sun'gwŏn, "Koryŏ sidae ūi siji e kwanhan koch'al [An overview of woodland prebends in the Koryŏ period]" *Chindan hakpo* 64 (1987), 123-4

or reclamation, but new woodland only follows the regrowth of trees. Hence, it is probable that many woodland prebends represented “unused lands” that prebend holders could clear or reclaim and then utilize as a private holding. Such activity, though, had natural limits. The woodland prebend shortage persisted into the eleventh and twelfth centuries as the growth of the central official class strained the Field and Woodland Rank system. By the thirteenth century, that system was near collapse, and the central government resorted to other measures such as more modest “Salary Land” (*Nokkwajŏn*) allotments to pay its officials.⁴³

The Mongol Impact

In 1231, the Mongols burst out of the Inner Asian steppe and launched the first of seven invasions of the Korean peninsula. Like so many regimes across thirteenth-century Eurasia, Koryŏ tried but could not hold back the most fearsome military machine of the pre-industrial era. At the end of the sixth Mongol invasion in 1258, an exhausted Koryŏ royal court was able to negotiate some autonomy in exchange for its subordination to Mongol khans. This did not end Korean resistance to the Mongols, however; nor did it prevent the Mongols from significantly impacting Korean environments, particularly through the importation of horses into southern Korea and the expropriation of southern forests for the next goal, the invasion of the Japanese archipelago.

In the 1270s, the Mongols defeated the last Korean holdouts huddled in the southwestern islands. Then, in preparation for their ill-fated invasions of Japan, the Mongols established an extensive set of horse ranches on Cheju island staffed by 1,700 troops. Across the southwestern borderlands of Koryŏ, the Mongol Yuan dynasty (1271-1368) also established various myriarchies (K: *manhobu* 萬戶府), military districts that headquartered troops and administered

⁴³ Duncan, 94.

surrounding areas.⁴⁴ The Yuan dynasty treated Cheju island as a separate administrative zone, the “Country of T’amna” (T’amnaguk 耽羅國), distinct from the rest of Koryŏ.⁴⁵ Most importantly, the island was listed as one of fourteen “imperial ranch districts” 牧區 established by the Yuan throughout their empire.⁴⁶

The Mongols instituted eight main ranches across the western and eastern ends of Cheju island and imported Mongolian horses to fill the pastures. The first recorded imports are 160 Mongolian horses that arrived on Cheju in 1276.⁴⁷ They quickly interbred with native Korean strains, to the point that “the fields and mountains were saturated with horses.”⁴⁸ Cavalry steeds were the early priority. Cheju and other southern islands such as Hŭksan were seen as convenient bases for attacking the Southern Song dynasty and the Japanese archipelago.

Even after the failure of the Japanese invasions, the Mongols continued to expand ranches on Cheju island. Donkeys, mules, oxen, pigs, even deer, dogs, and falcons were added as managed stocks.⁴⁹ Most of all, the horse population continued to grow. Thanks to steady Mongol imports and strict Mongol protections, Cheju held between 20,000 and 30,000 horses by 1373.⁵⁰ The by-product was the Cheju horse, a mix of Mongolian and Korean strains – an offspring of empire.

⁴⁴ David M. Robinson, *Empire’s Twilight: Northeast Asia under the Mongols* (Cambridge, MA: Harvard University Asia Center, 2009), 58. The myriarchies were mostly staffed by Koryŏ troops and officers, but the Mongols retained control over officer appointments and troop mobilization through the mid-fourteenth century.

⁴⁵ *Yuan shi* [History of Yuan] 208: 耽羅. <http://www.guoxue.com/shibu/24shi/yuanshi/yuasml.htm>.

⁴⁶ *Yuan shi* 100.48: 馬政

⁴⁷ KRS 28: Ch’ongnyŏl 2.8, *chŏnghae*

⁴⁸ Quoted in Kim Sŏkik (1885-1956), *T’amna ki’nyŏn*

⁴⁹ *Yuan shi* 100.48: 馬政

⁵⁰ KRS 44, Kongmin 23.4, *musin*.

The Yuan impact on Korean environments was not limited to horses and pastures. Southwestern Korea is also part of a rich coastal forest zone ideal for timbering and shipbuilding. The Mongols, with their characteristic alacrity, recognized the area's potential. Even before they had fully crushed the Sambyölch'o holdouts, Mongol generals ordered significant amounts of timber to be extracted from Cheju and other southern islands such as Hüksan. In 1272, the vassalized Koryŏ government established a Warship and Army Supply Supervisory Bureau (Chŏnham Pyŏngnyang Togam 戰艦兵糧都監) to aid Mongol preparations for invading Japan. In turn, the Mongols ordered 1,500 ships built in 1279 and another 3,000 built in 1281 in shipyards across China, Manchuria, and Korea.⁵¹ They demanded 900 ships from Koryŏ alone in 1274 and another 900 in 1280. Much of the shipbuilding timber came from Haenam and Pyŏnsan in Chŏlla province – precisely the same areas that would later supply the Chosŏn dynasty for centuries with high-quality timber.⁵²

Both the 1274 and 1281 invasions met untimely ends due to fierce Japanese resistance and propitious typhoons. Parts of the Yuan fleets have been left to posterity thanks to the efforts of nautical archaeology. One such archaeologist, Randall Sasaki, has analyzed the timber remains of sunken Yuan vessels discovered off the coast of Kyushu in the early 1980s. His research attests that most of the sunken vessels, particularly the larger warships, originated from eastern China. Korean-made vessels, distinctive for their wide, flat bottoms and heavy use of pine and wooden joinery, were not numerous at the Kyushu site. Sasaki's argument corroborates

⁵¹ W.E. Henthorn, *Korea: The Mongols Invasions* (Leiden: E.J. Brill, 1963), 207-8, 223.

⁵² *PBSTR*, Sukchong 17.8.24 (1691).

evidence that Korean warships did not suffer casualties commensurate to those of larger Chinese vessels made of camphor and fir species from the Yangzi River delta.⁵³

The Mongol reliance on Chinese timber for larger warships partly confirms a trend toward pine dominance in Koryŏ-era Korean forests. The most common Korean pines, *Pinus densiflora* and *Pinus thunbergii*, are shade-intolerant, secondary-growth species that prosper after deciduous competitors have been reduced. Historical surveys of construction material conducted by Pak Wŏn'gyu and I Kwanghŭi indicate that oak was the prevailing material during ancient times and the Three Kingdoms era (57 BCE – 668 CE), respectively comprising 94 percent and 57 percent of surveyed sites. In contrast, pine composed six percent of surveyed Three Kingdoms-era edifices. Then suddenly in the Koryŏ era, pine took on 71 percent of surveyed construction material, a dominance that only intensified in the early-to-mid Chosŏn (73 percent) and late Chosŏn eras (88 percent). (Table 4)⁵⁴

Why did pine suddenly become so prominent in the Koryŏ era? Korean scholars of historical forestry tend to blame the Mongol invasions. According to this argument, the decades of warfare between the 1231 and 1273 decimated much of the Korean landscape. Fast-growing succession species such as pine then prospered in the Mongols' deadly wake.⁵⁵ Considering the immense number of people killed and towns destroyed during the Mongol invasions, there must have been barren areas where pine succession transpired. However, war tends to fog evidence

⁵³ Randall Sasaki, *The Origins of the Lost Fleet of the Mongol Empire* (College Station, TX: Texas A&M University Press, 2015), 37-40, 118-19, 142-46. Korean ships, with their wide pine hulls, were well-suited for battle in treacherous and shallow waters. However, their shallow draft and the potential for pine to rot rendered them unsuitable for longer, blue-water voyages.

⁵⁴ Pak Wŏn'gyu, I Kwanghŭi, "Uri nara kŏnch'uk e sayong toen mokchae sujong ūi pyŏnch'ŏn [Changes in tree species used in Korean architecture]" *Kŏnch'uk yŏksa yŏn'gu* 16:1 (Feb., 2007): 9-27.

⁵⁵ *Ibid.*, 23; Chŏn Yŏng'u, ed., *Sonamu wa uri munhwa* [Pines and Korean Culture] (Seoul: Sumunch'ulp'ansa, 1999).

about where, when, or whether such ecological devastation occurred. Post-invasion Yuan policies such as the imperial ranches and shipbuilding, I argue, had a far more lasting, well-documented impact on Korean environments.

Table 4: Tree species content of Korean architectural buildings, by era

Pre-Three Kingdoms	Oak 94%	Pine 4%		
Thre Kingdoms	Oak 54%	Paltycarya 21%	Chestnut 13%	Pine 6%
Koryŏ	Pine 72%	Zelkova 22%	Nut Pine 5%	Oak 1%
Early-Mid Chosŏn	Pine 73%	Oak 14%	Zelkova 9%	
Late Chosŏn	Pine 89%	Fir 5%	Oak 4%	

Source: Pak Wŏn'gyu, I Kwanghŭi, "Uri nara kŏnch'uk e sayong toen mokchae sujong ũi pyŏnch'ŏn [Changes in tree species used in Korean architecture]" *Kŏnch'uk yŏksa yŏn'gu* 16:1 (February, 2007), 9-27.

The "pine explosion" of the Koryŏ era likely sprang from a combination of causes. Climate change was one factor: the Medieval Warm Period, lasting roughly 950 to 1250, created more humid, wetter conditions in northeast Asia favorable for pine and zelkova growth at the expense of oak.⁵⁶ Cultural predilections also may have been responsible. Protection of trees,

⁵⁶ Patrick D Nunn, *Climate, Environment, and Society in the Pacific during the Last Millennium* (Amsterdam, Netherlands; Boston, MA: Elsevier, 2007); Guoyu Ren, "Pollen evidence for increased summer rainfall in the medieval warm period at Maili, northeast China" *Geophysical Research Letters* 25:11 (June 1998), 1931-1934; Constance I. Millar, Wallace B. Woolfenden, "The role of climate change in interpreting historical variability" *Ecological Applications* 9:4 (November 1999), 1207-1216.

particularly pines, was central to early Koryŏ geomantic beliefs that tied terrestrial management to political legitimacy and cosmic order.

Accordingly, it is plausible that a combination of climate, culture, invasions, and Yuan policies significantly shifted the content of Korean forests between 918 and 1388 toward pine. By the mid-fourteenth century, as the Mongols retreated from the Korean peninsula, Koryŏ elites were privileging the ubiquitous, easily workable pine over all other trees, which they collectively dismissed as “miscellaneous” (*chammok* 雜木). For instance, the poem “Woodcutting Youth” (*Ch’odong* 樵童) by Yi Saek (1328-1396) narrates the labor of a young woodcutter logging copious pine stands around Kaesŏng amidst “not a single miscellaneous tree.”⁵⁷ In later centuries, Chosŏn policies would forbid the cutting of pine across hundreds of state forests across the peninsula while still permitting the removal of any *chammok*. Ongoing ecological transitions, perhaps accelerated by the Mongol invasions, elevated the pine to the top of Korea’s institutional and ecological hierarchy into the late fourteenth century and beyond, with immense consequences for the rest of Korean history.

State and Forest in Koryŏ’s Last Century

The last century of the Koryŏ dynasty, from 1300 to 1392, was a tumultuous period that witnessed the breakdown of previous institutional and economic structures. Central government lands such as those from the Field and Woodland and Salary Land systems increasingly fell into the hands of the so-called *yangban* stratum of central officials and their families.⁵⁸ Other capital-based elements such as royal kin and palace attendants penetrated the countryside, taking

⁵⁷ It is important to note that pines were particularly important to the local culture of Kaesŏng, as seen in the beginning of the first chapter. Yi Saek, “Ch’odong” *Mokŭn sigo*, vol. 22.

樵童動成群。往尋城外山。山多青松樹。翠色浮雲間。雜木不盈尺。採採流汗顏。辛勤日復日。曉出俄夕還。

⁵⁸ KRS 78:19; Duncan 302, footnote 146.

advantage of royal grants and “using mountains and rivers as boundaries” for their tax-exempt estates.⁵⁹ Japanese pirates, called Waegu (倭寇) in the sources, added to the chaos by raiding tax shipments and driving peasants from their fields.

With the disorder came changes in forest usage patterns. In 1325, Koryŏ King Ch’ungsuk (r. 1313-1330, 1332-1339) made the following proclamation:

Forests, streams, and marshes (山林川澤) are to be jointly utilized with the common people. Recently, powerful households have been monopolizing these lands for themselves. This should be prohibited, and the Office of the Inspector-General should prosecute trespassers.⁶⁰

In theory, “forests, streams, and marshes” were outside the bounds of private ownership unless authorized as a prebend. By the fourteenth century however, there were few obstacles preventing elites from using such lands as they wished. The late Koryŏ government made some efforts to control forest use, but they were ineffective. In 1356, King Kongmin (r. 1351-1374) complained that:

... groups of disloyal officials (*chŏksin* 賊臣) are arbitrarily seizing forests and marshes and exacting copious revenues from them. [Consequently], state expenditures (*kukyong* 國用) wane by the day, and the people’s lives and profits wither. Henceforth, forests (*sallim* 山林) will be placed under the authority of the Construction Office (*Sŏn’gongsi* 繕工寺) ... to loosen restrictions [on their use] and lighten exactions.⁶¹

The Koryŏ government was not losing control over the peninsula’s forests; it did not have such broad control in the first place. Rather, the appointment of the Construction Office to oversee forests was part of broader government attempts to reassert fiscal and social authority during the

⁵⁹ Duncan 185.

⁶⁰ KRS, *kŭmryŏng*.

⁶¹ KRS, *kongbu*.

fourteenth century.⁶² In their most conspicuous effort, late Koryŏ monarchs established a series of state directorates to rectify the situation in the countryside. The most famous of the directorate heads was Sin Ton (?-1371), a monk supposedly of slave background who headed the General Directorate for the Investigation of Land and Slaves.

Unfortunately for the dynasty, such attempts failed. Resentful court officials forced King Kongmin to eliminate Sin Ton, and then King Kongmin himself was assassinated in 1374. Meanwhile in the countryside, many of Koryŏ's state-recognized regional elites, known as *hyangni*, continued to stream into Kaesŏng in an effort to advance into the more prestigious central bureaucracy.⁶³ Their upward aspirations only further destabilized a countryside in need of order. Poor weather exacerbated the deteriorating situation; six severe droughts struck Korea between 1365 and 1377, and heavy rain caused severe landslides in 1375. One report from 1374 even mentions fish falling from the sky during an especially heavy rainstorm.⁶⁴

In Kaesŏng, the landed elite constantly sparred for influence with perceived outsider elements such as *hyangni*, royal slaves, military officers, and palace attendants. Necessary reforms were hampered by resistance from various sectors or just lack of support. A 1388 report regarding the Construction Office, for instance, noted that the Office's "duties were serious but personnel too few."⁶⁵ As John Duncan has argued, the institutional shortcomings of late Koryŏ Korea reflected a "fundamental contradiction in the Koryŏ sociopolitical system" originating in the early Koryŏ's accommodation of powerful local elites. When their descendants developed

⁶² Duncan 186-7.

⁶³ Duncan 190-1, 197.

⁶⁴ KRS 54:8, *ohaeng*.

⁶⁵ KRS 67:30, *Sŏn'gongsi*

into a distinct aristocracy defined by government service, late Koryŏ institutions failed to fully accommodate their rise or interests.⁶⁶

Overall, the institutional history of forest management in Koryŏ Korea can be encapsulated in the different political realities that bookended the Koryŏ dynasty : one, the early Koryŏ government's use of prebends to secure the loyalty of elites and two, the late Koryŏ government's attempts to prevent the flow of lands into elite hands. In the former situation, the state parceled forests into prebendal woodland in order to establish a loyal officialdom; in the latter case, central elements tried to establish stronger control over the countryside in a time of institutional tumult. Neither measure sustained longevity. Instead, the 1388 coup would empower the central bureaucracy in the new capital of Hansŏng (Seoul) to impose a new type of forest control on the Korean peninsula centered on timber extraction. From the perspective of forest management, the Koryŏ-Chosŏn transition would be a dramatic shift.

State Forestry and the New Chosŏn State

The new Chosŏn state was established in a tumultuous environment, in a time of crisis and opportunity. Maritime raiders from the Japanese archipelago, plagued the Korean coastlines with attacks on towns and villages, stealing grain, livestock, and even ships. Sixty-two Waegu raids were reported between 1393 and 1399. Meanwhile, in the new capital of Hansŏng (Seoul), elites who had helped establish the new dynasty now demanded political and social reforms. Their members included zealots such as Chŏng Tojon (1342-1398) who called for a more thoroughly Confucian, activist state. Finally, the former general Yi Sŏnggye (1335-1398), now known as King T'aejo, needed to solidify his newly won power.

⁶⁶ Duncan, 202.

The seeds of state forestry were laid in this changing landscape, sowed by kings and officials concerned with protecting their borders, solidifying their rule, and reforming their society. In various ways, forest resources helped assuage their concerns. Maritime raiders could be defeated with more and better warships. The monarchy could legitimize its authority by building up Seoul, using forests to build new palaces and government offices. The state could actively reform national customs (*kuksok* 國俗), starting with the very way they buried their dead. In each case, from warships to buildings to coffins, wood resources were vital.

However, the state could not simply gather timber at will. Forest resources were sought and used by all people, for fuel wood and construction, as swidden source and reclaimable land, as hunting and grazing grounds. From the beginning of the dynasty, the Chosŏn government officials were aware of the contested materiality of forests and accordingly worried over timber scarcity, over forests being exhausted by the very people they governed. Their solution was to create a new administrative category, the Restricted Forest (*kŭmsan* 禁山) and protected pine groves (*song chi ch'ŏ* 松之處), to cordon off forests for state use.

At the forefront of government forestry efforts stood the pine tree. Historically, two types of pines have provided high-quality timber on the Korean peninsula: the Red Pine (*Pinus densiflora*) and the Black Pine (*Pinus thunbergi*). Both species reach maturity quickly, in twenty to thirty years, and prosper across Korea's humid continental climate into the mountainous interior and particularly along the ria coastlines and islands in the southwestern reaches of the peninsula.⁶⁷ Their timber was straight, sturdy, and easy to work and float, with wide applications from edifice construction to coffins and ships.

⁶⁷ As of 2006, 42.2 percent of the Republic of Korea's forests were coniferous, 26 percent were deciduous, and 29.3 percent were mixed. Kyoung-soo Kim, *The Geography of Korea* (Seoul: National Geographic Information Institute, Ministry of Land, Transport and Maritime Affairs, 2010), 8.

State forestry was thus the government's method of privileging its access to a contested materiality. In turn, anxieties about timber scarcity spurred arguments to protect pines. Protected pine groves in Restricted Forests became the center of an imaginary landscape in which one tree species stood apart on an institutional pedestal surrounded by existential threats: ignorant loggers, swidden farmers, pirates, hunters, and starving peasants. In the name of statist interests, the Chosŏn government had to protect pines from the very people it governed.

The Specter of Naval Timber Scarcity

As early as 1407, the Chosŏn government promulgated orders to all magistrates (*suryŏng* 守令) throughout the country to plant pine trees for naval timber. A court memorial from that year noted that “recently, pine tree stands have been almost exhausted (*t'aejin* 殆盡)” due to the demands of warship construction. The report recommended that felling and fires be banned in “all forests where pine trees could feasibly grow.” Moreover, at the beginning of spring, the magistrates were to oversee the planting of pines in those areas. By protecting and planting pines, the Chosŏn government hoped to sustain naval timber supplies.⁶⁸

Meanwhile, Waegu raiders from the Japanese archipelago continued to strike the Korean peninsula. By the turn of the fifteenth century, the island of Tsushima, nestled in the Korea Strait between southern Korea and western Japan, had achieved notoriety as a pirate den. The island's mountainous terrain hampered conventional agriculture while its geographic position eased coastal raiding. Even after Korean governments launched two expeditions to subdue Tsushima in

⁶⁸ *T'aejong Sillok* 7.4.7 (1407) .

Figure 6: present-day Tsushima



1389 and 1396, the islanders did not cease their raids.⁶⁹ In 1418, a series of famines struck Tsushima, prompting an intrepid group to sail out and attack Ming China. Along the way, the islanders ransacked the southern Chōlla coast and destroyed numerous Chosŏn warships in Ch’ungch’ōng province.⁷⁰

In response, a frustrated Chosŏn government planned its largest campaign against Tsushima to date. In the summer of 1419, a Chosŏn armada of 226 warships and 17,885 troops

⁶⁹ Robert Hellyer, “Poor but Not Pirates: The Tsushima Domain and Foreign Relations in Early Modern Japan.” in *Elusive Pirates, Pervasive Smugglers: Violence and Clandestine Trade in the Greater China Seas*, ed., Robert J. Antony (Hong Kong: Hong Kong University Press, 2012), 118.

⁷⁰ Kim Ilhwan, “Sejong Taemado chōngbōl ūi kunsachōk chōn’gae [The process of King Sejong’s military actions toward Tsushima].” *Sunch’onyang immun kwahak nonch’ong* 31:2 (2012), 97-98.

stormed into the Korea Strait and attacked Tsushima where, over a month-long campaign, Chosŏn soldiers burned 2,007 houses, destroyed 124 ships, and beheaded 123 raiders.⁷¹ The Koreans left the island in late July while threatening to attack again in the autumn if the islanders did not stop their raids.⁷² The ruling Sō clan of Tsushima, in response, agreed to rein in their raiders in exchange for limited trading privileges in southern Korean ports.⁷³

But just as the 1419 campaign abated one source of government anxieties, it unleashed another. The extensive naval preparations heightened anxieties in the Chosŏn court over timber scarcities. Immediately after the end of the Tsushima campaign, an official from the Board of Military Affairs (Pyŏngjo 兵曹) named Yu Chŏnggyŏn (1355-1426) penned a lengthy report to the king expressing concerns over the condition of the navy's warships and their timber sources. Due to naval preparations, Yu noted, timbers had been almost exhausted in the three southern provinces of Ch'ungch'ong, Chŏlla, and Kyŏngsang. He urged for naval personnel to be sent north to find more suitable timber in P'yŏngan and Hwanghae provinces. Once the soldiers found suitable stands near navigable bodies of water, they were to build warships on site during the fall and winter to be sent southbound in the spring.⁷⁴

Furthermore, the government fretted that an irresponsible populace was degrading forest land. The exhausted pine stands of the southern provinces, according to Yu's Chŏnggyŏn's

⁷¹ *Sejong Sillok* 1.6.20 (1419). By comparison, the Spanish Armada that invaded England in 1588 was composed of 130 ships and 18,000 soldiers.

⁷² *Sejong Sillok* 1.7.28 (1419). "The Board of War reported: Between the ninth and tenth month of this year, we should raise a great force to again subdue Tsushima. We urge each province to organize their warships." 兵曹啓: "九十月間, 將大興師, 更殲對馬島, 督令各道整理兵船。

⁷³ However, Waegu raids continued in intermittent bursts until the mid-sixteenth century. Contrary to the Chosŏn state's beliefs, the Waegu was not solely a Tsushima problem, as the raids were part of a broader fifteenth-century network of "sea bandits" and "sea lords" of diverse regional origins. Peter D. Shapinsky, "From Sea Bandits to Sea Lords: Nonstate Violence and Pirate Identities in Fifteenth- and Sixteenth-Century Japan." *Elusive Pirates, Pervasive Smugglers*, ed., Robert J. Antony (Hong Kong: Hong Kong University Press, 2012), 27-42.

⁷⁴ *Sejong Sillok* 1.7.28 (1419).

report, were not simple results of shipbuilding. Supposedly at fault were faceless offenders referred to as “bands of ruffians” (*mu’roe chi to* 無賴之徒):

Some when hunting and some when swidden farming (*hwajŏn* 火田) set great fires that dry out and kill the trees. Some when reclaiming forest land and some when building houses cut trees out of season. Mature timbers end up fewer and fewer by the day. Pine saplings cannot attain maturity ... I am afraid that shipbuilding timbers cannot be sustained. This is truly something one cannot help but be concerned about.⁷⁵

As a solution, Yu prescribed more extensive regulations. He asked that local government offices be banned from using pine for their edifices. In settlements near major pine stands, the government was to appoint a warden (*sanjik* 山直) to watch for felling and fires. Wardens were to be selected from people already possessing a “regular livelihood” (*hangsan* 恒産), presumably because they would be less susceptible to corruption. Naval personnel in the coastal areas were to direct the local populace in planting pine trees “anytime when there were no other affairs.”⁷⁶

Yet, there is no immediate evidence of widespread deforestation or wood shortages in early fifteenth-century Korea. Most forested land was still part of the broader category of “forests, streams, and marshes” (*sallim chŏnt’aek* 山林川澤) that escaped private monopolization (*sajŏm* 私占) until the middle of the sixteenth century.⁷⁷ Timber scarcity predominately existed in the minds of anxious officials, a by-product of military and institutional concerns coalescing among stakeholders in a new dynasty.

⁷⁵ *Sejong Sillok* 1.7.28 (1419) .

⁷⁶ *Sejong Sillok* 1.7.28 (1419).

⁷⁷ Kim, Sŏn’gyŏng. “17-18 segi yangbanch’ŭng ūi sallimch’ont’aek sajŏm kwa unyŏng [*Yangban* monopolization and management of ‘forests, streams, and marshes’ in the seventeenth and eighteenth centuries]” in *Yŏksa yŏn’gu* 7 (2002): 11.

The phenomenon was not unique to Chosŏn. Halfway across the world in fourteenth and fifteenth-century Venice, legislators grappled with similar anxieties regarding naval defense and timber scarcities. Karl Appuhn, in his superb study of forestry in Renaissance-era Venice, describes Venetian government officials worrying over timber famine in language and for reasons remarkably similar to those of the Koreans. Just as Chosŏn officials linked “exhausted” pine reserves with a dire future for the navy and the state, Venetian legislators remarked that any famine of naval-grade oak and beech threatened their “liberty” and their republic’s survival.⁷⁸ In Chosŏn, timber became equated with pines; in Venice, debates about timber became “debates about oak and beech.” The emphasis on specific species associated with naval timber “created an imaginary mainland ecology in which even-aged, single-species climax stands stood under the constant threat of extinction at the hands of an unscrupulous people.”⁷⁹ Appuhn’s description, while analyzing a different region, encapsulates the Chosŏn state’s attitudes toward pine reserves. In an insecure domestic and geopolitical environment where a single tree species was associated with the timber supply, the state envisaged threats to pines as existential threats.

The Venetian response was to institute a series of forestry legislation. The Chosŏn state, as well, assuaged its sylvan anxieties by instituting stricter control over certain forests. The key to Chosŏn’s legislative strategy was the creation of an institutional category, the Restricted Forest. The term was first appeared in 1417 to designate protected forests surrounding royal graves. Just as the royal shrines of the Koryŏ monarchy were surrounded by politically

⁷⁸ Karl Appuhn *A Forest on the Sea: Environmental Expertise in Renaissance Venice* (Baltimore: Johns Hopkins University Press, 2009), 54-56.

⁷⁹ *Ibid.*, 56 .

significant pines, the earliest Restricted Forests were pine groves surrounding the Chosŏn king's ancestral tombs.⁸⁰

Two years later, Yu Chŏnghyŏn's 1419 report regarding naval timber scarcities established three important precedents for state forestry institutions. One, it made local magistrates responsible for appointing wardens and required them to cooperate in preventing illegal felling. Two, the report empowered provincial surveillance commissioners (*kwanch'alsa* 觀察使) to inspect the magistrate and warden's efforts and punish them if he found any evidence of unreported felling. Three, it gave the navy the dual responsibilities of finding new areas suitable for naval timber and directing locals to plant pine trees.⁸¹ Though Yu's report did not explicitly use the term "Restricted Forest," his prescriptions clearly institutionalized coastal and riverine areas deemed suitable for pines. Those locations were surveyed and finally listed in 1448 and are mapped below:

The Restricted Forest locations were selected for being "areas appropriate for pine" (*ŭisong chi ch'ŏ* 宜松之處) but the selection was not based on a careful survey of tree species. Rather, special crop assessors selected a broad swath of coniferous forests near coastal settlements because their proximity to water and docks would ease timber transport and shipbuilding. Sparsely populated and rocky areas on the eastern coast were largely ignored.

⁸⁰ In 1417, a royal steward named Yu Hanu was arrested for cutting pines in a Restricted Forest near royal tombs that he had been tasked with managing. However, he was not severely punished, likely due to his royal connections. He was tried by the State Tribunal (Ŭigŭmbu 義禁府), a judicial body that dealt with higher-status individuals, and after three days of imprisonment Yu Hanu was allowed to leave. This early incident portended the pattern of official malfeasance that would plague forest administration throughout the Chosŏn era. *T'aejong Sillok* 17.11.23 (1427).

⁸¹ *Sejong Sillok* 1.7.28 (1419).

Figure 7: Restricted Forest locations, 1448.

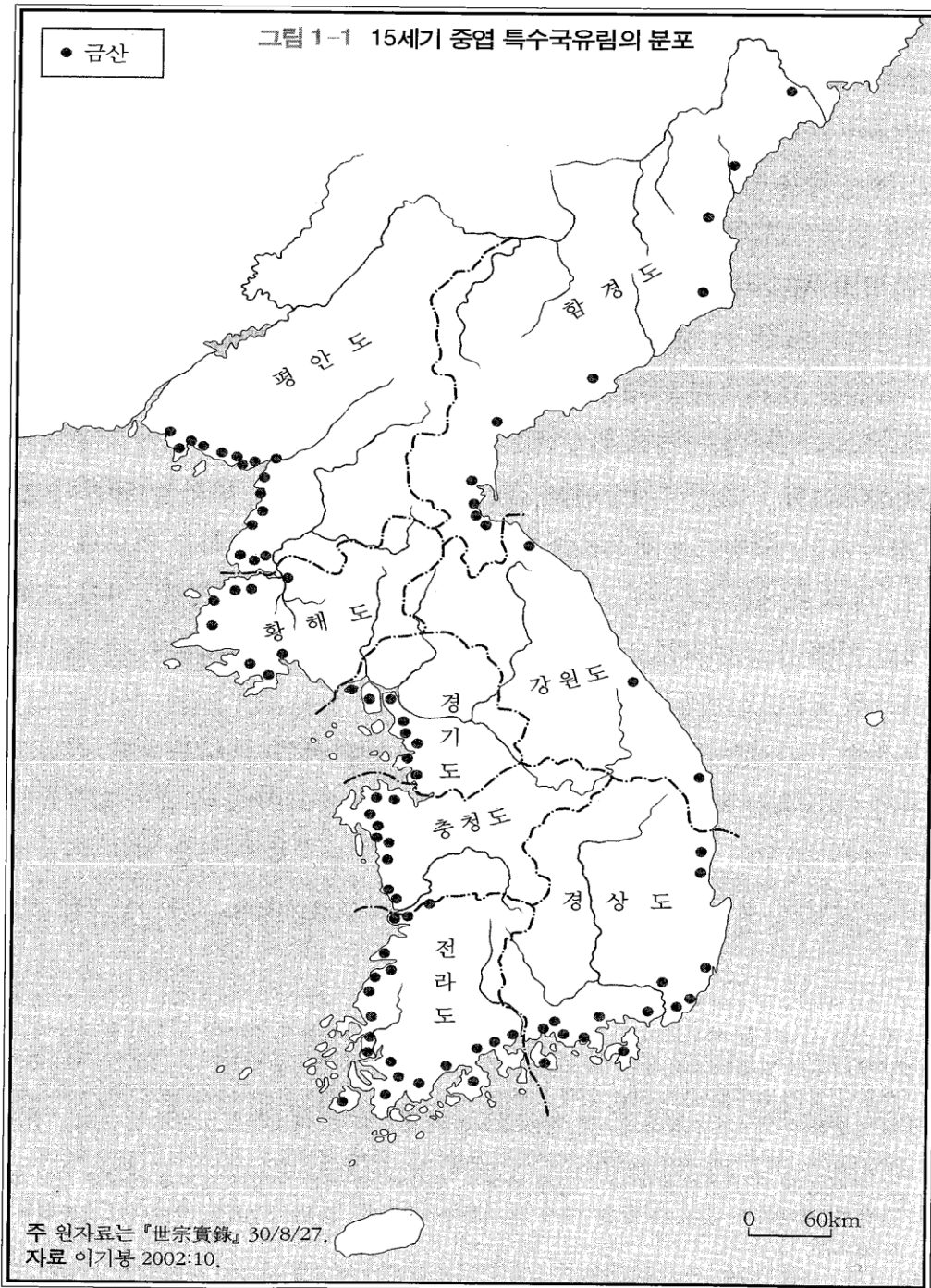


Image adapted from Yi Uyön, *Hanguk üi sallim soyujedo wa chöngch'aek üi yöksa, 1600-1987* [A history of Korean forest usage institutions and policies, 1600-1987] (Seoul: Ilchogak, 2007), 64

In 1422, the Chosŏn government laid additional legal infrastructure for state forestry by citing a Chinese legal precedent. Due to expressed “difficulties in enforcing the ban on the felling of pine trees in Restricted Forests,” the Board of War decided to refer to the Great Ming Code (*Da Ming lü* 大明律) promulgated by China’s Ming dynasty (1368-1644) in the late fourteenth century.⁸² The Board of Military Affairs specifically cited Article 104 from the Ming Code’s “Chapter on Revenue” – “In all cases of discarding or destroying others’ utensils or destroying timber or crops, calculate the amount of the illicit goods; the offenders should be punished for theft” – as the legal basis for prosecuting the illegal cutting of pine branches.⁸³ Large branches were used to construct the rafters and beams of Chosŏn houses but they also were key components in shipbuilding. The Board of Military Affairs urged local officials to investigate households whose rafters appeared to have come from whole pine trunks.⁸⁴

New laws, however, inevitably breed new transgressions. In 1426, the Board of Military Affairs reported another rash of illegal felling, this time driven by private shipbuilders:

Pine trees have been planted for the sake of constructing warships in the coastal areas. The laws banning felling and banning fires were instituted early, but we did not install a ban on private shipbuilding. Consequently, along every bit of coastline, there are those secretly cutting pines to build ships.⁸⁵

⁸² The 1389 edition of the Great Ming Code served as the basis for various Chosŏn legal precedents until the compilation of a comprehensive administrative code, the *Great Code of Administration* (*Kyŏngguk taejŏn*) in 1471. For more information on the development of early Chosŏn legal codes, see Martina Deuchler, *The Confucian Transformation of Korea: A Study of Society and Ideology* (Cambridge, MA: Harvard University Press), 121-122; Chŏng Hohun, “Chosŏn chŏn’gi pŏpchŏn ũi chŏngbi wa kyŏngguk taejŏn ũi sŏngnip [The codification of laws and the formation of the Great Code of Administration in the early Chosŏn era]” in *Chosŏn kŏn’guk kwa kyŏngguk taejŏn ch’eye ũi hyŏnsŏng* [The founding of the Chosŏn dynasty and the completion of the Great Code of Administration], ed., O Yŏnggyo (Seoul: Hyeon, 2004), 47-96.

⁸³ *Sejong Sillok* 4.12a.22 (1422) Translation is based on Jiang Yonglin, *The Great Ming Code* (Seattle: University of Washington Press, 2012), 81.

⁸⁴ *Sejong Sillok* 4.12a.22 (1422).

⁸⁵ *Sejong Sillok* 8.8.26 (1426).

Private shipbuilding and smuggling were lucrative enterprises in the early Chosŏn era due to strict state controls on maritime trade. Even unredeemed Tsushima islanders got involved. In 1421, a surveillance commissioner for Chŏlla province reported that Waegu pirates were cutting pines along the southwestern coast and building ships right along the water. The commissioner noted that Tsushima lacked sufficient timber for shipbuilding and so the raiders “inevitably come to the Chŏlla coast to build ships.” The raiders, he feared, would only stop coming when they had “exhausted all of the coastal pines.”⁸⁶

The Chosŏn government responded in draconian fashion. Local magistrates were to crack down on private shipbuilding near coastal forests and were even allowed to seize illegally constructed ships.⁸⁷ Such heavy-handed measures were also used to protect pines from starving peasants. In 1434, when a famine struck parts of Kyŏngsang province, the regional crop assessor requested that starving locals be allowed to subsist on the bark of crooked or deformed protected pines. The Board of Taxation (Hojo 戶曹), however, denied his request.⁸⁸

The same bans applied to other tree species, noted as “miscellaneous trees” (*chammok* 雜木), but only if they were part of a protected pine forest or if pine protection laws had been extended to cover them. In 1437, a special military commissioner (Sumunsa 巡問使) named An Sun (1371-1440) was sent south to investigate an ongoing famine in Ch’ungch’ŏng province. He reported back to the court with an innovative proposal. Attesting that acorns from oak trees were the best form of famine sustenance, An proposed that the “law banning the felling of pine trees” (*songmok kŭmbŏl chi pŏp* 松木禁伐之法) be expanded to cover existing acorn-producing oaks,

⁸⁶ *Sejong Sillok* 3.8.24 (1421).

⁸⁷ *Sejong Sillok* 8.8.26 (1426).

⁸⁸ *Sejong Sillok* 16.2.27 (1434).

and new oaks could be planted where there were none. To this, the Board of Taxation wholeheartedly agreed.⁸⁹

The differing treatments of pine and oak illustrate how Chosŏn state forestry and its attendant imagined ecology could render natural organisms into resource categories. The predominant acorn-producing oaks on the Korean peninsula are the daimyo oak (*Quercus dentata*) and sawtooth oak (*Quercus acutissima*). Both are rich in bitter fruit but their wood is prone to crack and split and thus not suitable as heavy construction timber. In its assent to An Sun's proposal, the Board of Taxation did not even mention any ban on felling of oak trees but rather reiterated the importance of preventing fires lest the precious famine-relieving acorns be destroyed. The trees were rendered into categorically bound nodes in an imagined landscape designated for state use.⁹⁰

Certainly, pine protection produced material results. By 1454, Chosŏn Korea possessed a navy of 829 warships staffed by 50,177 naval personnel. As the Tsushima threat diminished, the Chosŏn navy underwent some downsizing, but even in 1471 the navy was still composed of 488 active-duty warships with an additional 249 on reserve status.⁹¹ The new dynasty had mobilized human and environmental resources to successfully dampen the Waegu threat. New laws protecting timber supplies assisted the mobilization process, and the same process along with other objectives helped produce state forestry.

⁸⁹*Sejong Sillok* 19.6.2 (1437).

⁹⁰ State forestry could even overrule rank and title. In 1438, a local noble in southern Chŏlla was convicted and exiled for a series of egregious crimes, listed in order: "illegal cutting pines, insulting the magistrate to this face, and beating a clerk." The transgressor, Kim Sukpo, was the descendant of a Merit Subject (*kongsin* 公臣), the original high-ranking supporters of the first Chosŏn monarch. *Sejong Sillok*, 20.6.28 (1438).

⁹¹ Kim Chaegŭn, *Sok han 'guk sŏnbaksa yŏn 'gu* [An Outline of the History of Korean Shipbuilding]. (Seoul: Sŏul taehakkyo ch'ulp'anbu, 1994), 82-83.

Constructing a New Capital

Ships were a priority, but there were other major destinations for the Chosŏn state's protected timber supplies. Constructing the new capital's palaces, offices, walls, and roads expended enormous quantities of wood hauled down from the peninsula's forests. The expansion of Ch'angdŏk Palace's main courtyard in 1418 alone required five hundred pieces of timber. Simultaneously with the rise of protected forests in the coastal areas, the construction of Seoul would bring state forestry to the Han River basin.

Defensive and political considerations drove the decision to move capitals. The old Koryŏ capital of Kaesŏng, lying on an exposed coastal plain near the Yellow Sea, had been subject to devastating Waegu raids during the fourteenth century. Chosŏn-era Seoul, meanwhile, was nestled in a valley along the Han River in an easily defensible space surrounded by significant walls and major peaks collectively referred to as the "Four Mountains" (*sasan* 四山). Moreover, constructing the new capital helped buttress the new dynasty's political legitimacy, as seen in this Privy Council (Top'yŏnggŭisasa 都評議使司)⁹² memorial from 1394:

The Royal Ancestral Shrine is designed to revere your ancestors and promote filial piety, the royal palace to display the authority of the state and carry out state affairs, and city walls to solidify what is inside and outside and thereby defend the state. These three things should be foremost priorities for those who rule the state. Since your Majesty has founded a new dynasty according to the Mandate of Heaven and established Hanyang (Seoul) as the new capital according to the people's wishes, the foundation for the everlasting rule of your royal house has been laid ... By ordering the government agencies to expedite the construction of the Royal Ancestral Shrine and royal palaces and the fortification of the walls as quickly as possible, you will show your filial piety to your ancestors and display your dignity to the people.⁹³

⁹² The supreme civil deliberative council of the late Koryŏ and early Chosŏn period, it was replaced by the Ŭijŏngbu in 1400.

⁹³ T'aejo Sillok 3.11.3. (1394). Translation is partly based on Choi Byonghyon, *The Annals of King T'aejo: Founder of Korea's Chosŏn Dynasty*. (Cambridge, MA; London, England: Harvard University Press, 2014), 447.

Initial construction of Seoul's palaces, offices, walls, and roads in the first decade of the dynasty required more than 52,800 corvée laborers from Chōlla, Kyōngsang, and Ch'ungch'ōng provinces.⁹⁴ The early Chosōn government utilized corvée labor to fulfill various functions ranging from construction and mining to lumbering and the gathering of firewood. Levies were not regular but were subject to the timing of specific government needs. In 1401, the overall labor service quota was calculated as one adult male for three *kyōl* of cultivated land and then reduced to one male per five *kyol* in 1442 and finally one male per eight *kyōl* in 1470. Local magistrates and clerks were responsible for assessing the details.⁹⁵ The Seoul-era construction projects and relevant wood procurement were led by the Directorate of Construction (Sōn'gonggam 繕工監), composed of twenty-four Seoul-based officials, under the overall jurisdiction of the Board of Works (Kongjo 工曹).⁹⁶

The majority of the construction timber came from three areas: the vicinity of Seoul, the mountains of Kangwōn province, and the rich pine forests of western Ch'ungch'ōng province. Timber from Kangwōn usually would be cut in the fall and left to season over the winter. Once the upper Han River was free of ice, the timber would be tied into rafts and floated down to Seoul.⁹⁷ The pine forests of Ch'ungch'ōng were especially lush on the T'aean peninsula on the province's far western tip. Timber from the region would be loaded onto ships and shipped north

⁹⁴ Sōul t'ukpōlsisa p'yōnch'an wiwōnhoe [The City History Compilation Committee of Seoul], *Sōul kōnch'uksa* [An Architectural History of Seoul], (Seoul: Sōul t'ukpōlsisa p'yōnch'an wiwōnhoe, 1999), 30. For discussion of the construction of early Chosōn Seoul in English, see Sinwoo Lee "Contesting Seoul: Contacts, Conflicts, and Contestations Surrounding Seoul's City Walls, 1876-1919" (PhD. diss., UCLA, 2014), 26-33.

⁹⁵ James Palais, *Confucian Statecraft and Korean Institutions: Yu Hyōngwōn and the Late Chosōn Dynasty*. (Seattle: University of Washington Press, 1996), 49-50.

⁹⁶ *T'aejo Sillok* 1.7.28(1392).

⁹⁷ *Sōul kōnch'uksa* [An Architectural History of Seoul], 264-265.

to the mouth of the Han. Corvée lumberjacks (*mokkun* 木軍) handled timbering and transportation.

By 1406 however, the Office of Censor-General (Saganwŏn 司諫院), a royal advisory board, was already complaining that the demands of palace construction were exhausting timber along waterways.⁹⁸ Fears of wood scarcity in the capital region were exacerbated by the fact that the growing city did not just consume timber. Seoul's cold winters required substantial amounts of fuel wood and charcoal (*mokt'an* 木炭) for heating. Uses extended to workaday activities such as cooking and industrial activity such as smelting and pottery. The Directorate of Construction, in addition to its lumber procurement duties, was expected to supply fuel wood to Seoul. By 1421 however, the Directorate was already prognosticating fuel shortages, prompting King Sejong to decrease fuel consumption in the palaces and government offices.⁹⁹

Reports of wood scarcities in the capital region, as with anxieties about naval timber availability along the coasts, accelerated state forestry's regulative drive. In 1424, the Board of Military Affairs cordoned forests around five Kyŏnggi hamlets as "timber for state use" (*kugyong chaemok* 國用材木) and accordingly appointed wardens.¹⁰⁰ The very next year, the Board of Military Affairs reported that "bandits" (*tojŏk* 盜賊) were stealing livestock from mountainside communities and cutting down pines in Restricted Forests around Seoul. The Board sent a squad of troops to investigate and find the culprits.¹⁰¹ In the 1440s, more reports of unrestricted felling stirred calls for "robust and honest" (*changsil* 壯實) individuals to be

⁹⁸ *T'aejong Sillok* 6.1.28 (1406).

⁹⁹ *Sejong Sillok* 3.6.10 (1421).

¹⁰⁰ *Sejong Sillok* 6.9.10 (1424).

¹⁰¹ *Sejong Sillok* 7.1.5 (1425).

appointed as wardens and for more woods around Seoul to be cordoned off as Restricted Forests.¹⁰²

By 1469, the government had established a strict system of Restricted Forests and wardens around Seoul. The system was outlined in eight provisions collectively known as the “Regulations restricting the cutting of pines in and around the capital limits” (*tosǒng naewae songmok kũmbol samok* 都城内外松木禁伐事目):¹⁰³

1. In general, those who cut down pine trees will be flogged 100 times. If the perpetrator’s household head is a court official, then he will be expelled from office. If they are sinecures (*hansan* 閑散), then they are indefinitely reassigned to an outer region. If they are commoners, then they are flogged eighty times and their [stolen] goods are repossessed.
2. As for the four mountains in and around the capital, junior officials from the Board of Military Affairs and Seoul Magistracy (Hansǒngbu 漢城府) are to divide and assign [duties]. They should enforce the law at all times and then report to the court at the end of the month.
3. If they are incompetent in their enforcement, then the pertinent officials from the Directorate of Construction,¹⁰⁴ Board of Military Affairs and the Seoul Magistracy will be demoted in rank. Incompetent forest wardens will be flogged one hundred times and impressed into the military.
4. As for the residents at the foot of the mountains, again the Board of Military Affairs and Seoul Magistracy are ordered to devise an arrangement to divide and impose bans and protections. Chestnut trees (*yulmok* 栗木) and miscellaneous trees (*chadmok* 雜木) likewise are prohibited from being cut.
5. The residents at the foot of Samgak Mountain also are to assign a forest warden to prohibit cutting. Those who are incapable of prohibiting and protecting will be punished according to the provision for other forest wardens in the Four Mountains.
6. The forest wardens are also ordered to restrict and protect against monks who cut down trees around the temples in the Four Mountains and Samgak Mountain,

¹⁰² *Sejong Sillok* 23.7.14 (1441), 27.11.27. (1445).

¹⁰³ *Yejong Sillok* 1.3.6 (1469).

¹⁰⁴ The exact term used here is the *Kamyǒkkwan* (監役官), meaning the temporary and most junior positions in the Directorate of Construction.

7. The Royal Secretariat (Sŭngjŏngwŏn 承政院) is ordered to always report any negligence in the restrictions and protections.
8. Since Tobong Mountain is truly the capital's main mountain artery, the Board of Military Affairs is ordered to follow the above provisions' terms and enforce restrictions on cutting there as well.

Jurisdiction was divided along ambiguous lines. Just as overlapping agencies oversaw the protection of designated naval timber along the coasts, the Board of Military Affairs, Seoul Magistracy, Directorate of Construction, and the Royal Secretariat oversaw various aspects of forest protection in Seoul and its vicinity. The bureaucratic overlap reflects the contested materiality of early modern forests. Because trees had so many uses, oversight depended on the objective of usage and convenience of enforcement. The Board of Military Affairs needed timber for Seoul's defensive walls and nearby ships; the Directorate of Construction needed to build and repair official buildings; the Seoul Magistracy needed to enforce general administration. The overlap of duties and functions in Chosŏn state forestry would only intensify in later centuries.¹⁰⁵

Constructing Coffins – and a New Social Order

Though the Seoul-area forest regulations are listed as restrictions on “cutting pines,” they also extended to chestnut trees (*Castanea crenata*). Chestnut trees provided essential wood for official rituals and were particularly favored for the altars and spirit tablets (*sinju* 神主) used

¹⁰⁵ Na Yŏnghun has argued that the Directorate of Construction in the sixteenth century gradually lost officials skilled in “practical knowledge” as scholars educated in the Confucian classics dominated more and more posts. Accordingly, the Directorate of Construction gradually shed some of its original purposes in architectural upkeep and wood procurement. Na Yŏnghun, “Chosŏn ch’ogi Sŏn’gonggam ūi unyŏng kwa kwanwŏn ūi sŏnggyŏk [The management of the Directorate of Construction and the nature of its officials in the early Chosŏn era]” *Chosŏn sidaesa hakpo* 62 (September 2012): 113-171.

during ancestor veneration ceremonies (*chesa* 祭祀).¹⁰⁶ This particular demand was a by-product of early Chosŏn social legislation regarding mortuary procedures. Attempts to transform funerary rituals would increase demand for not only chestnut trees but also, far more critically, for pine wood for coffins.

Whereas the Koryŏ state had adhered to a mixture of Buddhist, Confucian, and geomantic beliefs, Chosŏn eventually became dominated by Confucian institutions and practices. The shift began in the Koryŏ era with the rising popularity of Confucian ideas among the *yangban* stratum staffing central officialdom. As the late Koryŏ dynasty descended into economic tumult and institutional uncertainty during the fourteenth century, *yangban* took it upon themselves to reform the country via legislation targeting everything from the role of king and bureaucrat to the content of national customs (*kuksok* 國俗) and the position of women.¹⁰⁷

One particular target of reform was mortuary procedure. Cremation was the norm in the Koryŏ period. This changed starting in the fourteenth century when Confucian-influenced officials began criticizing the expenses of Buddhist funerals as lavish, the building of temples and pagodas as unnecessary, and the behavior of Buddhist clergy as perverse and corrupt. In 1392, the Privy Council declared: “From the central government officials down to the ranks of the lesser nobility, all should build a family shrine and venerate ancestors ritually.”¹⁰⁸ Their goal

¹⁰⁶ However, pine trees remained on top of state forestry’s sylvan hierarchy. When King T’aejong visited his father’s royal tombs in 1415, he observed stands of pines and chestnut trees growing together. The king, concerned that the chestnut trees would hamper the growth of pines, suggested that the chestnut trees be cut down. His minister agreed, replying: “Chestnut trees easily deteriorate so it would not be troublesome to cut them all down.” *T’aejong Sillok* 15.5.5. (1415).

¹⁰⁷ For more details on early Chosŏn social legislation, see Martina Deuchler, *The Confucian Transformation of Korea: A Study of Society and Ideology* (Cambridge, MA: Harvard University Asia Center, 1992).

¹⁰⁸ Milan Hetjmanek, “The Familiar Dead: The Creation of an Intimate Afterlife in Early Chosŏn Korea” in *Death, mourning, and the afterlife in Korea: from ancient to contemporary times*, eds., Charlotte Horlyck and Michael J. Pettid, (Honolulu: University of Hawaii Press: Center for Korean Studies, University of Hawaii, 2014), 155. Original source: *T’aejo Sillok* 1.9.24 (1392).

was to shift the loci of funerary ritual from cremation and Buddhist temples to burial and Confucian shrines.¹⁰⁹

Accordingly, in 1413, the Chosŏn government established the Funerary Bureau (*Kwihusŏ* 歸厚署), a government workshop dedicated to making and selling coffins.¹¹⁰ *Kwihusŏ* literally means “the bureau for the resumption of proper excellence” and is a phrase derived from a passage in the Confucian Analects regarding the societal importance of proper funerary rites: “Let there be careful attention to perform the funeral rite to parents, and let them be followed when long gone with the ceremonies of sacrifice – then the virtue of the people will resume its proper excellence.”¹¹¹ The creation of the office and its nomenclature echo the reformist ambitions of the early Chosŏn bureaucracy.

The Funerary Bureau’s offices were located near the Yongsan district of Seoul just outside the old city walls. Because taking care of coffins involved corpses and hence potential diseases, the Funerary Bureau was outside of the city limits. At the same time, Yongsan laid along the Han River, the main artery for goods, including wood, going in and out of Seoul.¹¹² There, Bureau officials and workers could receive timber coming into Seoul from the pine forests of Kyŏnggi and Kangwŏn provinces.

The Chosŏn government decided, very early, that pines should be used for coffins. The major reference for the decision, along with other aspects of funerary ritual, was Zhu Xi’s (1130-1200) *Household Rituals* (*Jiali* 家禮). Zhu Xi, perhaps the second most influential thinker in

¹⁰⁹ Martina Deuchler, *The Confucian Transformation of Korea: A Study of Society and Ideology* (Cambridge, MA: Harvard University Asia Center, 1992), 179-181; Milan Hetjmanek, 156-157.

¹¹⁰ The only major study of the *Kwihusŏ* in Korean is by Han Hŭisuk, “Chosŏn chŏn’gi changrye munhwa wa Kwihusŏ [Funerary rituals and the Kwihusŏ in the early Chosŏn era].” *Chosŏn sidaesa hakpo* 31 (2004), 39-78.

¹¹¹ Analects 1.9, “慎終追遠，民德歸厚矣。” James Legge, trans., *Confucius: Confucian Analects, The Great Learning, and The Doctrine of the Mean* (New York: Dover Publications, 1971), 141.

¹¹² Han Hŭisuk, 54.

Chinese history after Confucius himself, had synthesized Chinese rites into this instructive compendium complete with his commentaries. Early Chosŏn officials referred to the *Household Rituals* to plan various rites and social legislation, though with differences reflecting their unique environment. For instance, in 1420, the Board of Rites (Yejo 禮曹) noted that Zhu Xi prescribed cypress wood for an emperor's coffin but pine wood for the coffins of "lords (*kun* 君) and nobles (*chehu* 諸侯)," which the Koreans conveniently interpreted as their own king and high officials.¹¹³

Ongoing anxieties over pine scarcity further spurred the institutionalization of forests for coffin production. In 1424, an official from the Board of Rites complained that the prolific felling of pine had reduced forests to the extent that "timber for producing thick boards were sparse and few."¹¹⁴ He urged the court to find and protect high-quality pines, termed *hwangjang* (黃腸), for royal and official coffins. What the government particularly sought were older trees with significant heartwood. The Board of Rites was well-aware that sapwood (*paekpyŏn* 白邊), the outermost and youngest wood within a tree, did not cope well with humidity or moisture.¹¹⁵ In contrast, heartwood, the oldest, densest part of the tree, is resistant to decay because it is technically dead and does not chemically react to most decay organisms. Accordingly, the government selected and protected *hwangjang* groves in Kyŏnggi, Kangwŏn, Hwanghae, and P'yŏngan provinces.¹¹⁶

¹¹³ *Sejong Sillok* 2.7.24. (1420).

¹¹⁴ *Sejong Sillok* 6.12.4. (1424).

¹¹⁵ *Sejong Sillok* 2.7.24. (1420); *Sejong Sillok* 6.12.4. (1424).

¹¹⁶ *Sejong Sillok* 2.7.24. (1420); *Sejong Sillok* 25.7.24. (1443).

Hwangjang coffins were reserved for royalty and certain officials of senior second rank and above. In theory, the Funerary Bureau's products were to help transform the way Koreans approached death and funerals. In practice, the key vessel of the Confucian funeral, coffins, were too expensive for most people aside from Seoul-based elites. The regular price was set at five bolts of cloth, a hefty sum in early Chosŏn, but in 1427, a court eunuch named Paek Ŏn even paid a roll of fresh silk for a coffin from the Funerary Bureau.¹¹⁷ Such prices were beyond the means of most Koreans of the era.

Government control over the timber supply further limited the scale of coffin construction. As state anxieties grew over warship and capital construction, more forests were institutionalized and less timber became available for the Funerary Bureau outside of the protected *hwangjang* groves. As early as 1426, the Board of Military Affairs observed that its emphasis on conserving naval timber conflicted with coffin promotion policies. The Board suggested that houses in mourning near Restricted Forests could inform local government offices to check on the availability of pine trees, whereupon "the magistrates can take timber not appropriate for ships, calculate their quantity, and then supply them for funerary usage."¹¹⁸ Yet, there is no evidence of any significant local coffin industry in the early-to-mid fifteenth century, largely because any substantial utilization of wood revolved around government priorities and occurred through government institutions.

Institutional priorities did occasionally clash. In 1463, Funerary Bureau officials requested royal permission to cut down one hundred trees around mountain villages (*san'gun* 山郡) for coffin construction. King Sejo initially suggested that the number of trees be reduced "in order to supply timber for warships," but a court official named Hong Un (1428-1492) then

¹¹⁷ *Sejong Sillok* 9.5.10 (1427).

¹¹⁸ *Sejong Sillok* 8.10.17 (1426).

convinced the king to grant the Funerary Bureau's request. Hong argued that coffins were already difficult to acquire in the provinces and so "there are many people buying them from the Funerary Bureau." He further attested that the rate at which people die was "limitless (*mugung* 無窮)" and so even the one hundred requested trees would be insufficient.¹¹⁹

The brief debate reflects the forest's place as a contested materiality. Different priorities ranging from naval defense to capital construction and cultural reform led to the institutionalization of pine forests as state resources. However, as we have seen above, state forests were not run by a single entity nor did they have a singular purpose. The monarchy, the Board of War, the Board of Taxation, the Board of Works, the Board of Rites, and various smaller agencies such as the Directorate of Construction and the Funerary Bureau all had some jurisdiction over and uses for state forests. State forestry thus existed as an assorted array of edicts and actions until 1471, when its objectives and by-laws were finally ensconced in the Chosŏn's first comprehensive administrative code, *The Great Code of Administration (Kyŏngguk taejŏn)*.

Forestry as a Encoded in Early Chosŏn Law

Until the promulgation of *The Great Code of Administration*, Chosŏn law was based on a series of treatises, edicts, and various supplements. Such treatises included *The Six Codes of Administration (Kyŏngje yukchŏn)* compiled by Cho Chun (1346-1405) in 1394, *The Amended Six Codes (Sok yukchŏn)* compiled by Han Yun (1347-1416) in 1416, and a translation of the Ming criminal code into Chosŏn clerk script (*idu*).¹²⁰ Additional edicts, such as the regulations

¹¹⁹ *Sejo Sillok* 9.1.14 (1463).

¹²⁰ Martina Deuchler, *Confucian Transformation of Korea*, 121.

from 1469 regarding Restricted Forests around Seoul, were recorded in the *Annals of the Chosŏn Dynasty*.

However, the dynasty's first century saw tremendous political transformations, with a plethora of institutions formed, new functions added, new customs and rituals promoted, and as we have seen above, new types of resources prioritized. *The Great Code of Administration* (henceforth referred to as the "Great Code") was a definitive attempt to encode the past decades of institutional and cultural change. Bureaucratic procedures and duties, the general layout of the state's institutions, and key details regarding taxation, the military, and crime and punishment were finally laid out in one document.¹²¹

Forestry was a prime example of an institution that had developed after the advent of the dynasty and thus was in need of encoding. The Great Code's section on forestry, called "Planting Trees" (*chaesik* 栽植), is listed under the Board of Works, but much of the section also delegates forestry duties to the Board of Military Affairs. For instance, the Great Code gives the Board of Works nominal authority over Restricted Forests in the vicinity of Seoul, but also gives the Board of Military Affairs responsibility for the appointment of wardens. Moreover, the Great Code confirms the Board of Military Affairs authority to oversee all Restricted Forests in the coastal and island areas. Naval personnel were to plant pine trees every spring and carefully record the number planted and harvested. The section also includes punishments for illegal

¹²¹ Chŏng Hohun, "Chosŏn chŏn'gi pŏpchŏn ūi chŏngbi wa kyŏngguk taejŏn ūi sŏngnip [The codification of laws and the formation of the Great Code of Administration in early Chosŏn]" in *Chosŏn kŏn'guk kwa kyŏngguk taejŏn ch'eje ūi hyŏnsŏng* [The founding of the Chosŏn dynasty and the completion of the Great Code of Administration system], ed. O Yŏnggyo (Seoul: Hyeon, 2004), 92-95.

woodcutters and incompetent wardens, details of which largely followed the Seoul-area provisions from 1469.¹²²

In addition to encoding bureaucratic jurisdiction over Restricted Forests, the Great Code detailed procedures regarding other types of trees. In order to decide tribute tax quotas, magistrates were to record the number of lacquer, mulberry, and fruit trees in their district every three years. Districts were especially encouraged to plant of mulberry trees, as their leaves were a key food source for silkworms. Critically though, unlike with pines, there were no detailed prohibitions against cutting these trees.¹²³

Because pines were associated with key political objectives, the Chosŏn bureaucracy directly managed coastal conifer forests. Other types of trees and their products were funneled through the tribute tax system, where each local magistrate collected a quota of select items to be sent to Seoul. For instance, P'yongyang levied silk and hemp as its tribute tax; Kangnŭng in Kangwŏn province sent pine nuts and high-quality mulberry wood for bow-making. High-grade pine forests, however, were denied to most people. The central bureaucracy and the corvée system were the conduits through which pine forests were managed and their products distributed. No other major resource in the early Chosŏn era was so directly managed by the central government and its intendent corvée system.

Since the corvée system was largely dedicated to construction and road-building, one could argue that the early Chosŏn forestry system as well was akin to an infrastructural project. It involved the bureaucratic mobilization of labor and resources to fulfill broad statist goals and linked the sustainability of sylvan environments to the continuation of the existing political

¹²² *Kyŏngguk taejŏn* [The Great Code of Administration, hereafter KGTJ], *kongjŏn* [Section on the Board of Works]: *chaesik* [Planting Trees] (Seoul: Yŏgang ch'ulp'ansa, 2001).

¹²³ *Ibid.*

structure. The early Chosŏn government set in motion a process that would render forestry into an enduring state institution defined by bureaucratic procedures and welded to the very survival of the Chosŏn state.

However, because the state yoked the institution to a single sylvan species and resource, state forestry's very foundation was based on an imagined pine-dominated landscape conjured by distinct needs for warships, construction lumber, and coffins. Early Chosŏn state forestry became a centralized affair planned by monarchs and central bureaucrats and carried out largely by corvée laborers and conscripted soldiers, all without careful observation into local practices beyond the identification of perceived threats to pines. The circumstances beg a question: how did the pine-based state forestry system intersect with local realities

Chapter Two

Between Tigers and Timber: The State, Forests, and the Local, 1469-1592

*Rather than banning logging and nourishing beasts, would it not be better to nourish the people and profit the state? – Yu Chagwang, 1507*¹

As seen in the previous chapter, the early Chosŏn state had a particular vision of how people should use land and forests. The state forestry system installed by early Chosŏn bureaucrats privileged certain tree species, *Pinus densiflora* and *Pinus thunbergii*, and a certain ecosystem, the coastal conifer forest. This chapter explores how the state forestry system was reshaped by the changing society of sixteenth-century Korea. Both naval and capital edifice construction diminished as national priorities.² Government policy turned overwhelmingly toward another task, the expansion of settled, field-based agriculture. Sedentary agriculture proliferated throughout southern Korea during the sixteenth century; the amount of registered land more than doubled.³ State forestry policies changed accordingly. Rather than expanding the number of Restricted Forests or recruiting more wardens, the government concentrated on regulating fire usage and hunting down animals deemed inimical to agriculture. Moreover, the state's forestry system had to accommodate the sylvan needs of a rising group: local elites (*sajok* 士族).

¹ *Chungjong Sillok* 2. 1.2 (1507).

² The Waegu problem did occasionally erupt, notably in 1510 and 1544 when Japanese traders rioted in their compounds in southern Korean ports and in 1555 when raiders from Kyushu ransacked the southern Chŏlla coast. The Chosŏn government controlled such outbursts through a variety of diplomatic methods that prevented full-fledged war until 1592. For more information on Korean-Japanese relations in this period, see James Lewis, *Frontier Contact between Chosŏn Korea and Tokugawa Japan* (London; New York: Routledge Curzon, 2003); Kenneth R. Robinson, "An Island's Place in History: Tsushima in Japan and in Chosŏn, 1392-1592" *Korean Studies* 30 (2006): 38-64.

³ Kim Tongjin, *Chosŏn chŏn'gi p'oho chŏngch'aek yŏn'gu: nongji kaegan ūi kwanjŏm esŏ* [A study of tiger hunting policy in the early Chosŏn era from the perspective of land reclamation] (Seoul: Sŏnin, 1998), 59.

The sixteenth-century shift reflects a broader point to be reiterated throughout the dissertation. “Forest” is not a neutral term. It is historically contingent. Its meaning was shaped by changes in real or perceived demand for wood products; in changes in governance around sylvan ecosystems; and in the changing socio-economic dynamics around contested ecosystems. In this chapter, I argue that a combination of factors began to complicate the state forestry system from the late fifteenth through the sixteenth century. Namely, the pressures of land reclamation, anxieties about tigers and leopard populations, and increasing sway of local elites (*sajok* 士族) forced the Chosŏn bureaucracy to open forests to more users and wider usages. In short, state and forest intersected with local realities. By “intersected” and “intersections,” I mean that a particular form of forest usage, the state-protected timber reserve, had to yield to other uses of sylvan space, which in turn re-defined statist conceptions of what a forest should be used for.

The contest of restriction versus accommodation, of protecting forests versus reclaiming them for other purposes, reflects the mixed history of Korea’s sixteenth century. On one hand, it was an era when the government expanded its reach across the peninsula. The population may have grown to ten million people sometime in the early sixteenth century.⁴ The economy grew and crops diversified. Changes in the land, specifically changes in patterns of fire usage, hunting, and wood procurement, spurred a more diverse relationship between state, forests, and local

⁴ Ko Tonghwan, “When did Joseon’s Population Reach Ten Million?” in *Everyday Life in Joseon Korea: Economy and Society*, ed., Michael Shin, co-trans., Edward Park (Leiden: Brill, 2014), 139. Chosŏn population statistics are very unreliable and hence prone to significant interpretation. Ko Tonghwan estimates the early sixteenth-century date for reaching of the ten million threshold based on work by Sin Yongha and Kwon Taehwan “Chosŏn wangjo sidae in’gu ch’ujŏng e kwanhan ilsiron [On population estimates of the Chosŏn Dynasty, 1392-1910]” in *Tonga munhwa* 14:12 (1977), 289-330. Tony Michell, on the other hand, estimates that the Chosŏn population was still under ten million by 1592. He does not have the population crossing the ten million threshold until the latter half of the seventeenth century. Tony Michell, “Fact and Hypothesis in Yi Dynasty Economic History: The Demographic Dimension” in *Korean Studies Forum* 6 (Winter-Spring 1979-80), 65-93.

communities. Fundamental to the navigation of the new intersections were local elites and a growing administrative apparatus, elements who I term “brokers” of the Chosŏn state.

Situating State and Society in the Sixteenth Century

In his *magnum opus*, *Confucian Statecraft and Korean Institutions: Yu Hyŏngwŏn and the late Chosŏn Dynasty*, James Palais described sixteenth-century Korea as a time of political and social “disintegration,” an era when the high-minded reformism that had launched the dynasty degenerated into “maladministration [and] internecine bureaucratic factionalism,” and Chosŏn society became beset with what Palais calls ‘negative trends’ – “the concentration of wealth, the evasion of responsibility, and the deterioration of national defense.”⁵ Only the devastating Hideyoshi invasions at the end of the century, attests Palais, gave the Chosŏn dynasty a chance to rebuild.

Palais’s argument bemoans the failed promise of early Chosŏn statecraft. The reformist dreams of fifteenth-century scholars, in his view, fell into the quagmire of elite self-interest and irresponsibility. South Korean scholarship has vigorously debated the course and character of the same era. Some, such as Ch’oe Yŏnghŭi in his study of coastal people in the Kyŏngsang and Chŏlla regions, concur Palais that the sixteenth century was an era of increasing tax and labor burdens for the general populace.⁶ Others, such as Kim Sŏngu and Kim Kŏnt’ae, have emphasized the *sajok* elites’ role in agricultural development, particularly in the southern provinces of Chŏlla, Kyŏngsang, and Ch’ungch’ŏng. According to this line of argument, local

⁵ James B. Palais, *Confucian Statecraft and Korean Institutions: Yu Hyŏngwŏn and the Late Chosŏn Dynasty* (Seattle: University of Washington Press, 2002), 1004.

⁶ Ch’oe Yŏnghŭi, “Imjin chŏngyunan si yŏnhae min ũi tongt’ae [Conditions of the coastal people during the Japanese invasions of 1592 and 1597],” *Sach’ong* 2 (1957): 4-27.

elites arose in areas where land and labor were available to claim and where the reliability of water supplies facilitated the spread of wet-rice cultivation.⁷

The localist elite thesis, that the sixteenth century was an era of local elite consolidation with profound implications for the later dynasty, is part of Martina Deuchler's *longue duree* study of the Chosŏn ascriptive elite.⁸ Anchored in kinship-centered descent groups and further defined by shared participation in ritual and scholarly affairs, the *sajok* were able to maintain their socio-political dominance until the end of the Chosŏn dynasty. Their dominance of central politics can be traced to the fifteenth century, and in the case of some illustrious families, further back to the Koryŏ and even Silla eras. Their ascendancy in the countryside, however, required a "localizing" transition from the fifteenth through the sixteenth centuries, when established kinship groups reclaimed land and brought tax-burdened small cultivators under their protection (often as bonded slaves). "By 1600," writes Deuchler, the *sajok* "controlled the countryside."⁹

Palais and Deuchler's theses do not necessarily contradict each other. I agree with Palais that the fifteenth century saw the unfolding of Confucian statecraft onto many spheres of Korean society. The same pattern was exemplified in the rise of state forestry in early Chosŏn. I also agree with Deuchler that the development of local elite society was an equally critical aspect of the sixteenth century. Most notably, local elites formed the basis for what I call the "rise of the brokered state" in Korean history.

As noted in the Introduction, what Chosŏn experienced between the early sixteenth century and 1800 was not an absolute erosion of state authority. Rather, brokered interactions

⁷ Kim Kŏnt'ae. *Chosŏn sidae yangban'ga ūi nongŏp kyŏngyŏng* [Yangban landlordism during the Chosŏn dynasty] (Seoul: Yŏksa pip'yŏngsa, 2004); Kim Sŏngu, *Chosŏn chunggi kukga wa sajak* [The state and elites in the mid-Chosŏn era] (Seoul: Yŏksa pip'yŏngsa, 2001).

⁸ Martina Deuchler, *Under the Ancestors' Eyes: Kinship, Status, and Locality in Premodern Korea* (Cambridge, MA: Harvard University Asian Center, 2015), 96-102.

⁹ *Ibid.*, 399.

between center and local changed and reshaped the nature of the state. The mechanisms of developing and imposing political, social, and economic norms required the involvement of various elements that had not been nearly as significant or robust before the sixteenth century. Accordingly, state policies had to accommodate the rise of local elements.¹⁰ In state forestry as well, a timber-centric ecology centered on conifers gave way to a variety of usages. For a poignant example, one can examine how the Chosŏn state dealt with a ubiquitous forest dweller: fire.

The State and the Problematic Blessing of Fire

Stephen Pyne, the foremost historian of fire, has called his subject of interest “the first of humanity’s Faustian bargains and the origin of an environmental ethos.”¹¹ Fire gave humans the ability to transform biota, to “remake raw materials into humanly usable history.” With the rise of sedentary agriculture came increased needs for fire accompanied by a mounting tension between dependency and responsibility. Fire became something necessary to reclaim, build, remake, heat, and cook; but it also became something that threatened revenues, timber, buildings.

The early Chosŏn state’s attitude toward fire precisely reflected such tensions. For the state, fire was necessary to reclaim new land, heat buildings, and construct utensils and ceramic ware. Chosŏn law required security torches (*kŭmhwap’an* 禁火板) to be placed around villages

¹⁰ Similar developments also arose in intellectual and cultural spheres. While many *yangban* became increasingly divorced from bureaucratic office-holding during the sixteenth century, they still claimed their role as legitimate political actors on a par with the state in the realm of social ethics. What can be called the localization of the Confucian socio-political agenda began in the sixteenth century with the ideas of T’oegye Yi Hwang (1501-1570) and solidified particularly in the southeast region as local *yangban* there utilized private academy networks, petitions, and what Hwisang Cho calls “textual domination” to thrust local voices into central bureaucratic affairs. The central government, in turn, recognized the authority of the local scholarly networks, thus empowering their socio-political discourses. Hwisang Cho, “The Community of Letters: The T’oegye School and the Political Culture of Chosŏn Korea, 1545-1800” (Ph.D. diss., Columbia University, 2010), 338.

¹¹ Stephen Pyne, *World Fire: The Culture of Fire on Earth* (Seattle: University of Washington Press, 1997), 13.

to ward off bandits.¹² Fire and prodigious use of firewood were key to making weapons in the military manufactories (*kun'gisi* 軍器寺). Yet the same forces, when uncontrolled, could destroy buildings, forests, and the countless other elements of this wooden age.

Controlling fire required an active state role. In 1431 for instance, the Board of Works blamed “the prevalence of thatched roof houses and high winds” for causing a spate of damaging fires in Seoul. The solution, the Board argued, was to replace more thatched roofs with ceramic roof tiles. The government ordered the installation of state-managed kilns (*pyōlyo* 別窯) in every province to staffed by corvée soldiers and monks.¹³

Government officials also did not escape prosecution for destructive usage of fire. In 1475, a military official named Kim Sōhyōng decided to take his troops on a hunting excursion “under the pretext of military training” in the T’aean peninsula region along the western coast. The area also happened to have several Restricted Forests.¹⁴ Instead of seriously training his troops, Kim imposed burdensome demands on local magistrates for food and supplies. Most seriously, probably during an overly zealous attempt to flush out game, Kim set a huge fire that destroyed pines in the local Restricted Forest and even burned down an ancient Buddhist temple, Kaesimsa 開心寺, first established by the Paekche kingdom in 651.¹⁵ Kim was discharged for the

¹² *Kyōngguk taejōn* [The Great Code of Administration], Pyōngjōn, footnote 600.

¹³ *Sejong Sillok* 13.4.9 (1431). As with the coffins of the Funerary Bureau though, roof tiles were available only to those with the means to purchase them.

¹⁴ According to the 1448 Restricted Forest survey, Sōsan County contained four Restricted Forests: on the islands of P’ach’i and Taeya and in the hamlets of Anmyōn and Kwangji.

¹⁵ *Sōngjong Sillok* 6 .4.11 (1475).

“crime of swidden” (*hwajŏnjwe* 火田罪), though he was later reinstated after some debate over his competence.¹⁶

The government prescribed fire prevention measures around what it deemed its key institutions. Wardens were ordered to prune forests around royal tombs. Monks and attendant officials were ordered to similarly maintain forests and watch for fires around the four State Archives (*sago* 史庫) that contained the *Annals of the Chosŏn Dynasty*.¹⁷ Around the signal beacons (*pongsudae* 烽燧臺) that warned against invaders on Chosŏn’s borders, soldiers were ordered to dig 3.2 by 3.2 meter trenches to guard against wayward fires.¹⁸ At these intersections, forests were not state resources. They became threats to key state institutions, flammable biota that could burn the state’s records, break its defenses, and tarnish royal tombs and the state’s very legitimacy. Pine forests, the government’s preferred sylvan ecosystem, were particularly vulnerable to wildfires. Pine are notoriously flammable, and fallen pine needles provide ideal kindling.

Similarly complex anxieties about fire were evident in agricultural policy. Officials were warned to be vigilant about fires during the spring, Korea’s fire season, when snows would retreat and farmers would burn old crop debris to fertilize the soil.¹⁹ All the more dreaded were large-scale swidden farming (*hwajŏn* 火田) and shifting cultivation (*hwan’gyŏng* 換耕).

¹⁶ *Sŏngjong Sillok* 10.30.10 (1479).

¹⁷ Three out of the four State Archives would still burn to the ground during the Hideyoshi invasions in 1592.

¹⁸ These examples are collected in Kim Tonghyŏn, Kang Yŏnggho, and Kim Ch’anbŏm, “Chosŏn sidae (1392-1910) ũi sanbul chŏngch’aek e kwanhan yŏn’gu [A Study of Forest Fire Policy during the Chosŏn Dynasty].” *Journal of Korea Society of Hazard Mitigation (KOSHAM)* 12:6 (December 2012), 220.

¹⁹ Kim Tonghyŏn; Kang Yŏnggho; Kim Ch’anbŏm, “Chosŏn sidae (1392-1910) ũi sanbul chŏngch’aek e kwanhan yŏn’gu [A Study of Forest Fire Policy during the Chosŏn Dynasty].” *Journal of Korea Society of Hazard Mitigation (KOSHAM)* 12:6 (December 2012), 220. Even as recently as the spring of 2015, North Korea has been scorched by wildfires massive enough to be visible from space.

Swidden farming was demeaned as a backward custom associated with remote areas.²⁰ The government also perceived swidden as an environmentally destructive threat, particularly to protected forests. Magistrates and wardens were to report any evidence of illegal or uncontrolled fires. In a 1493 memorandum to the various provincial surveillance commissioners, King Sŏngjong demanded that swidden be banned around Restricted Forests because the practice “stripped them bare” of trees. Moreover, Sŏngjong noted that accompanying deforestation could dry up water sources (*ch’ŏnwŏn kogal* 泉源枯渴).²¹ This is an important early Chosŏn observation confirmed by modern forest hydrology. The partial or complete removal of tree cover can reduce river flow and even dry out river beds.²²

James Scott and Clifford Geertz have noted the tendency of states to dismiss swidden agriculture as untidy, illogical, even dangerous affair practiced by misguided people.²³ In some cases, such as in the link between fire and river flows, environmental risks may exist. Yet, shifting agricultural practices such as swidden contain efficient features that often escape the state’s jaundiced eye. The Chosŏn state’s favored form of agriculture, the wet-rice paddy, is itself the by-product of a disruptive transformation of land and water into a managed pond centered on a single species of grass. Swidden, meanwhile, can maintain the pre-existing environment through what Geertz calls “canny imitation.”²⁴ Biotic diversity is thus preserved. Rather than forcibly inputting fertilizers, stored nutrients from the forest canopy can cycle

²⁰ One group of swidden farmers on the far northwestern island of Haerang were even described as wearing buckskins and speaking a Chinese language. *Sŏngjong sillok* 23.8.4 (1492).

²¹ *Sŏngjong Sillok* 24.6.11 (1493).

²² I. Calder, T. Hofer, S. Vermont and P. Warren, “Towards a new understanding of forests and water,” in *Unasylva* 229:58 (2007/4), Food and Agriculture Organization of the United Nations, 5.

²³ James Scott, *Seeing like a State*.

²⁴ Clifford Geertz, *Agricultural Involution in Indonesia* (Berkeley; Los Angeles: University of California Press, 1963), 16.

through the soil below. The maintenance of some forest cover reduces the amount of sunlight and rain that reach the soil, minimizing the labor costs of weeding.²⁵

Accordingly, the early Chosŏn state did not hold a singular posture toward fire. For instance, it would permit and tax swidden fields in some areas, particularly where agriculture was difficult. In 1476, the Board of Taxation recommended that swidden fields in Kangwŏn province be assessed every autumn rather than every three years in the manner of settled fields. Such accommodation reflected the state's understanding of Kangwŏn's mountainous terrain, as evident in the Board of Taxation's description:

In this province, upland fields (*sanjŏn* 山田) are many but lowland fields (*p'yŏngjŏn* 平田) are few. Yet, even for the fields laid on mountainsides, the topography does not incline steeply, and the soil is fertile.²⁶

The government also eventually accommodated swidden and woodcutting practices around state game reserves (*kangmujang* 講武場). In the early years of the dynasty, Chosŏn government established hunting reserves in Kyŏnggi and Kangwŏn provinces for royal use as well as military training purposes. In 1474, a group of officials from the Meat Procurement Office (*Chŏnsaengsŏ* 典牲署) complained that a game reserve near Myojŏk mountain in eastern Kyŏnggi province was “cutting off [the local residents'] sources of food and clothing.” The Ritual Procurement Office recommended the loosening of restrictions on swidden and woodcutting. The officials even argued that the residents fulfilled a valuable role in landscape management. Without their swidden and woodcutting activities, the forests would become overly

²⁵ Geertz, 16-25

²⁶ *Sŏngjong Sillok* 7.10.3 (1476).

dense, thus causing “bandits and terrible beasts to return.”²⁷ A patchwork of multiple uses – agriculture, hunting, woodcutting – defined this particular forest, and the government had to accommodate accordingly.

Government accommodation of swidden in Chosŏn Korea, while not consistent throughout the dynasty, was feasible thanks to the lack of an ethnicized divide between upland and lowland peoples on the peninsula. Unlike in mainland southeast Asia or the Yangzi highlands of late imperial China, Korean swidden farmers were not a separate people subject to a different cultural modality.²⁸ In the mountainous areas of northern and eastern Korea, the Chosŏn government recognized that unfriendly soils and topography necessitated forms of swidden.²⁹ In numerous parts of southern and central Korea, farmers cultivated registered fields in the lowlands while simultaneously inching up slopes and toward seashores using the classic methods of land reclamation: fire, spade, and the axe. While swidden was certainly an economic and environmental nuisance, the Chosŏn government never completely stamped out the practice. Swidden was an existential threat to the state’s forests but not to the state itself.³⁰

²⁷ *Sŏngjong sillok* 9.5.10 (1474).

²⁸ For analysis of the cultural and ethnic construction of upland peoples and their particular political ecology in southeast Asia and China, see James C. Scott, *The Art of Not Being Governed: An Anarchist History of Southeast Asia* (New Haven, CT: Yale University Press, 2009); Steve Averill, “The Shed People and the Opening of the Yangzi Highlands” *Modern China* 9:1 (Jan., 1983): 84-126.

²⁹ Swidden would continue to be widespread in northern Korea into the twentieth century. For discussion of Japanese colonial-era policies regarding Korean swidden, see Tessa Morris Suzuki, “The Nature of Empire: Forest Ecology, Colonialism and Survival Politics in Japan’s Imperial Order” *Japanese Studies* 33:3 (2005): 225-242; Komeie Taisaku, “Colonial Environmentalism and Shifting Cultivation in Korea: Japanese Mapping, Research, and Representation” *Geographical Review of Japan* 79:12 (2006): 664-679.

³⁰ In the early 1940s, Hermann Lautensach observed four different types of swidden cultivators remaining in Korea. The first was the “wild” swidden farmer who moved every few years after exhausting his plot; the second type was those who avoided the deep forest but instead stuck to the clearing of secondary-growth stands and shrubs; the third were former swidden cultivators who had resorted to raising livestock; and fourth type was lived a sedentary, lowland lifestyle but also used swidden methods to expand fields into upland regions. Hermann Lautensach, *Korea: A Geography based on the Author’s Travel and Literature*, trans. Eckart Dege, Katherine Dege (Berlin; Heidelberg, Germany: Springer Verlag, 1988), 161-162.

Overall, I surmise three major early Chosŏn trends in fire policy. One, the government restricted its usage around prominent state institutions and resource hubs such as Restricted Forests. Two, swidden was accommodated in areas where reclamation was deemed necessary or where the terrain allowed no other alternative. Three, just as fire played a diverse role in the Korean economy, the government had to hold diverse attitudes toward its usage. A mix of restriction, control, and accommodation defined the Chosŏn government's attitude toward fire in the fifteenth and sixteenth centuries.³¹

The varying Chosŏn attitude toward open fires from the fifteenth through sixteenth centuries, from castigation to accommodation, is a salient example of the ambiguities that imbued state-environment interactions in pre-industrial Korea. A timber-centric imaginary ecology could spur plans for larger fleets and a grander capital, but the imaginary still had to adjust to real practices on the ground. "State forestry" in Chosŏn Korea required constant tension between the state's preferred ecosystem, the timber-producing coniferous forest, and the variety of environments already extant and being produced. Such a condition, an impactful tension producing a byplay between policy formulations and environmental change, is best expressed by Karen Thornber as "ecoambiguity," the "complex, contradictory interactions between people and environments with a significant nonhuman presence."³² Desires to protect certain ecosystems could also abet their destruction. Culture and economics could clash and produce varied, sometimes contradictory attitudes toward certain sylvan ecosystems. Another instructive case is the history of the state game reserves and their decline. As socio-economic dynamics changed

³¹ Restrictions on swidden would harden in the seventeenth century when the rising reports of rural vagrancy (*yumin* 流民) prompted far harsher measures against shifting cultivation. In the late fifteenth and sixteenth centuries though, vagrancy was not a major concern.

³² Karen Thornber, *Ecoambiguity: Environmental Crises and East Asian Literatures* (Ann Arbor: University of Michigan Press, 2012), 1-3.

around more hunting reserves in the late fifteenth and sixteenth centuries, the Chosŏn state would have to transform the very way it engaged forest fauna.

Forests and Hunting: Open the Reserves, Kill the Tigers

Since the beginning of the dynasty, state game reserves had provided specialty meats such as deer and pheasant for royal consumption and sacrificial offerings. They were also considered prime sources of military training, particularly for cavalry. Thousands, even tens of thousands of soldiers at a time would be involved in massive hunts that helped improve horsemanship, archery, and unit cohesion.³³ Dynastic founder T'aejo decreed major hunts to be held at the end of every spring, summer, autumn, and winter around Seoul and at the end of every spring and autumn in the provinces, thus keeping the military sharp and the court well-supplied.³⁴

Early Chosŏn kings maintained the founder's martial flavor. King T'aejong (r. 1400-1418), and King Sejo (r. 1455-1468) were particularly avid hunters. T'aejong famously took every opportunity to hunt, pheasants being his specialty, even detouring into an impromptu hunting expedition on the road back from his father's birthday celebration.³⁵ Sejo supposedly could hit seven deer in the neck with seven arrows, and he would even venture out of the palace to lead impromptu hunting parties.³⁶ While the kings may have enjoyed the activities, hunting was no mere amusement. Large-scale royal hunts in early modern Eurasia, as Thomas Allsen

³³ Sim Sŭnggu, Im Changhyŏk, Chŏng Yŏnhak, Cho T'aesŏp, *Sanyang ŭro pon sam kwa munhwa* [An Examination of Daily Life and Culture through Hunting]. (Seoul: Kuksa p'yŏnch'an wiwŏnhoe, 2011), 170. Kim Tongjin 366. The largest recorded royal hunt in 1475 involved 28,155 troops.

³⁴ Sim Sŭnggu "Chosŏn sidae sanyang ŭi ch'ui wa t'ŭksŏng: kangmu wa hoekp'o rŭl chungsim ŭro [The trends and characteristics of hunting in the Chosŏn dynasty: from the perspective of game reserves and tiger hunting]." *Yŏksa minsokhak* 24 (2007): 173-175.

³⁵ Sim Sŭnggu, Im Changhyŏk, Chŏng Yŏnhak, Cho T'aesŏp, *Sanyang ŭro pon sam kwa munhwa* [An Examination of Daily Life and Culture through Hunting]. (Seoul: Kuksa p'yŏnch'an wiwŏnhoe, 2011), 118.

³⁶ *Ibid.*, 119.

argues, carried heavy political meaning. They displayed a ruler's ability to command manpower and animals alike to people throughout the countryside and to subjects high and low. Royal hunts, as spectacle and mass project, affirmed the government's ability to govern.³⁷

At the same time, royal hunts imposed serious hardships on local residents. Not yet adapted to conventional agriculture, many Koreans in woodland areas in the fifteenth century still engaged in woodcutting and swidden farming as their livelihood. The establishment of game reserves denied them access to forest resources. A local resident caught trespassing in a hunting reserve risked corporeal punishment of up to one hundred blows, and officials who failed to catch trespassers could be demoted three ranks.³⁸ To make matters worse, local residents were expected to provide fodder for the military's horses and feed royal entourages.³⁹

By the time of King Sǒngjong's reign (r. 1469-1494), the game reserves were gradually losing their function as training zones. As Japanese *waegu* raids became less of a threat, the government reduced military expenses, and martial standards fell. Aristocratic men began avoiding military service duties, and experienced soldiers diminished in number.⁴⁰ Sǒngjong was also the first Chosǒn king to actively discourage hunting expeditions from overworking soldiers and burdening local residents. He also sought to crack down on damage to key institutions, such as Restricted Forests. A poignant example was his ministers' response to the aforementioned Kim Sǒhyǒn incident that burned down Restricted Forests and Kaesim Temple.

³⁷ Thomas T. Allsen, *The Royal Hunt in Eurasian History* (Philadelphia: University of Pennsylvania Press, 2006), 8-10. In medieval England, a "forest" was a place of deer, not trees. Oliver Rackham, *The History of the Countryside: The full fascinating story of Britain's landscape*. (London: J.M. Dent & Sons Ltd.), 64-65.

³⁸ Sim Sǔnggu, Im Changhyǒk, Chǒng Yǒnhak, Cho T'aesǒp, *Sa'nyang ũro pon sam kwa munhwa* [An Examination of Daily Life and Culture through Hunting]. (Seoul: Kuksa p'yǒnch'an wiwǒnhoe, 2011), 174.

³⁹ *Ibid.*, 172.

⁴⁰ For analysis of declining martial standards and prestige during the early-to-mid Chosǒn era, see Eugene Park, *Between Dreams and Reality: The Military Examination in Late Chosǒn Korea, 1600-1894*. (Cambridge, MA: Harvard University Asia Center, 2007), 30-38.

Moreover, during this era, game reserves were subject to environmental change. Just eleven years after the Kim Sōhyōn incident, the same game reserve in T'aean was described as overrun with animals that were harming local agriculture. In response, the government sent more troops to hunt down the animals. While royal hunting became less popular over the course of the fifteenth century into the sixteenth, animals continued to proliferate in the peninsula's forests. Furthermore, since more land was coming under the axe and paddy, human-animal interactions became all the more frequent and potentially inimical to human concerns.⁴¹

Thus, by the late fifteenth century, military cutbacks and environmental changes were transforming the function of game reserves in Kyōnggi, northern Ch'ungch'ōng, and western Kangwōn provinces. Some, now barely used, were being overrun with animals. During Sōngjong's reign, court officials regularly debated which reserves to open or close. In 1481 for instance, the Board of Military Affairs recommended the opening of all reserves to woodcutting and private hunting. The Board of Military Affairs noted that numerous game reserves had fallen into disuse, and as a result, they were overrun with animals seeping into fields and ruining crops. By removing woodcutting bans, officials hoped that local residents could clear both forests and beasts.⁴²

The changes in game reserve policy reflected the state's encouragement of land reclamation. Even when residents around game reserves were described as unwilling or unable to engage in conventional agriculture, the Chosōn government still encouraged them to hunt animals and cut trees since such actions were tantamount to reclamation. Chosōn policy toward

⁴¹ Between 1452 and 1531, there were 230 tiger sightings reported in the *Annals of the Chosōn Dynasty* and 212 reported fatal human encounters with tigers. Kim Tongjin, *Chosōn chōn'gi p'oho chōngch'aek yōn'gu: nongji kaegan ūi kwanjōm esō* [A study of tiger hunting policy in the early Chosōn era from the perspective of land reclamation] (Seoul: Sōnin, 1998), 319.

⁴² *Sōngjong Sillok* 12.10.3 (1481).

tiger hunting, in particular, highlights the state's view of some wildlife as obstacles to settled agriculture. The Chosŏn military even recruited tiger hunting infantry (*ch'akho kapsa* 捉虎甲士) to handle this deadly apex predator.⁴³ During King Sejo and Sŏngjong's reigns, any report of tiger sightings were treated as dire threats, and tiger hunters were accordingly dispatched.⁴⁴

Game reserves actually experienced a brief revival during the troubled reign of Yŏnsangun (r. 1494-1506). Yŏnsangun has a dim reputation in Korean historiography, mostly due to his fiscal profligacy and sexual licentiousness. The king was also a lover of the hunt, and he exacted a huge human and economic toil establishing a game reserve that stretched across twenty miles of land west of Seoul. Thousands of households were forcibly moved. In contrast to his predecessor's more accommodating policies, Yŏnsangun reinstated strict prohibitions on woodcutting and swidden in game reserves. When the Privy Council requested that the prohibitions be loosened, Yŏnsangun angrily rejected them. Woodcutters and swidden cultivators, in his view, were "cultivating contempt for their king."⁴⁵ He also ordered officials to zealously pursue any evidence of illegal woodcutting or fire activity in the games preserves and to arrest all wardens if any such evidence were found.⁴⁶

In 1506, a group of concerned ministers and military officials deposed Yŏnsangun and installed his brother on the throne as King Chungjong (r. 1506–1544). Devoid of their major patron, game reserves likewise fell out of favor. A year after the coup, a military official named Yu Chagwang (1439-1512) requested that more game reserves in Kyŏnggi and Kangwŏn

⁴³ The *Great Code of Administration* records the existence of 400 tiger hunting infantry. *Kyŏngguk taejŏn*, Pyŏngjo, "Kapsa."

⁴⁴ Kim Tongjin, *Chosŏn chŏn'gi p'oho chŏngch'aek yŏn'gu: nongji kaegan ūi kwanjŏm esŏ* [A study of tiger hunting policy in the early Chosŏn era from the perspective of land reclamation] (Seoul: Sŏnin, 1998), 84-88.

⁴⁵ *Yŏnsangun ilgi* 10.4.14 (1504).

⁴⁶ *Yŏnsangun ilgi* 10.3.29 (1504).

provinces be opened up to local residents. Many of the residents, he noted, were households who had been forcibly removed during Yōnsangun’s reign, and they were thus lacking in basic agricultural implements. Yu urged that they be allowed to engage in woodcutting and swidden activities. He stirred the court with a pointed question: “Rather than banning logging and nourishing beasts, would it not be better to nourish the people and profit the state?” Yu’s political ally, Pak Wōnjong (1467-1510) supported his claim, arguing that since “many game reserves have no major function,” local people should be permitted to engage in swidden.⁴⁷

At the time, both Yu Chagwang and Pak Wōnjong had been embroiled in fierce political battles for decades with factional enemies, some of whom had been drawn and quartered for falling on the wrong side. Within a few years, Yu and Pak would be exiled as well. They were living in the midst of a hyper-partisan era when simple activities such as the building of a granary could engender intense debates and protestations.⁴⁸ When it came to the question of opening the game reserves however, there was a surprising consensus in the Chosōn court. During the reign of King Chungjong, game reserves were increasingly pilloried as amusements (*yuhŭi* 遊戯) that served little purpose beyond encouraging royal excess and martial corruption. Game preserves also came to be seen as obstacles to the spread of more settled agriculture, particularly since they were havens for dangerous animals such as tigers and boars.⁴⁹

⁴⁷ *Chungjong Sillok* 2.1.2 (1507).

⁴⁸ The roots of the early-to-mid Chosōn political battles are numerous, but a commonly cited reason is the rising competition for limited bureaucratic positions combining with the political machinations of ambitious yet insecure kings such as Yōngsangun. Korean scholarship tends to characterize the struggles as rifts between two forces: the entrenched Merit Subjects and their descendants, called the Hungu 勳舊 faction, and upstarts from the countryside known as the Sarim 士林 or the “forest of scholars.”

⁴⁹ Sim Sūnggu “Chosōn sidae sanyang ūi ch’ui wa t’ūksōng: kangmu wa hwoekp’o rul chungsim ūro [The trends and characteristics of hunting in the Chosōn dynasty: from the perspective of game reserves and tiger hunting].” *Yōksa minsokhak* 24 (2007): 177-178.

Even when dangerous animals were threatening the vicinity of Seoul, the court did not unleash the massive hunting parties common at the beginning of the dynasty. In 1522 for instance, amid reports of dangerous beasts roaming Ch'ŏnggye Mountain just south of Seoul, an official named Kim Tang (1465-1532) suggested dispatching a knowledgeable hunter to lead a party against feline threats. King Chungjong rejected that proposal on grounds that such action would seem no different from an enclosed royal hunt (*t'awi* 打圍). Moreover, according to Chungjong, the problem of troublesome beasts was “not exclusive to Ch'ŏnggye Mountain” but was a problem facing every district across the country. As a more comprehensive solution, Chungjong ordered every district to establish animal traps (*hamjŏng* 陷穽) to fight the menace.⁵⁰

Chungjong's solution reflected the broader cultural and institutional shift regarding the engagement of forest fauna. While officials in the provinces continued smaller-scale hunting expeditions, the age of the massive royal hunt was over. By the end of Chungjong's reign, officials were proudly noting the existence of wet-rice paddies on former game preserves.⁵¹ In 1541, the famed scholar-official Yi Hwang (1501-1570), better known by his penname T'oegye, pointedly asked the king why game preserves had even existed in the first place. T'oegye recommended that people who had been victims of recent floods be allowed to settle in any former preserve as farmers.⁵² After T'oegye's recommendation, there is no more mention of large games preserves of the *kangmu* category in the court records.

⁵⁰ *Chungjong sillok* 17.11.3 (1522).

⁵¹ *Chungjong sillok* 34.3.15 (1539).

⁵² *Chungjong sillok* 36.9.25 (1541). The last recorded sanctioned hunt is from 1536.

The Wider Institutionalization of Tiger and Leopard Hunting

Though King Chungjǒng's administration closed the game reserves, this does not mean the state discontinued any relationship with hunting. The government's focus simply shifted away from the royal hunt and toward the promotion of agriculture throughout the peninsula. In an effort to encourage land reclamation, the government actively encouraged the elimination of dangerous beasts, particularly tigers and leopards, all across the peninsula.

These changes in hunting policy also shifted some government focus from protecting trees to protecting people. When pressed with local practices such as fire and animals, the Chosŏn government could not simply impose a timber-centric logic. In 1474, a court official named Kim Inmin actually blamed pine protection policies for inculcating tiger and leopard attacks in southern Korea:

Recently in the southern three provinces, tigers and leopards have been a common sight. They catch and harm people and also kill horses from ranches, diminishing their numbers day by days. This is deeply worrisome. The state has extremely strict laws that ban the cutting of pines and so the forests are lush and dense. Tigers and leopards take advantage of this to hide away. After some years, they grew abundant, forming groups that cause harm.⁵³

A growing Korean population pressing toward the edges of forested land would have heightened chances of fatal human-fauna encounters.

Most significant is Kim Inmin's criticism of the very foundation of early Chosŏn state forestry, the laws that protected the coastal pine forests of the aforementioned "southern three provinces." While such criticism was not common, it reflects the growing concern in the Chosŏn court over threats to agricultural expansion. To protect farmers and travelers, Kim proposed sending troops to clear-cut the densest parts of Restricted Forests and mixed forests along roads.

⁵³ *Sŏngjong sillok* 5.6.25 (1474).

While the Queen-regent (Sŏngjong being too young to rule at the time) did not immediately carry out Kim's plan, the proposal points to a certain choice that officials had to make between tigers and timber.⁵⁴ Timber may have been important, but forests could be not left as sanctuaries for dangerous animals.

Twelve years later, in 1486, the Chosŏn government issued detailed regulations regarding the payment of bounties for tiger and leopard pelts.⁵⁵ The government recognized two grades of tiger hunting: official hunts and traps (*konghamgi* 公檻機) led by officials and private hunts and traps (*sahamgi* 私檻機) organized by elites or villagers. If households involved in official hunts caught a large or medium tiger, they could choose from among an array of rewards: three bolts of silk, twenty credited days of labor or office service, or one year of tax relief. Those who caught four tigers could be promoted into an official rank (*kagye* 加階). A small tiger or leopard of any size merited a smaller reward: two bolts of silk, ten credited work days, or six months of tax relief.⁵⁶

The bounty system was part of the government's broader institutionalization of tiger and leopard hunting in the late fifteenth through the sixteenth centuries. Local villagers, not the king and his soldiers, were given the responsibility of killing dangerous animals that lurked their forests. The bounty system also reflected a broader shift in the tax structure. From the beginning of the dynasty, every district across the peninsula had to procure certain tribute items, including

⁵⁴ *Sŏngjong sillok* 5.6.25 (1474).

⁵⁵ Issued by the Board of Military Affairs as the "Tiger Hunting Regulations" (*p'oho chŏlmok* 捕虎節目) and recorded in *Sŏngjong sillok* 17.12.2 (1486).

⁵⁶ *Sŏngjong sillok* 17.12.2 (1486). Private hunts garnered slightly smaller rewards. Designated leaders of hunting groups automatically received three years of tax relief for large and medium tigers and one year of tax relief for small tigers and leopards. For the rest of the group, large and medium tigers tendered a choice of two bolts of silk, twenty credited working days, or one year of tax relief. Small tigers and leopards earned a choice between one bolt of silk, ten credited working days, or six months of tax relief.

animal pelts, skins, feathers, hairs for hats, even deer tongues for the king's dinner table and horns for medicine. As seen in chapter one with the examples of paper mulberry and lacquer, local magistrates had the duty of exacting the items and sending them to Seoul.

However, by the early sixteenth century, the tribute system was already in disarray. Villagers and local officials alike often had trouble procuring the necessary items for the tribute levy. As a solution, they would use rice or cloth to purchase the necessary products from middlemen in a process called *pangnap* 防納 and *taenap* 代納.⁵⁷ A variety of tribute merchants, warehouse masters, and bureau clerks supplied the government with necessary goods while making profits for themselves. In some cases, local elites would engage in this pre-industrial brokerage.

A fitting example is that of Yi Mun'gön (1494-1567), penname Mukchae, a former court official who in 1546 was exiled to his wife's hometown of Koesan and then to his own hometown of Söngju in northern Kyöngsang province. He quickly settled in as powerful local intermediary between the local magistrates and general populace. A particularly position that he sought (and got) was that of intermediary fur broker.

When pelts and fur levies fell short, the burden fell on local magistrates and military garrisons to acquire the necessary furs for the Chosön court.⁵⁸ One solution was to send soldiers to hunt down tigers and leopards. The expenditure of men and time on hunting, though, was

⁵⁷ The turn toward substitute payments at the local level presaged a more comprehensive reform of the taxation system in the seventeenth century, the Uniform Tax Law (*Taedongpöp* 大同法). Kim Tökchin “16-17 segi üi sadaedong e taehan ilkoch'al [An examination of private taedong in the 16th and 17th centuries]” *Chönnam Sahak* 10 (1996); Yi Chöngch'öl “Chosön sidae kongmul punjöng pyönhwa wa taedong üi önnü [The distribution of tribute in the Chosön era and the meaning of taedong]” *Hanguksa hakpo* 34 (2009); James Palais, *Confucian Statecraft and Korean Institutions: Yu Hyöngwön and the Late Chosön Dynasty* (Seattle: University of Washington Press, 2002), 771-780.

⁵⁸ Kim Tongjin, “16 segi samnam üi p'ohop'i cheyök kwa pangnap üi wisang: Mukjche ilgi rül chungsim üro [The status of exemption payments in tiger and leopard furs and tribute contracting in the southern provinces during the sixteenth century: with focus on the Mukchae ilgi]” *Chibangsa wa chibang munhwa* 16:2 (November 2013): 132.

inordinately expensive. Magistrates preferred pressing local villagers to hunt down or trap tigers and leopards. Brokers such as Mukchae would assist by facilitating necessary exchanges. If villagers happened to catch a tiger or leopard in a trap, they sell its fur and other valuable parts to Mukchae for rice or cloth, which the villagers would then use to fulfill other tax obligations. Mukchae would further augment his fur supplies by sending slaves and hired hands to hunt big cats in the hilly country around Koesan and Sŏngju. His agents then sold the furs to local officials for a tidy profit.⁵⁹

Such behavior from a former official certainly belied the court's hostility toward tribute contracting.⁶⁰ Yet, this was the reality on the ground. In lieu of better infrastructure and bureaucratic surveillance, middlemen such as Mukchae greased the wheels of distribution. As James Palais notes, by the end of the sixteenth century, "almost every segment" of Chosŏn society was involved in the tribute contracting system, including "the *yangban* who employed their agents and slaves to engage in the trade themselves."⁶¹ For the well-connected and the savvy, the forest provided ample opportunities for profit. .

Even as Chosŏn's king's lost their taste for hunting and martial spectacle, institutional incentives encouraged the killing and skinning of predatory felines. The local elite, meanwhile, emerged as key cogs in facilitating the processes of agricultural expansion. Their key position, as

⁵⁹ Ibid., Mukchae could not arbitrarily acquire his position as local fur contractor. He first had to attain the permission of the magistrate, an awkward request for someone who so recently had walked the exalted floors of the Chosŏn court. The magistrate dismissed Mukchae's first request with a couplet: "Poor prospects and seeking a living are the same breed." *Mukchae Ilgi* 8.14 (1553). Quoted in Kim Tongjin, "16 segi samnam ūi p'ohop'i cheyŏk kwa pangnap ūi wisang: Mukchae ilgi chungsim ūro [The status of exemption payments in tiger and leopard furs and tribute contracting in the southern provinces during the sixteenth century: with focus on the Mukchae ilgi]." *Chibangsa wa chibang munhwa* 16:2 (November 2013): 132.

⁶⁰ For examples, see Palais, 70-75, 771-80.

⁶¹ Palais, 74 .

intermediary between an insulated central government in Seoul and the changing Chosŏn countryside, created avenues for both cooperation – and corruption - with agents of state.⁶²

Local Elites and Restricted Forests: The Case of Miam Yu Hŭich'un

The fifteenth and sixteenth centuries were the age of elite expansion into the Chosŏn countryside. While it is debatable how much the *yangban* stratum's composition truly changed with Chosŏn's establishment in 1392, it is certain that numerous fifteenth-century elites took advantage of the revamped bureaucracy and stable political climate to reclaim new land. Then, in the late fifteenth and sixteenth centuries, more *yangban* aristocrats and their kin - some ousted from Seoul by factional politics, others merely seeking more property - filtered into the three southern provinces of Ch'ungch'ŏng, Chŏlla, and Kyŏngsang, where the reliability of water supply and favorable climates facilitated the spread of wet-rice cultivation.⁶³ The process was indeed, in Martina Deuchler's words, a "land grab."⁶⁴

Thus began the establishment of *yangban* estates, with slave labor providing the impetus. The chaos of the late Koryŏ dynasty had produced a large number of impoverished peasants willing to bond themselves to *yangban* settlers. In the southeastern portion of Korea, where a plethora of rolling hills and small streams enabled the easy establishment of crude dams, these *yangban* actively pursued slave labor as a cheap method of land reclamation.⁶⁵ Then, in the sixteenth century, the breakdown of the Chosŏn tax system further augmented *yangban* estates.

⁶² By "agents of the state," I refer to magistrates, clerks, and slaves acting as representatives of the central court and working in local administrative positions.

⁶³ Yi Sugŏn, *Yŏngnam hakp'a ŭi hyŏngsŏng kwa chŏn'gae* [The formation and development of the Yŏngnam faction] (Seoul: Ilchogak, 1995); Martina Deuchler, *Under the Ancestors' Eyes*, 96-102.

⁶⁴ Deuchler, 96.

⁶⁵ Kim Kŏnt'ae, *Chosŏn sidae yangban'ga ŭi nongŏp kyŏngyŏng* [Yangban landlordism in the Chosŏn dynasty] (Seoul: Yŏksa pip'yŏngsa, 2004), 160-163.

As seen above with the case of Yi Mun'gön, tax burdens compelled commoners to sell various products including furs to local elites. In more desperate situations, commoners would even bond themselves as slaves to elite households.

Of course, the influx of wealthy and enterprising *yangban* in fifteenth and sixteenth-century southern Korea begs another question: why then? What factors drove the rise of the *sajok*?⁶⁶ While numerous reasons could be listed, the most important economic factors were land and labor, the margins of which could be expanded through reclamation and slaveholding. State policies sanctioned both. Reclamation rights were encoded in the Great Code of Administration (*Kyöngguk taejŏn*): “If one has laid out and occupied a field for three years, the occupier then possesses the land.” John Richards characterizes such property laws – “the rights to occupy, alienate, mortgage, and bequeath lands so owned” as “common to settled societies in [early modern] Eurasia.”⁶⁷ State sanction and solidification of usage rights drove the clearing and cultivating of the frontier throughout the pre-industrial world, and Korea was no different in following this pattern. In southern Chŏlla province, elites sent their slaves to pile up sand in tidal mud flats, turning coastal mud into arable land. Sixteenth-century environmental change even went hand in hand with the diffusion of Confucian institutions into the provinces. For instance, in 1576, residents near Chinju in southern Kyöngsang province felled a large forest to make way for a private academy.⁶⁸

⁶⁶ Yi Taejin, for one, has argued that these *yangban* represented a rising group of late Koryŏ and early Chosŏn scholars learned in Neo-Confucianism and familiar with the latest Chinese agricultural and medical manuals. Yi T'aejin, *Ŭisul kwa in'gu kŭrigo nongŏp kisul : Chosŏn yugyo kukka ũi kyŏngje palchŏn model* [Medicine, population, and agricultural technology: A model of economic development in the Chosŏn Confucian state] (Seoul: T'aeahaksa, 2002).

⁶⁷ John F. Richards, *The Unending Frontier: An Environmental History of the Early Modern World* (University of California Press, 2003), 5.

⁶⁸ *Yŏkchu Chosŏn ũi imsu* [The the forests of Chosŏn, translated edition]. Originally in Japanese, *Chōsen no rinju* (1938). Edited and translated into Korean by Saengmyŏng ũi sup kungmin undong, (Seoul: Geobook, 2007), 206.

For elites living near state forests, lumber procurement depended upon close cooperation with local officials. An instructive case is that of Yu Hŭich'un, penname Miam, an official who served in the Chosŏn court and, during periods when he was relieved from posts, stayed at his family residences in Haenam and Tamyang in southern Chŏlla province. The area was a center of state forestry. Miam's birthplace, Haenam county, was home to six Restricted Forest sites. Between 1569 and 1577, Miam built four houses in the area: two for his immediate household in Haenam and Ch'angp'yŏng, one for his concubine in Haenam, and another for his sister in nearby Kangjin. Each of the houses required lumber partly or completely acquired from Restricted Forests.

When Miam began constructing his house in Haenam in southern Chŏlla province, he procured the lumber by soliciting military officials over meals and drinks. When Miam inquires about lumber with a military official named Yi Sŏnwŏn, the man exclaims most enthusiastically, "Would I not assist you without hesitation, with all my heart?"⁶⁹ Miam describes another successful lumber solicitation as follows:

Around sunset, the honorable Navy Commander So Hŭp came up from Ŏran. He presented me some meat and cakes, and we poured each other drinks. Pak Hae and Paek Kwanghun also joined in. I brought up [the topic of] lumber for construction, and the honorable So Hŭp agreed [to assist].⁷⁰

Military officials, the very people who were supposed to guarding Restricted Forests, were instead procuring access for a prominent local elite.

Officials even allocated state resources to assist in the distribution of his lumber. Later, Miam sends his son-in-law to a Restricted Forest on Wan island off the southwest coast to

⁶⁹ *Miam Ilgi* 12.17.1567.

⁷⁰ *Miam Ilgi* 2.11.1569.

retrieve necessary lumber.⁷¹ In his son-in-law's words, the local military official there welcomed him warmly and then "sent off [the lumber] on three ships, in an amount sufficient for building bigger than a twenty-*k'an* house."⁷² Once the lumber from Wando island reached the mainland docks, a guard is needed to protect more than 300 pieces of "floor, beam, and pole wood" as they lay naked on the banks. The guard is procured, not through impersonal economic transaction, but through a local magistrate who appoints someone to watch over Miam's lumber.⁷³ Similarly, when Miam was building his sister's house, he ran into difficulties transporting the necessary lumber to the construction site. He solved the problem by paying barley to a prominent official named Ch'oe Kyōngjang (1529-1601), who then ordered grain-loan shippers (*hwanja* 還上) to transport the lumber on Miam's behalf.

Once construction begins, Miam's various connections come together to fuel his project. Miam not only solicited military officers, but also relatives, friends, monks, civil officials, and local organizations for construction resources and supplies. Associates allow Miam to access wood from their forests.⁷⁴ Workers and slaves are sent by in-laws and a local elite association; more lumber and tiles pour in from officials and monks. When Miam needed the services of a carpenter (*mokchang* 木匠) during the construction of his concubine's house, his friend Kim Sōngwōn sent him a slave skilled in woodwork. In return, Miam gave the slave an ink stick to send back to his master.

⁷¹ While most of the state forests in the southwestern islands were established after the Imjin War, Wan island would be the site of major forestry operations for the entirety of the Chosŏn dynasty and even into the colonial era.

⁷² *Miam Ilgi* 5.4.1569. "K'an" is the measure for the space between two poles of a Chosŏn-era house.

⁷³ *Miam Ilgi* 6.19.1569

⁷⁴ *Miam Ilgi* 2.13.1571.

Such open access to state forests and open collusion with state officials is eye-opening. However, it is inaccurate to assume that the Restricted Forest system was ineffective or falling apart. Miam was a particularly prominent local elite who, as in the case of Yi Mun'gön, had been in central politics and had the wherewithal to leave detailed diaries. It is also clearer to situate Miam in the greater sixteenth-century gift economy, where elites would exchange goods and services with recognized members of a status group.⁷⁵

I argue that Miam's privileged access to Restricted Forest lumber was more a symptom of the broader tension between timber-centric state forestry and local realities. The forestry system launched at the beginning of the dynasty, driven so strongly by state's preferences for pine timber, also had to yield to changing social and economic dynamics on the ground. In the process, sylvan space acquired different properties. From the state's timber-centric view, the primary forests were "places suitable for pine" (*üisong chi ch'ö* 宜松之處). Fire could render a forest into hazard or taxable plot. As patterns of hunting changed, certain forests shifted from military training grounds to "dens of wild beasts" only fit for elimination. For the growing stratum of local elites, forests could serve a site for increasing wealth and solidifying their social position between the state and the broader populace.

Simply put, Miam's situation provides a stark glimpse into the political economy of sixteenth-century Korea, into an array of personal networks lying outside the bounds of legally sanctioned, impersonal economic transactions. Personal arrangements are not only more credible but also, in Douglas North's words, are much "easier to sustain if the personal relationship between parties are sustained by social identities that link individuals to each other through

⁷⁵ Yi Yönghun, "Chosön sidae üi kyöngje saenghwal [Economic life in the Chosön period]" in *Chosön sidae üi chungang kwa chibang* [Center and local in the Chosön period] (Seoul: Sögyöng; Kungnip cheju pakmulgwan munhwa ch'ongsö, 2004), 164-165.

organizational ties.”⁷⁶ Such exchanges, for Chosŏn elites such as Miam, provided access to resources technically accessible only through the mechanisms of the Chosŏn bureaucracy. Miam and similar local elites exposed a problem that would bedevil Chosŏn state forestry for the rest of the dynasty. Namely, state forestry’s sustainability was premised on protecting government forests from the general populace. The original system built in the fifteenth-century had not accounted for a rising stratum of extra-governmental elites blessed with both local power bases and government connections.

Mukchae Yi Mun’gŏn and the Utilization of Wood-related Labor

Meanwhile, to the east across the Sobaek Mountains in inland Kyŏngsang province, Yi Mungŏn continued to play a key role in appropriating forest products for himself and the government. His home being far inland, Yi Mun’gŏn did not reside near major Restricted Forests. This circumstance, however, does not preclude any meaningful intersection of state, forest, and local elites. As seen in the case of his fur contracting operations, Mukchae also used wood for various purposes. His slaves felled oaks to make cartwheels.⁷⁷ From pines, they gathered not just branches and lumber but also pine resin (*songjin* 松津) to make varnishes, adhesives, and incense.⁷⁸ Carpenters were ordered to make dining tables, wood mortars, doors, and even cotton gins.⁷⁹ His slaves went into the forest to hunt animals and gather firewood.⁸⁰ Mukchae planted trees around his ancestors’ tombs (and fiercely protected them).

⁷⁶ Douglas North; John Joseph Wallis; Barry R. Weingast, *Violence and Social Orders: A Conceptual Framework for Interpreting Recorded Human History* (Cambridge, UK: Cambridge University Press, 2009), 38.

⁷⁷ *Mukchae ilgi*, book 8 (Seoul: Kuksa p’yŏnch’an wiwŏnhoe) vol. 2, 222. Henceforth referenced as *MCIG*, book number: volume number, page. “李舟來見, 使扶眞木欲造車輪, 則當圖云云.” “李舟復來言, 伐眞木待輸云云.”

⁷⁸ *MCIG*, 8:1, 13-14, 22, 26.

⁷⁹ Yi Chŏngsu, “Mukchae ilgi rŭl t’onghae pon chibang changin tŭl ūi sam” [The lives of local craftsmen according to the Mukchae ilgi]. *Chiyŏk kwa yŏksa* 18 (2006): 212.

Mukchae could generally acquire wood without government interference. When he wanted to utilize wood-related labor however, he often required cooperation from – and sometimes generated conflict with – local government. Specifically, Mukchae constantly required the services of craftsmen (*changin* 匠人) to build and repair his estate and its paraphernalia, from furniture and tools to fences and coffins.

Monks provided one strand of craft and construction labor. Mukchae's use of monks was based on the close relationship he cultivated with local monasteries, particularly Anbong Temple. There over 600 instances of Mukchae requesting or receiving goods and services from Anbong. These services included the use of monastic forests and monk labor. In exchange, Mukchae used his influence with local officials to exempt the temple and its monks from various tax and labor levees.⁸¹ He also used his influence to help monks with various difficulties, even tree-related crimes. When a monk from Yongyŏn Temple asked for Mukchae's assistance in prosecuting someone who had felled trees, presumably near the temple, Mukchae agreed to write to the magistrate. In exchange, the grateful monk gifted Mukchae with goose quills and straw sandals.⁸²

Mukchae would also utilize state-employed craftsmen. According to the *Great Code of Administration*, 2,795 government craftsmen were spread among the Board of Works' twenty-nine agencies, with most of them employed in manufacturing military equipment as well as making everyday goods and decorative vessels for royalty and officials.⁸³ There were also

⁸⁰ Elites even concealed fuelwood from the authorities. *MCIG* 8:2, 258. 禹銀石戶焔焔·柴木勿督事喻監考等, 則二百斤已納, 一百斤除之云云.

⁸¹ Yi Chŏngsu, "Mukchae ilgi rul t'onghae pon chibang changing tŭl ūi sam" [The lives of local craftsmen in Mukchae's diary] *Chiyŏk kwa yŏksa* 18 (2006): 188.

⁸² *MCIG* 9:2, 419.

⁸³ *KGTJ* 3, *pyŏngjŏn*.

twenty-seven different types of out-resident craftsmen (*oejangin* 外匠人) who handled duties in the provinces. Sŏngju had thirty-seven government craftsmen specializing in nine categories: making paper, mats, brass, bows, and arrows; skinning; blacksmithing; lacquering; and of course, carpentry.

Over the thirty-two years of the diary, Mukchae recorded 323 instances of himself using government or private craft labor. About half of the craftsmen were government-affiliated and the other half either worked for themselves or another household. Mukchae actually paid for labor services 35 percent of the time, usually in rice. For instance, he pays private carpenters a *mal* (about 5.96 liters) of rice for their services.⁸⁴ For two chairs, he paid a *toe* (about 0.596 liters) of rice to another carpenter.

In 67 percent of the instances, payment was conducted via exchanges of favors between Mukchae and the relevant party.⁸⁵ Local craftsmen who wanted to escape labor duties often came to Mukchae to ask for help. As labor duty was essentially a tax payment, it was unattractive, considered burdensome, and at times resisted.⁸⁶ In 1552, a state-employed carpenter gave Mukchae eight citrons and requested his help in attaining an extended break from government duties.⁸⁷ In 1557, a blacksmith (*such'öljang* 水鐵匠) came to ask Mukchae for assistance in

⁸⁴ *MCIG* 8:2, 222.

⁸⁵ Yi Chŏngsu, “Mukchae ilgi rul t’onghae pon chibang changing tül ūi sam” [The lives of local craftsmen according to Mukchae’s diary]. *Chiyŏk kwa yŏksa* 18 (2006): 183-232

⁸⁶ Mukchae reports a carpenter named Sŏkkyŏn fleeing and absconding his duties. *MCIG* 6:1, 656.

⁸⁷ *MCIG* book 5:1, 540. Also cited in Yi Chŏngsu (2006), 199.

attaining an overseer position (*ch'abi* 差備). As a gift, the blacksmith gave Mukchae some wood charcoal.⁸⁸ Fuel wood and charcoal were valued gifts, particularly those of highest quality.⁸⁹

Mukchae's influence on local government was a valuable currency, but as with all currencies, its value lay in its limitations. When a carpenter named Söngmun was conscripted for corvée service, Mukchae wrote a letter to the magistrate claiming that he needed Söngmun to do some repairs at Anbong Temple.⁹⁰ A few days later, another carpenter named Yi Ŏn requested Mukchae's help in waiving corvée duties. Mukchae had to deny his request because he had just made a similar request on behalf of Söngun."⁹¹

Mukchae's penchant for usurping state-employed craftsmen for private services generated resentment from at least one government official. In 1559, Mukchae requested to the local magistrate that a matmaker named Ch'oe Söngmun be given back his old position, presumably as an employed craftsman. The magistrate replied by sentencing Ch'oe Söngmun to forty lashes. Mukchae assumed that the magistrate was "insulting him for monopolizing government craftsmen." Following the incident, there is a two-year period in which Mukchae desists from using (or at least recording the use of) any state-employed craftsmen.⁹²

In another arena of prodigious wood use, funerary rites, Mukchae faced the same aforementioned pattern. The acquisition of related labor, particularly to protect the gravesite,

⁸⁸ *MCIG* 8:2, 247. Another person named Yi Ch'un'yang came to Mukchae in 1548 asking for help in registering some reclaimed land and in attaining a position as overseer of mat craftsmen (*sökchang haengsu* 席匠 行首); he presented Mukchae with a gift of alcohol. Yi Chöngsu (2006), 199.

⁸⁹ *MCIG* 8:2, 385. Good carpentry wood (*sugongmok* 手功木) was another valued present; Mukchae bestows his friend Suil with some after dinner. *MCIG* 9:2, 430

⁹⁰ *MCIG* 8:2, 269. “呂岩簡諭，木手石文役官事見捉，請除云，即簡白二道前，欲得石文繕安峯寺，則勿捉付文字成送，乃遺呂岩。”

⁹¹ *MCIG* 8:2, 276. “李偃簡求告除木手官役事，不能從，前請石文事故也。”

⁹² Yi Chöngsu, 202.

engendered cooperation with local government. The necessary wood, however, could be acquired from local sources. By the sixteenth century, local elites such as Mukchae no longer required the services of the Funerary Bureau. When a female slave's son died, Mukchae simply had a Paulownia tree (*tongmok* 桐木) felled to provide her with a coffin.⁹³

In 1535, Mukchae had to bury his father. The resultant process required months of arduous preparation, particularly in wood-related products. For coffin construction, Mukchae acquired fifteen pieces of pine lumber and then calls in carpenters.⁹⁴ To seal the coffin, Mukchae sent slaves to acquire a large amount of pine resin.⁹⁵ He then had to line the burial chamber with lime (*sŏkhoe* 石灰) in accordance with Zhu Xi's *Household Rituals*.⁹⁶ As Milan Hetjmanek notes, by the mid-sixteenth century, such complex funerary rites had become commonplace among the *yangban* elite.⁹⁷ The efforts were arduous and the expenses heavy, but altogether they demonstrated status and power, particularly economic power. Participants could not always expect state assistance in burial preparations.⁹⁸

⁹³ *MCIG* 8:2, 241. “削桐木爲小婢，欲贈子葬之用。”

⁹⁴ *Ibid.*, 8:1, 23.

⁹⁵ *Ibid.*

⁹⁶ Martina Deuchler, *Under the Ancestor's Eyes: Kinship, Status, and Locality in Premodern Korea* (Cambridge, MA: Harvard University Asia Center, 2015), pp. 203-204. Zhu Xi's *Household Rituals* prescribe lining graves with lime (*sŏkhoe* 石灰) and fine sand (*sesa* 細沙). Early Chosŏn preferences for limes foundations can be traced back to the dynasty's incipient decades. In 1420 for instance, King Sejong decreed, “Rather than stone, use limestone and fine sand for building foundations.” *Sejong sillok*, 2.9.4 (1420). In the early years of the Chosŏn dynasty, the government corvée'd 1,200 people from western Korea to bake limestone on Kanghwa island. *T'aejo sillok*, 4.9.17 (1395). The construction of Seoul's walls alone required over 9,610 slabs of limestone. *Sejong sillok*, 4.23.2 (1422).

⁹⁷ Milan Hetjmanek, “The Familiar Dead: The Creation of an Intimate Afterlife in Early Chosŏn Korea” in *Death, mourning, and the afterlife in Korea: from ancient to contemporary times*. Charlotte Horlyck and Michael J. Pettid, eds. (Honolulu: University of Hawaii Press: Center for Korean Studies, University of Hawaii, 2014), 154-155

⁹⁸ In special cases, the government could help with the transportation of coffins and lumber. Chosŏn officials, though, were mostly reluctant to set such precedents. Hetjmanek, 162.

Protecting the tomb, however, was a different matter. For instance, Mukchae wrote to the local assistant magistrate (*p'an'gwan* 判官) asking him to prohibit locals from interring their dead and burning fields around the tomb of his patrilineal ancestor, Yi Chonyŏn (1269-1343). Because a prominent ancestor was intimately tied to one's status in the Chosŏn era, protecting his tomb was a sacred task for any lineage heir. The magistrate accordingly sent clerks (*sŏwŏn* 書員) to help Mukchae drive away the intruders and even appointed a tomb guardian (*myojik* 墓直) to watch over the tomb.⁹⁹ Mukchae also requested, multiple times, that the government prosecute people who had cut trees around his tombs.¹⁰⁰ The coffin and burial chamber could be constructed without government help, but protecting the gravesite still required government assistance.

Overall, while Miam and Mukchae both had privileged access to forests and forest resources, such privileges required significant engagements with the state. Gifts had to be exchanged; favors had to be gained and repaid. The early Chosŏn state had built a cultural infrastructure that required even the most powerful local elites to engage the government to acquire wood or wood-related labor. Moreover, as seen in the case of Mukchae's ancestral tomb, local elites could rely on the state to prosecute certain practices that threatened their sylvan interests. It was not just central bureaucrats who could render certain types of swidden or woodcutting illegal; cooperation between local administration and local elites could do the same.

Sixteenth-Century Coda: The State of Ships

⁹⁹ *MCIG* 9:2, 404

¹⁰⁰ *MCIG* 9:2, 390, 432.

The original driver of timber-centric state forestry, the navy, diminished in size and importance over the course of the sixteenth century, at least until the last decade. Intermittent *waegu* raids continued through the first half of the century, but the Chosŏn government largely responded with more treaties and trade regulations with Tsushima. Kim Chaegŭn, a prolific Korean naval historian, even criticizes the Chosŏn naval policy of the era for constructing trading vessels (*segyŏnsŏn* 歲遣船) and transport ships (*chounsŏn* 漕運船) at the expense of more warships.¹⁰¹

The move from warship construction to transport and trade parallels the general trends of the late fifteenth through sixteenth centuries, of the diversification and localization of government authority. After the pacification of Tsushima in 1419 and the subsequent establishment of regulated trade, a large navy was deemed unnecessary. In the 1460s, King Sejo demanded that the Chosŏn navy refit their main battleships, the *maengsŏn*, so that they were “fit for both battle and transport,” thus reflecting shifting priorities toward trade and resource distribution.¹⁰²

Meanwhile, winds of change were blowing across the Tsushima strait. From 1467 to 1603, the Japanese archipelago entered the Sengoku period, an era of near-constant warfare and political intrigue. Pirate and “sea lords” gained control of the sea lanes across western Japan and in the Setto Inland Sea. Though indistinguishable from *Waegu* in Korean sources, a new wave of piracy would emerge from the chaos to plague Korean and Chinese coastlines.¹⁰³

¹⁰¹ Kim Chaegŭn, *Kŏbuksŏn* [The Turtle Ship] (Seoul: Chŏngusa, 1975), 26

¹⁰² Kim Chaegŭn, *Sok han 'guk sŏnbaksa yŏn'gu* [An Outline of Korean Shipbuilding History] (Seoul: Seoul taehakkyo ch'ulp'anbu, 1994), 79-80. Debates about such “dual-use” warships would continue throughout the Chosŏn dynasty.

¹⁰³ For an extended treatment of the rise of piracy in fifteenth and sixteenth-century Japan, see Peter D. Shapinsky, *Lords of the Sea: Pirates, Violence, and Commerce in Late Medieval Japan* (Ann Arbor, MI: Center for Japanese

In the first decade of the sixteenth century, a wave of pirates attacked Kadök island and the town of Chinhae on the southern coast. Then, in 1510, Japanese residents in Pusan rioted. Supported by between 4,000 and 5,000 men from Tsushima, they ransacked Pusan until Chosŏn troops arrived to restore order. In 1555, pirates from Kyushu raided the southern Chŏlla coast with over seven hundred ships. Miam's mother actually encountered the raiders. Terrified, she fled to Tamyang with the Yu family's ancestral tablets and died three years later at age 79.

Amidst these troubling events, major warship innovations emerged. During the Waegu disturbances in the first half of the sixteenth century, the *maengsŏn*, the old workhorse of the Chosŏn fleet, proved ineffective against the increasingly well-armed Japanese pirates.¹⁰⁴ Constant warfare and technology transfers had produced a sixteenth-century "military revolution" across the Japanese archipelago. Chosŏn increasingly had to face pirate warships armed with superior weapons, including gunpowder arms and even cannon.¹⁰⁵

Consequently, in 1555, the Chosŏn navy introduced a new "super-structured warship" known as the *p'anoksŏn*. Made of heavy pine timber pieced together with oak treenails, the *p'anoksŏn* were double-decked vessels between seventy and one hundred feet in length. Their innovative multi-tier structure protected the oarsmen below while marines on the upper deck could fire arrows and muskets from a high vantage point. The main armament was a broadside of cannon. The *p'anoksŏn*, along with the more famous Turtle Ships (*köbüksŏn*, *kusŏn*), would be instrumental during the Chosŏn navy's biggest test, the Imjin War (1592-1598).

Studies, The University of Michigan, 2014). See also Stephen Turnbull, *Pirates of the Far East: 811-1639* (Oxford, UK: Osprey Publishing, 2007).

¹⁰⁴ Kim Chaegŭn, *Chosŏn wanggi kunsŏn yon'gu* [A Study of Warships in the Chosŏn Dynasty] (Seoul: Ilchogak, 1977), 73-83.

¹⁰⁵ Shapinsky 153-155, 177-180.

However, until war was imminent, the Chosŏn court had no urge to mass-produce these new warships. After all, as Chosŏn entered the last decade of the sixteenth century, the conditions that had initially driven the rise of state forestry on the Korean peninsula were no longer completely valid. The pine-centered forestry system existed alongside other policies that accommodated swidden, land reclamation, private hunting, and even private appropriation of state forests in collusion with government officials. Agriculture in the provinces, not urban construction in Seoul, had become the major engine of economic and demographic growth. Even the maritime raider threat seemed to be diminishing until Hideyoshi and his legions exploded out of the archipelago.

As social and economic dynamics shifted around forests between 1469 and 1592, the patterns of governance around these same ecosystems changed as well. The bureaucracy became more sensitive to the contested materiality of sylvan ecosystems. Depending on the shifting context, forests could be timberland for the shipyards, fire hazards, reclaimable lands, dens of dangerous beasts, and sources of profit, status, and rituals.

At the same time, the broad social transformations of the era certainly weakened the timber-centric model of Chosŏn state forestry established in the fifteenth century. The century-long slackening of state forest controls can be explained as part of the by-play between what Paul Warde calls the “two ecologies,” the territorial and the transformational. Territorial ecology, according to Warde, is the shared tendency of state, aristocrat, and peasant alike “to reinforce the integrity and functioning of a given process specifically located in space.” Transformational ecology, on the other hand, is the disturbance, the actions that transfer biomass and induce reactions across different spaces, often beyond the scope of immediate perception. According to Warde, it is this by-play between the desire to ensure predictable patterns and the reality of

constant ecological change that ultimately forces the state to take on the duties of environmental regulation over time.¹⁰⁶ The Hideyoshi invasions struck just as Chosŏn forest administration was bending to the diverse social and economic transformations of the sixteenth century. The devastating war would end the accommodating trend in Chosŏn state forestry and instead trigger the return of a territorial, timber-centric system in the seventeenth century.

¹⁰⁶ Paul Warde, *Ecology, Economy, and State Formation in Early Modern Germany* (Cambridge, UK: Cambridge University Press, 2006).

Chapter Three

Intense Conflict and Intensive Rehabilitation: State Forestry in a Postwar Landscape, 1592-1684

What the state should love and cherish is surely its people, not its pines. But now, it is on behalf of its pines and does not look after its people. – Yun Sōndo, 1655¹

For the Chosŏn dynasty, the Imjin War² was an unmitigated tragedy. An estimated twenty percent of the population died or was abducted during the conflict. Arable land was reduced to sixty-six percent of the prewar total.³ Countless buildings were left in ashes, including all three royal palaces and three out of the four depositories of the *Annals of the Chosŏn Dynasty*. Upon returning to a ruined Seoul, King Sŏnjo (r. 1552-1608) had to take shelter in the home of a royal relative.⁴

Historians, however, have debated the overall impact of the conflict. Japanese historians during the colonial era marked the postwar era as the beginning of Chosŏn Korea's long road to decline. Korea's "internal development" school historians agreed with the colonialists that the invasions were a watershed but profoundly disagreed in their conclusions: they saw the war as a stimulant for reforms and economic expansion.⁵ Other scholars such as Kim Sŏngu and Martina

¹ Yun Sōndo, "Sip'ye sajo so [Four comments on the ills of our time]." In *Kosan yugo* [The Collected Works of Kosan], vol. 2. (Seoul: Han'guk kojŏn pŏnyŏgwŏn)

² Other terms have been used for the conflict, including "Hideyoshi Invasions," "Seven Years War," and "The Great East Asian War."

³ The original sources for this oft-cited statistic are from the *Chŭngbo munhŏn pigo* [Reference Compilation of Documents, expanded edition] 141:1 (hereafter CBMHPG) and the *Sŏnjo sillok* 34.8.

⁴ Stephen Hawley, *The Imjin War: Japan's Sixteenth-Century Invasion of Korea and Attempt to Conquer China* (Seoul: Royal Asiatic Society, Korea Branch; Berkeley: Institute of East Asian Studies, University of California, Berkeley, 2008).

⁵ A representative English-language publication is Hochol Lee, "Agriculture as a Generator of Change in Late Chosŏn Korea" in *The Last Stand of Asian Autonomies: Responses to Modernity in the Diverse States of Southeast Asia and Korea, 1750-1900*. Anthony Reid, ed. (New York: St. Martin's Press, 1997).

Deuchler have downplayed the concept of the Imjin War as watershed, noting instead that the transition between the sixteenth and seventeenth centuries was remarkable for its continuity.⁶

Most recently, JaHyun Kim Haboush has argued that the Imjin War, what she calls “The Great East Asian War,” was critical to the shaping of Korean national identity from the late Chosŏn era to the twentieth century.⁷

When it comes to Korea’s environmental as well, the impact of the Hideyoshi invasions cannot be dismissed. Whether in building the famed fleets of Admiral Yi Sunsin (1545-1598) or falling victim to arson and ground combat, forests suffered. Uprooted populations transformed into shifting cultivators and vagrants, bringing to the Chosŏn court alarming tales of burned forests and eroded hillsides. Finally, the postwar Chosŏn government found itself needing forests to rebuild government buildings and the navy.

In this chapter, I explain why the central government expanded state forestry in the seventeenth century, an era I call “post-Imjin Korea,” and analyze how the military became a key vehicle for widening state control over sylvan environments. I concentrate on the effects of the war and postwar recovery on the pine forests of western and southern Korea, in the provinces of Ch’ungch’ong and Chŏlla. There, since the beginning of the dynasty, the Chosŏn government had cordoned forests reserved for “state use” (*kugyong* 國用). The same forests provided the raw material for crucial naval victories during the Imjin War. After the war, the government cordoned off more forests along the coasts and the islands that dot Korea’s southwestern shores. Expanding upon wartime patterns, military garrisons managed the logging and replanting of

⁶ Kim Sŏngu, *Chosŏn chunggi kukka wa sajak* [State and aristocracy in the mid-Chosŏn dynasty] (Seoul: Yŏksa pip’yŏngsa, pp. 376-378. Martina Deuchler, *Under the Ancestors’ Eyes: Kinship, Status, and Locality in Premodern Korea* (Cambridge, MA: Harvard University Asian Center, 2015), 96-102.

⁷ Jahyun Kim-Haboush, *The Great East Asian War and the Birth of the Korean Nation* (New York: Columbia University Press, 2016).

forests and guarded against threats ranging from swidden cultivators and ordinary woodcutters to the tiny larvae of the pine moth (*Dendrolimus spectabilis*).

Over the course of the seventeenth century however, the expansion of state forestry ran into three major complications. The rural populace, many of whom were uprooted by the Imjin War and also the Manchu invasions of 1627 and 1636, often resorted to shifting cultivation to support themselves. Echoing patterns from the fifteenth century, reports of slash-and-burn cultivation flowed into Seoul. The seventeenth-century wave of slash-and-burn cultivation was further magnified by postwar chaos and the problem of vagrancy. A second complication arose from the government becoming far more sensitive to rising cases of official corruption in state forest zones. Third, changes in elite burial patterns further augmented government concerns over the stability of the state forest system. Tomb burial, complete with guardians (*myojik* 墓直) and secured environs, became more widespread among local elites and even among those of non-*yangban* background. The fifteenth-century Chosŏn state had protected forests to promote coffin burial; two hundred years later, the popularity of coffin burial began impeding forest protection.

Faced with rising challenges, the Chosŏn bureaucracy in the late seventeenth century introduced new categories of state forest, the Reserved Forests (*pongsan* 封山) and the Pine Field (*songjŏn* 松田) to replace the old Restricted Forests. The shift was ground-breaking. In 1684, the government outlined the various types of officials involved in state forestry and delineated their duties and jurisdictions, including those for patrolling and replanting. Investigative procedures were meticulously ordered, and the punishments of corrupt forestry officials were described in detail.⁸ New regulations specifically responded to the rising problems

⁸ “*PBSTR*, Sukjong 10.2.30 (1684).

of slash-and-burn cultivation, official neglect and corruption, and illegal burials in government forests.

The forestry reforms of the seventeenth century reasserted government control over existing state forestry system – and then expanded it. What made such reforms possible, I argue, was the simultaneous rise of what I term the “brokered state”, the expansion of a vast array of brokers, intermediaries, and agents who could fulfill the government’s needs. The Imjin War and its aftermath provided an impetus for government expansion into sylvan environments. Wartime practices, particularly the wide use of soldiers for forestry work, expanded into the postwar era. As government and military priorities shifted toward rebuilding finances and the navy, state ranches along the coasts and islands that had once supplied cavalry and packhorses were converted to taxable fields and state forests. The military also expanded pre-existing institutions such as the naval garrison (*sugunjin* 水軍鎮) that complemented and coincided with the expansion of late Chosŏn state forestry.

The fifteenth-century Chosŏn state could operate its Restricted Forests through edicts and the application of corvée labor. After the seventeenth century however, the government expand the roles of administrative brokers – magistrates, clerks, inspectors, the military, local elites, and village organizations – to manage the disrupted landscape of post-Imjin Korea. New regulations such as the Five Household System (五家作統) reorganized village society into more predictable, legible units ideal for tax collection and top-down control. Administrative expansion allowed the government to crack down on more vagrants, protect more forests, and control the proliferation of tomb forests and related usufruct problems. The rise of the postwar administrative state, facilitated by empowered administrators, allowed the Chosŏn government to sustain its state forestry system into the latter half of the dynasty.

The same expansion, however, also compounded the Chosŏn state's reliance on pine. The government doubled down on the same pine-centered forestry system that had been transforming Korea's landscapes since fourteenth century. Partly thanks to such foresight, the state survived an era of warfare and a hard peace – but at a cost. More personnel had to be recruited to manage the expanding resource-management apparatus. Local competition over economic resources, particularly forests and trees, continued to increase. The mixed forests of southern Korea gradually gave way to pine-dominated landscapes, exposing them to more vulnerabilities across the ever-shifting society and ecology of late Chosŏn Korea.

The Environmental Legacies of Victory, 1592-1598

Yi Sunsin, perhaps Korea's most renowned military hero, became famous for defeating much larger Japanese fleets along Korea's southern coasts. The basis of his victories, along with his military acumen and Ming Chinese assistance, was a concentrated fleet of warships based in the island and coastal regions of southwestern Korea. The mainstay of the fleet was the double-decked warship (*Panoksŏn* 板屋船) first introduced in 1555, supported by the more famous Turtle Boat (*Kŏbuksŏn*; *Kusŏn* 龜船).

The material source of the warships was the protected coniferous forests that stretched across the western and southern coasts of the peninsula (see Chapter One). Over the course of the late fifteenth and sixteenth centuries, the Restricted Forest system became prone to lax enforcement as local priorities and the expansion of arable land took precedence over stable timber supplies. As seen in the second chapter, in the Haenam region of Chŏlla that later served as Yi Sunsin's base, local elites such as Yu Hŭich'un regularly colluded with forest officials to acquire construction timber for tasks as mundane as building houses for his concubine.

However, once the Imjin War began, the government made a concentrated effort to clamp down on corruption, and accordingly the Restricted Forests and accordant corvée institutions would provide the basic material for the Chosŏn's early naval victories. In the first years of the war, Yi Sunsin fulfilled his lumbering and shipbuilding needs by corvéeing skilled woodworkers, carpenters, and lumberjacks, collectively referred to as *mokchang* 木匠 and *yökkun* 役軍. In the summer of 1593, over 241 local men were called up to fell trees and build ships.⁹ When one village did not send the requisite number of carpenters and lumberjacks, Yi punished the naval officers and local petty officials (衙前 *ajŏn*) in charge of levy collection for “untrustworthy and deceitful acts.”¹⁰

As the war progressed, the government's military conscription system provided extra boosts of lumbering manpower. When another wave of shipbuilding began in 1596, Yi sent 1,090 men from three different provinces, rather than just local corvée levies, to haul down timber.¹¹ The shift from local levy to military labor was significant. After the Imjin war, a similar system, led by naval officers and labored by regular-duty soldiers, would be applied to state forests.

For almost the entirety of the war, Korea's most significant fighting force was based in the southwest and islands zones. Significant stretches of Ch'unchŏng and Chŏlla forests were cleared for the admiral's fleets and for new naval bases. While it is not clear exactly how many trees went into Yi Sunsin's ships, one can surmise that his fleets required significant logging operations. According to one late eighteenth-century document, the *Records of the Ministry of*

⁹ *Nanjung ilgi* [The War Diary of Yi Sunsin], 6.19.1593

¹⁰ *Nanjung ilgi* 6.22.1593

¹¹ *Nanjung ilgi* 10.29.1597, 10.30.1597

Taxation (*Takchiji* 度支志), a single new warship required one hundred pines of state forest, naval-grade quality. In addition, it needed special types of bamboo for the oars, broad wood for planks, and an additional one hundred “oaks and miscellaneous trees.”¹²

Environmental changes to the islands and coasts of southwestern Korea were not limited to logging. Yi and his men spent much of their time hunting down game, particularly deer, boars, and leopards, in the surrounding vicinity. As with all pre-industrial armies, germs were just as dangerous as the enemy. Disease decimated up to ten percent of the 6,000 sailors under Yi's command in 1593 and 1594. Food shortages exacerbated the illnesses. In response, Yi maintained and expanded garrison farms (*tunjŏn* 屯田) to supply necessary provisions. On these farms, tenants paid their rent directly to the military. While Korean officials had intermittently adopted garrison farms during the Koryŏ and early Chosŏn, their usage and placement would intensify during and after the Imjin War.¹³

Hideyoshi's land invasion had even greater costs. Millions of Koreans were displaced and killed as Hideyoshi's troops marched through the peninsula. Fire accompanied the armies as weapon and by-product. Forests were cleared to make camps, ramp up fortresses, and manufacture weapons and ships.¹⁴ While on a mission in 1596, Yi Sunsin lamented the “desolation in the country houses and farms,” and he resolved to one day relieve the locals of the “arduous task” of maintaining warships.¹⁵ Chief State Councillor Ryu Sŏngryong (1542-1607),

¹² *Takchiji* [Records of the Ministry of Taxation]; Ko Tonghwan, *Sŏul sanŏp paltalsa yŏn'gu* [The Development of Commerce in Late Chosŏn Seoul] (Seoul: Chisik sanŏpsa, 2002), 387.

¹³ For a definitive study of Chosŏn garrison farms, see Song Yangsŏp, *Chosŏn hugi tunjŏn yŏn'gu* [A Study of Military Farms in the Chosŏn Era] (Seoul: Kyŏngin, 2006).

¹⁴ Kenneth Swope, “Beyond Turtleboats: Siege Accounts from Hideyoshi's Second Invasion of Korea, 1597-1598” *Sungkyun Journal of East Asian Studies* 6:2 (2006), 183.

¹⁵ *Nanjung Ilgi* 8a.14.1596.

who had commanded overall military operations during the latter stages of the war, likewise noted the immense postwar desolation in the southwest. “The mountains and valleys lack trees,” Ryu wrote, “and so no one can block the landslides.” He observed that “the forests were bare,” that “tigers and leopards wandered far” amidst the habitat loss, and warned, ominously, that “trees for timber were wasting away.”¹⁶

Dispatching the Logging Assessors, 1606-1623

In the ensuing postwar recovery, a particular concern for the government was the specter of deforestation. High-quality timber was still essential for warship and edifices, not to mention agricultural and household usages. Hideyoshi’s troops had burned countless buildings across the peninsula, including the main royal palaces and countless government structures. The court also feared the return of another invasion force from the archipelago. Thus, just as in the fifteenth century, the needs of edifice construction and shipbuilding drove a renewed effort to find and protect timber for state purposes (*kukyong* 國用).

The government’s first move was to check on the condition of the current forests. In 1606, the court dispatched a series of “logging assessors” (*pölmok kyöngch’agwan* 伐木敬差官, *pölmok ösa* 伐木御使) across the country to find evidence of illegal logging in the Restricted Forests.¹⁷ Logging assessors usually came from the higher ranks,¹⁸ and they included senior officials such as Yu Kyöngjong (1565-1623) and Kim Kwangp’il (1553-1608). In 1623,

¹⁶ Quoted in Chöng Yakchön, *Söngjöng saüi* [A Personal Treatise on Forest Administration] (1804).

¹⁷ *Sönjo sillok* 7.22.39 (1606).

¹⁸ In 1623, Kwanghaegun censured a magistrate named Chöng Taehae (1569-?) for shirking from his next position as foreign emissary. Though initially he was supposed to be punished with a military post, Chöng was instead promoted to logging assessor and an accompanying rank above senior third (*tangsang* 堂上). As with any position that drove an official out of the capital, the job of logging assessor was not attractive, but it also did not denote a demotion. *Kwanghaegun ilgi* 12.1.14 (1622).

Kwanghaegun singled out another Kangwŏn logging assessor for praise, citing his “long and illustrious service.”¹⁹ The court typically sent out the logging assessors in the autumn, after the summer rains and before the winter timber harvest.²⁰ Once they reached their destinations, the assessors would inspect the local forests and inquire with local officials and the populace about forest-related conditions.

A subsequent report from 1610 noted the continuation of “indiscriminate pine cutting” near the coastal hamlet of Changsan in Hwanghae province, where “Restricted Forests had been cultivated since the founding of the dynasty.”²¹ In response, Kwanghaegun reiterated that logging was be “generally banned” in the Restricted Forests, and “the duty to protect and nourish” the forests was to be “relayed to the officials across the eight provinces.” The degraded postwar environment provoked the court’s anxieties. “After the recent calamities,” declared Kwanghaegun, “any unregulated logging is highly destabilizing.”²²

Over the course of the 1610s and 1620s, logging assessors continued to uncover unregulated felling in the pine-rich areas of coastal Hwanghae and Chŏlla.²³ A noteworthy area of concern was Pyŏnsan, a small promontory in Chŏlla province jutting out into the Yellow Sea. The area had long been famous for its high-quality pines. The early Chosŏn government established a Restricted Forest in the area, and the zone was critical during the Imjin War for providing naval supplies. In 1620 however, a logging assessor reported to the court that Restricted Forests in Pyŏnsan were “lacking tall timber.” He placed the blame on the local

¹⁹ *Kwanghaegun ilgi* 1.24.15 (1623).

²⁰ *Kwanghaegun ilgi* 7.30.12 (1620).

²¹ *Kwanghaegun ilgi* 2.12.8 (1610). 庚戌十二月初八日己卯傳曰：長山串、邊山等處，禁山伐木，自祖宗朝儲養，有意存焉。故亂離以後，斫伐無節，事甚未安。今後凡干禁山，一切禁伐，守護培養事，下書于八道監司處

²² *Ibid.*

²³ *Kwanghaegun ilgi* 7.18.6 (1614); 1.9.7 (1615).

military commander (*konsu* 闕師), magistrate (*suryōng* 守令), and border officer (*pyōnjang* 邊將) for “felling and taking trees as they pleased.”

In response, Kwanghaegun ordered more wardens to be recruited to watch over Pyōnsan’s state forests. Overseers and military officers were also to step up their patrols. Most importantly, all of Pyōnsan’s trees were to be graded as “large, medium, or small” and recorded.²⁴ The new controls placed on Pyōnsan had eventual success. Half a century later, in 1678, a government recommended that pine seedlings from Pyōnsan be used to replant pines in other state forests. Another 1728 report records the requisition of 5,281 “small, middle, and large” pines from the same area, a huge number indicative of a managed, regenerating forest.²⁵

The intensified dispatch of logging assessors demarcated a new shift in Chosŏn state forestry. Before the Imjin War, forest management had generally followed the patterns established in the fifteenth century, through cordons via edict and exploitation via military and corvée labor. Over the course of the sixteenth century, many Restricted Forest regulations slackened as the government became more concerned over animal control and land reclamation issues. Now, in the first two decades after the Hideyoshi’s invasions, logging assessors were touring the coasts; state timber was being graded and recorded.

The assessors not only uncovered evidence of unregulated logging but also awakened the court to possible flaws within state forestry system. In 1607, Kim Kwangp’il notified the court that the reconstruction of Seoul’s palaces was taking a toll on the Kangwŏn populace. When requisition orders came in, residents near state forests had to stop farming and assist with

²⁴ *Kwanghaegun ilgi* 10.21.12 (1620). 邊山乃禁山大材所在之地，而今此兩宮營建時，大材斫伐之數不多，則此中不等，何處去乎？此必闕帥、守令、邊將，恣意偷伐之故也，極爲駭怪。今後多定山直，各別嚴禁，而監兵使時時摘奸，守令、邊將私伐一條者，論以犯贓，繩之重律，而邊山大中小材餘存者，詳悉點檢，成冊馳啓。

²⁵ *PBSTR*, Yōngjo 5.4.19 (1729).

lumbering and transportation. For an unskilled corvée laborer, lumbering was as dangerous as it was arduous. One tree alone could require “one hundred people” to successfully haul down and float onto the Han River. Many men risked drowning when the Han River’s waters were high.²⁶ Kim recommended that the court reduce its requisitions so to lessen the suffering of the people.

Kim Kwanpil’s observations reflected the issue of labor recruitment that bedeviled Chosŏn state forestry throughout the dynasty. State forestry’s success was premised upon access: privileging the state’s access to certain forests and access to local labor. In post-Imjin Korea, in a land of displaced persons and razed settlements, labor was not a readily available resource.

Post-Imjin government attempts to rehabilitate sylvan environments thus ran into the problem of labor shortages and recalcitrance. In 1616, the Seoul Magistracy tried to corvée Seoul residents to plant more pine trees in the mountains around the capital’s ravaged mountains and hills. Yet, “seven to eight out of every ten” households chose to disobey the order.²⁷ The workers’ resentment and an overarching sense of futility can be seen in a ditty from the period:²⁸

*South Mountain pines make North Mountain pines,
North Mountain pines make South Mountain pines.
Daily we move and plant pines without end –
And live pines make dead pines.*

The perception of forest labor as futile and overly demanding persisted into the seventeenth and eighteenth centuries. To replant Seoul’s surrounding forests, Kwanghaegun resorted to appointing more wardens through the military.²⁹

²⁶ *Sŏnjo sillok* 4.4.40 (1607).

²⁷ *Kwanghaegun ilgi* 8.2.15 (1616).

²⁸ *Ibid.*, 南山松作北山松, 北山松作南山松。日日移栽無已日, 生松木作自枯松。

²⁹ *Ibid.*

Kwanghaegun and his ministers' attempts to rehabilitate Chosŏn's post-Imjin landscape had far-reaching consequences. Thanks to their efforts, a certain wartime and post-war pattern was put in place. Labor shortages and laborer recalcitrance were answered by using lower elements of the bureaucracy, particularly the military, in order to provide the necessary wardens, and lumberjacks. The post-Imjin forest rehabilitation efforts, moreover, helped key timber sources such as Pyŏnsan recover and prosper into the seventeenth and eighteenth centuries.

Thus, Chosŏn state forestry would continue; Kwanghaegun's reign, however, was cut short. In 1623, government officials overthrew the king and installed his nephew Injo (r. 1623-1649) on the throne. Numerous officials loyal to Kwanghaegun perished in the subsequent violence, including Kwangwŏn logging assessor Yu Kyŏngjong.

The coup plotters' grievances largely lay with Kwanghaegun's neutral foreign policy regarding the ongoing Ming-Manchu conflicts in northeast Asia, a policy that clashed with the plotters' pro-Ming stance. They also criticized Kwanghaegun's treatment of royal relatives, decried "unfairness" in his personnel management, and, to a minor degree, pointed out "problems concerning people's welfare, such as immoderate palace construction."³⁰ On the final point however, Seung B. Kye has convincingly argued that opposition to palace construction was a politicized struggle related to Kwanghaegun's refusal to send troops to assist the Ming.³¹ There had been no opposition to earlier construction projects in the first decade of seventeenth century. Only in 1618, when the Ming demanded Chosŏn military assistance, did the funding of palace construction become an issue of contention.

³⁰ Seung B. Kye. "In the shadow of the father: Court opposition and the reign of King Kwanghae in early seventeenth-century Chosŏn Korea" (PhD diss., University of Washington, 2007), 271-272.

³¹ *Ibid.*, 272-73.

Overall, even amidst all the political turmoil, there is no evidence of any opposition to the reboot of state forestry in the first decades of the seventeenth century. The dispatching of logging assessors and the strengthening of state forestry along the coasts were policies designed to rehabilitate a dire postwar environment for the same classic reasons: construction and warships. Moreover, the intractability of *corvée* labor, combined with the demographic tumult of the postwar era, necessitated the wider use of regular military and lower administrative personnel to guard and replant forests. Overall, the overthrow of Kwanghaegun did not halt the replanting and retrenchment of state forests in the western and southern coasts and in Kangwŏn province. What is more, Injo and his successors would extend state forests into a new frontier: islands.

Horses and Pines: The Southwestern Borderlands after the Imjin War

Over three thousand islands dot the waters around the Korean peninsula, with the great majority of them lying off the western and southern coasts. While Korea is no *shimaguni* like Japan, the peninsula's island regions have been a critical site of resource extraction in Korean history. During the Chosŏn era and particularly from the seventeenth century onward, the southern coast and island region, what I call the "southwestern borderlands,"³² became a prime source of timber for the Chosŏn state. In order to better understand how Korea's island periphery became a center of state forestry, one must consider the history of the southwest dating back to the thirteenth century, when Mongol invaders first made an indelible impact on the islands' ecology (see Chapter One).

³² Hermann Lautensach used the term "southwestern borderlands" is used to describe the same region in the 1930s. Hermann Lautensach, *Korea: A Geography based on the Author's Travel and Literature*, trans. Eckart Dege, Katherine Dege (Berlin; Heidelberg, Germany: Springer Verlag, 1988), 363.

During the late Koryŏ era, the Mongols established state ranches on some of these islands, notably on Cheju, to supply their cavalry. As noted in Chapter One, the southern islands also provided shipbuilding resources for the Mongol invasions of Japan. Even after the Mongols departed, the early Chosŏn government continued to maintain ranches and garrison farms on southern and western islands. In 1407, the same year Chosŏn launched its first major forest regulations, the government also assigned 48 officials to manage eight ranches across Cheju and made plans to expand the number of horses.³³ Horses were designated not only for cavalry but also for post stations (*yŏk* 驛) and tribute exchanges with Ming China.

After the Imjin War, institutional and ecological shifts profoundly reshaped the southwestern borderlands. Already in the sixteenth century, consistent with the patterns of land reclamation ongoing throughout the peninsula, coastal peoples began moving into the island zones and reclaiming ranchland as paddy land. A 1536 report by Kim Chŏngguk (1485-1541) criticizes “disorderly people” (*hannanin* 閑亂人) for setting up paddies on the state ranches of Chindo island.³⁴ Recognizing that the government could not simply remove the islanders back to the mainland, Kim suggested levying taxes on the islanders and restricting further migration into the island zones.³⁵

However, the government could not stem the tide of migrants any more than they could block outside events. During the seven brutal years of the Imjin War, refugees of all backgrounds sought safety along the coasts and the islands. More fled toward the coasts and island during the

³³ *T'aejong Sillok* 7.10.24 (1407).

³⁴ *Chungjong sillok* 9.30.33 (1536).

³⁵ *Ibid.*

Manchu invasions of 1627 and 1636.³⁶ The influx of people gradually overwhelmed the old state ranches. In 1635, an official from the Livestock Management Office (*Saboksa* 司僕寺) complained that only 46 out of the 119 ranches were actually raising horses.³⁷ Most had become overrun with residents reclaiming them into paddy land. Numerous located on the mainland coast also underwent similar conversion. Near the Chöllla hamlet of Hŭngyang, ten out of sixteen ranches were listed as “defunct” (*p’yejang* 廢場).

Simultaneously, in the seventeenth century, the Chosŏn government began extending Reserved Forests into the island zones. In 1615, Kwanghaegun requested that officials strictly regulate felling of “large trees not just in Restricted Forests” but also “in the provinces and on each island where there are timber stands.”³⁸ As part of his palace reconstruction projects, Kwanghaegun in 1618 reiterated the need to protect forests on Wan island.³⁹ Government officials, usually military officers, drew boundaries in the mountains and hillside, reserving the area above the boundary for logging and the land below for grazing.

The great majority of Chosŏn state forests in south covered the same island and coastal regions where the state also established ranches. The overlap was not a mere by-product of bureaucrat’s choice. Rather, there is a strong ecological link between pine and pastures. The domestic horse is a browser that prefers a mixed diet of grass, shrubs, flowering plants, and young trees. Horses particularly enjoy feeding on young deciduous trees; however, they shun

³⁶ For a list of southern *yangban* who fled to the islands during the Imjin conflict, see Kim Kyŏnggok, *Chosŏn hugi tosŏ yŏn’gu* [A study of islands in the late Chosŏn period] (Seoul: Hyeon, 2004), 80-81.

³⁷ Kim Kyŏngok, *Chosŏn hugi tosŏ yŏn’gu*, 117.

³⁸ *Kwanghaegun ilgi* 7.5.16 (1615). 但禁山大木, 道内各島有材木處, 千章喬木, 嚴禁偷伐爲可。此意下諭于諸道監司。

³⁹ *Kwanghaegun ilgi* 10.11.4 .

most conifers, including pine.⁴⁰ The great white pine stands of New England are a by-product of the heavy grazing regime that proliferated in eastern North America during the early nineteenth century.⁴¹ Decades of grazing lead to elimination of hardwoods and leave open, weaker seedbeds in which the shade-intolerant pine prospers. Thus, one can add a Mongol legacy – the Cheju horse and the wide institutionalization of ranches – to the causes of intense pine proliferation that so impacted Chosŏn-era policies and environments.

As the seventeenth century wore on, numerous military fields and ranches in southern Chŏlla island and coastal areas were converted to state forests. The reasons, again, stemmed from the specter of timber scarcity. For instance, one entry in the *Records of the Border Defense Command* from 1675 decreed that further residence on Amt'e island was to be prohibited, and the island's pines were to be reserved for naval use. Another entry from 1682 ordered the conversion of military supply fields on Anch'ang and Kijwa islands to pine fields (*songjŏn* 松田).⁴² Once Chosŏn government officials realized that they could not step the tide of migrants, they encouraged residents to reclaim pastureland into taxable fields that could be added to post-Imjin Korea's dilapidated coffers. Construction timber, ships, and taxes became higher priorities than the horse.

While fifteenth and sixteenth-century Chosŏn armies had fielded large divisions of cavalry, the horse-based emphasis declined after the Imjin War. Sin Ip's (1542-1592) vaunted cavalry units, painstakingly built and trained to fight Jurchen raiders, were destroyed in the first

⁴⁰ F.W.M Vera, *Grazing Ecology and Forest History* (Wallingford, UK; New York, NY: CABI Publishing, 2000), 26-28.

⁴¹ Gordon G. Whitney, *From Coastal Wilderness to Fruited Plain: A History of Environmental Change in Temperate North America, 1500 to the Present* (Cambridge, UK: Cambridge University Press, 1994), 170.

⁴² Kim Kyŏngok "18-19 segi sŏnamhae tosŏ yŏnam chiyŏk songgye ūi chojik kwa kinŭng [The organization and function of Pine Associations in the southwestern islands and coasts in the eighteenth and nineteenth centuries]" 2004.

year of the Imjin War at the Battle of Ch'ungju. Combined with Sin Ip's fatally inept decision-making, the Korean ironclad cavalry were no match for Hideyoshi's arquebuses.⁴³ After the war, the Chosŏn government placed increasing emphasis on warships and gunpowder weapons at the expense of horses.⁴⁴ Moreover, arable land could replenish state finances far more quickly and effectively. As one Chosŏn official put in 1680: "In one year, one reclaimed field could recoup the value of several horses. Why not move the horses and let people come into the islands to farm?"⁴⁵

In 1470, an estimated 40,000 horses roamed the state ranches of the peninsula. By 1678, that number had dropped in half to 20,213. Chŏlla province experienced a decline from 4,523 horses in 1470 to only 2,465 horses remaining in 1678. Even Cheju island, long the horse pasture of Korea, experienced a 53 percent drop from 26,502 to 12,411 horses in the same time span.⁴⁶ In the place of the ranches rose state forests. In 1448, 291 Restricted Forests spanned across the Korea's coastlines; by 1800, that number had expanded to 678 sites. The majority of the new forests were established in the Naktong River basin in Kyŏngsang province and the island regions of southwestern Korea.⁴⁷

Thus, the Mongol legacy of horse ranching in the southwestern borderlands gradually

⁴³ Kenneth Swope, "Crouching Tigers, Secret Weapons: Military Technology Employed during the Sino-Japanese-Korean War." *Journal of Military History* 69:1 (January 2005), 39-40.

⁴⁴ For discussion of late Chosŏn transition of gunpowder weaponry, see Tonio Andrade; Hyeok Hweon Kang; Kristen Cooper, "A Korean Military Revolution? Parallel Military Innovations in East Asia and Europe" *Journal of World History* 25:1 (March 2013): 51-84; Hyeok Hweon Kang, "Big Heads and Buddhist Demons: The Korean Musketry Expedition and the Northern Expeditions of 1654 and 1658" *Journal of Chinese Military History* 2:2 (February 2014), 127-189.

⁴⁵ *Sukchong Sillok* 2.3.6 (1680).

⁴⁶ *Sŏngjong Sillok* 1.1.4 (1470); Hŏ Mok, *Mokchang chido* [Map of Ranches], Seoul: National Library of Korea, 1678.

⁴⁷ *Man'gi yoram* [Essentials of State Affairs] . ed., Koryŏ taehakkyo minjok munhwa yŏn'guso. Vol. 1 (Seoul: Minjok munhwa ch'ujinhoe, 1971.), 498-500.

transitioned into the Chosŏn institutionalized landscape of pine forests. As described above, the impetus was both ecological and institutional. After the Imjin War, the Chosŏn government intensified the protection of forests for naval and construction use. Meanwhile, the old southern ranches transitioned into pine forests, in part due to the browsing habits of the domestic horse.

However, the shift did not require the creation of new institutions. Rather, the shift from ranches to forests required the intensification of wartime practices. The military had been an active part of resource management along the coasts and islands even before the Imjin War. Then, between 1592 and 1598, Yi Sunsin's naval forces solidified the military's ability to arrange and supervise the collection of key resources in the southwest, especially wood.

In turn, the naval garrison (*sugunjin* 水軍眞) became the headquarters for the state's expansion over southwestern forests. The early Chosŏn state had established naval garrisons along the southern and western coasts to guard against the pirate threat that plagued Korean waters in the fifteenth and sixteenth centuries. The same garrisons provided the infrastructural basis for Yi Sunsin's success during the Imjin War. After the war, the garrisons took on a larger role in other areas of resource management, ranging from salt and fish tax collection to forestry. Garrison officials cordoned off forests with "restriction postings" (*kŭmp'yo* 禁標). They closed pastures and supervised of forestry labor, either soldier or corvée.⁴⁸ They were seen as so reliable in providing forestry services that, in 1684, when the government promulgated a vast new set of forestry regulations, military officials and garrison commanders were given authority over the majority of state forests along the western and southern coasts.⁴⁹

⁴⁸ *Honam chinji* [Gazetteer of Honam Garrisons] (1895). Kyujanggak No. 12188.

⁴⁹ PBSTR, Sukjong 10.2.30 (1684).

The Vagrancy Problem and the Administrative Response

Post-Imjin reconstruction necessitated greater state intrusion into many spheres of Chosŏn life. Such were the realities of a war-torn landscape. Forests needed reforestation; revenue needed recompensing. Moreover, settlements needed to be resettled. Throughout the seventeenth century, the problem of vagrancy raised the hackles of Chosŏn officials. Already dispossessed by war, vagrants only increased in number as the post-Imjin state tried to reassert corvée duties and taxation.⁵⁰ To make matters worse, the Manchu invasions of 1627 and 1636 scattered even more people across the peninsula. Refugees fleeing the Manchus streamed southward toward the coasts, cutting down forests and further devastating the landscape in their wake.

Poignant examples of the refugees' environmental impact can be found in the diary of Madame Cho (1574-1645).⁵¹ The wife of Chosŏn official Nam Iung (1575-1648), Madame Cho and her household slaves fled the 1636 invasion in the dead of winter by heading toward the western coast. They did not rest until they reached Sohŏ island in Ch'ungch'ŏng province, just a few kilometers away from the protected pine reserves of Anmyŏn island. On Sohŏ, Madame Cho's slaves cut swaths bamboo to construct temporary dwellings. They drank snow for sustenance and watched as other refugees felled trees for barges. Then, after a few days, Cho and her retinue fled to the east, repeating the same pattern of foraging and felling.⁵²

⁵⁰ Pyŏn Chusŭng, "Chosŏn hugi yumin chŏngch'aek yŏn'gu [A study of vagrancy policy in the late Chosŏn era]," *Minjok munhwa yŏn'gu* 34 (2011): 52.

⁵¹ Namp'yŏng Cho ssi, *Pyŏngja Ilgi* [Diary of the Pyŏngja Year], ed., Pak Kyŏngsin (Seoul: Naui sigan, 2015).

⁵² *Ibid.*, 21-22.

Altogether, the vagrancy problem of post-Imjin Korea was a far more serious affair than the fifteenth-century complaints about “bands of ruffians.” The Chosŏn dynasty took three major approaches to the problem: one, reestablishing state registration and control (*t’ongje* 統制); two, resettling and returning these populations (*hwansong* 還送); and three, rehabilitating them through famine relief and aid (*anjib* 安集).⁵³

A notable proposal combining all three approaches came in the middle of the seventeenth century, from a reformist minister named Kim Yuk (1580-1658). Kim Yuk had made his name as the architect of the Uniform Tax Law (*taedongpŏp* 大同法) that streamlined methods of tax payments in seventeenth-century Korea. Late in his illustrious career, in 1653, he heard reports of a disturbing trend: in western Kangwŏn province, peasants were fleeing their villages to avoid military service and tax payments. Worried, Kim submitted a memorial to the king describing the situation:

These vagrants (*yumin* 流民) are solely cultivating mountain lands as their livelihood and roaming around like birds and beasts ... The fields are abandoned, and famous mountains day by day are stripped away. Needless to say, these are serious concerns.⁵⁴

Kim proposed that the government establish, on suitable “empty areas” (*konghan* 空閑), agricultural garrisons to be governed by special military commanders (*pyŏlchang* 別將) and allotted between ten and hundred vagrants each. A three-year tax break to the vagrants was offered as an enticing lure; in exchange, these vagrants-turned-garrison tenants (*tunmin* 屯民)

⁵³ Pyŏn Chusŭng, “Chosŏn hugi yumin chŏngch’aek yŏn’gu [A study of vagrancy policy in the late Chosŏn era]” *Minjok munhwa yŏn’gu* 34 (2011): 52.

⁵⁴ *Hyojong Sillok* 4.8.11. (1653)

were prohibited from cultivating mountain areas. The end result, argued Kim, would be “upright hearts and minds for the people” and the “benefits of conservation for the state.”⁵⁵

Kim’s proposal reflected a growing trend. The mid-to-late seventeenth century would witness the significant expansion of the Chosŏn state’s administrative capacities throughout the countryside. The problem of vagrancy, in particular, became a common justification for the establishment of new agricultural garrisons, particularly in the western parts of mountainous Kangwŏn province and the coastal areas of Ch’ungch’ŏng and Chŏlla provinces.⁵⁶ The sedentary bureaucrat’s revulsion to vagrancy, a phenomenon well noted by anthropologists, compounded seventeenth-century Korean concerns over environmental degradation and fiscal health.⁵⁷

As the seventeenth century wore on, the government continued to implement stricter measures aimed at controlling populations and the countryside. In 1674, an official named Yun Hyu (1617-1680) proposed the reintroduction of the Five Household Control Law.⁵⁸ The law, based on examples from the *Rites of Zhou*, had been discussed in the court during the fifteenth century, but actual implementation was never undertaken.⁵⁹ Now, in the postwar environment of

⁵⁵ Ibid., “民有一定之心，國有存保之惠矣。”

⁵⁶ Song Yangsŏp, “17 segi kunyŏngmun tunjŏn ūi hwaktae wa kyŏngyŏng hyŏngt’ae ūi pyŏn’hwa [A study in the enlargement and changes in management of military-managed *tunjŏn* during the 17th century]” *Yŏksa wa hyŏnsil*, 36 (2000); Pyŏn Chusŭng “Chosŏn hugi yumin chŏngch’aek yŏn’gu [A study of vagrancy policy in the late Chosŏn dynasty]” *Minjok munhwa yŏn’gu* 34 (2001): 59.

⁵⁷ For examples of James Scott’s arguments, see *Seeing like a State: How Certain Schemes to Improve the Human Condition have Failed* (Yale University Press, 1999). For examples of late Chosŏn concerns over vagrancy as related to deforestation, see Yi Uyŏn. *Hanguk ūi sallim soyujedo wa chŏngch’aek ūi yŏksa, 1600-1987* (Seoul: Ilchogak, 2007), 60-162.

⁵⁸ For original text, see *PBSTR* 34: Sukchong 4.4.15. For further analysis, see Chŏng Chinyŏng, *Chosŏn sidae hyangch’on sahoesa* [A social history of rural communities in the Chosŏn dynasty] (Seoul: Han’gilsa, 1998), 267-271; Deuchler, *Under the Ancestors’ Eyes*, 261-262. For links between the Five Household Control Law and the broader vagrancy problem, see Pyŏn Chusŭng 53-55.

⁵⁹ The 1468 forest controls around Seoul included usage of the Five Household Control Law, but there is no evidence of actual implementation.

the seventeenth century, Yun cited the ongoing vagrancy problem as a major impetus for reintroducing the Five Household Control system.

Yun proposed that every settlement be organized into a basic unit of five households that in turn were subordinated to larger administrative villages (*ri* 里) and, on the next level up, townships (*myŏn* 面). The law exhorted the five-household units to assist their members in key rituals such as weddings and funerals and to ensure the fulfillment of tax payments and corvée service. Household units were also to maintain irrigation works and grain storage facilities. Furthermore, the regulations prevented most people from moving into any unregistered or unverified locality. Uncooperative village leaders were threatened with deportation.⁶⁰

Due to infrastructural and technological limits of the pre-industrial Chosŏn polity, the Five Household Control was unevenly implemented in the late Chosŏn era. As with the state forestry system, the government had trouble recruiting lower-level administrative personnel. Evasion and irregularities were also rampant, largely due to the machinations of local elites.⁶¹

Yet, seen in long-term perspective, the Five Household Control was part of a significant expansion of administrative control over daily life in the Chosŏn dynasty. Furthermore, in the context of the postwar era, the Five Household Control Law can be seen as a culmination of the Chosŏn state's domestic insecurities. The suppression of vagrancy, the recovery of revenue, and reorganization of villages into legible units all followed a determined postwar Chosŏn government effort to re-establish order in the countryside. Early Chosŏn officials had batted around similar proposals, but they only reached wider implementation after the depredations of the Imjin War and Manchu invasions. Likewise in other spheres as well, particularly forestry, the

⁶⁰ *PBSTR*, Sukchong 4.4.15; Chŏng Chinyŏng, *Chosŏn sidae hyangch'on sahoesa* [A social history of rural communities in the Chosŏn dynasty] (Seoul: Han'gilsa, 1998), 267-271.

⁶¹ Deuchler, *Under the Ancestors' Eyes*, 262-264.

postwar Chosŏn government laid the groundwork for a different, more legible administrative landscape.

The Resurgence of Slash-and-Burn Cultivation – and its Suppression

With the rise in vagrancy in the seventeenth century came a resurgence of illegal slash-and-burn cultivation (*hwajŏn* 火田, *hwagyŏng* 火耕). As discussed in previous chapters, suppression of swidden-type cultivation was a priority in the fifteenth century as the government sought to settle people onto taxable fields and protect forests for various statist goals. In the late fifteenth and sixteenth centuries however, the suppressive attitude diminished as the government prioritized bringing more land under cultivation and eliminating dangerous fauna from forested areas.

After the Imjin War however, swidden cultivation became associated with the rising problem of vagrancy. Moreover, illegal fires were seen as threats to forest resources so key to naval and edifice construction. Consequently, the Chosŏn government again adopted a far harsher attitude toward slash-and-burn cultivation.⁶² Officials were ordered to crack down on swidden plots. The combination of vagrancy and slash-and-burn cultivation was seen as an existential threat to the social order at a time when the government was trying to rehabilitate a devastated economy and environment.

In an echo of the dynasty's early years, government concerns over slash-and-burn cultivation were compounded by frustrations over the inability to suppress the fires. A 1663 censorate report declared that “recently, the crime of fire fields has been relentless.” Luxuriant forests “that had grown for over a hundred years” were being torched to nothing in a single day.

⁶² Sin Hoch'ŏl, “Chosŏn hugi hwajŏn ūi hwaktae e taehayŏ [On the spread of fire-field agriculture during the late Chosŏn dynasty]” *Yŏksa hakpo* 91 (1981): 61-62.

The censor observed that, while *hwajŏn* was not a new problem, previous administrations had not been able to clamp down on the issue. One reason given for the lack of regulation was the recalcitrance of “cunning people” (*kanin* 奸人) who would not tolerate any restriction on their behavior. Another was the fact that new revenue often came from new lands opened through swidden. Indeed, in 1653, King Hyojong criticized corrupt magistrates for turning a blind eye to swidden. Rather than banning the practice, venal officials would enrich themselves by squeezing tax revenue from swidden cultivators.⁶³

The Chosŏn government in the mid-seventeenth century also grew more concerned about the broader environmental effects of slash-and-burn cultivation. The 1663 censorate report confirms that the “forests and marshes were under the government’s protection” and that the rise of swidden across the country threatened both. “Forests are denuded, streams dry out,” the censor said, “and countless treasures are all lost.”⁶⁴ The censor even speculated that a recent spate of droughts could be correlated to the environmental damage caused by slash-and-burn cultivation.⁶⁵

Just as the perceived threat of vagrancy compelled new administrative controls such as the Five Household Control Law, the reported damage caused by slash-and-burn cultivation spurred administrative expansion in the latter half of the seventeenth century. In 1674, the government issued a new set of promulgations dedicated to stamping out the fire-field problem. Titled “Provisions for the Prohibition of Fire Fields and the Replanting of Mulberry Trees,” these

⁶³ *Hyŏnjong sillok* 4.12.17.

⁶⁴ *Hyŏnjong kaesu sillok* 4.12.17 山童川渴, 萬寶俱絕.

⁶⁵ *Ibid.*

new regulations expanded state control over land-use practices.⁶⁶ The aforementioned 1663 censorate report served as a key reference in the compilation of the 1674 regulations.

Like other major administrative codes from the mid-to-late seventeenth century, the new slash-and-burn regulations begin with a gloomy description of Chosŏn domestic affairs. “People no longer feared the law:” they ran into the mountains to avoid taxes and roamed through forests logging trees and setting fires. Local officials, in pursuit of extra revenue, allowed the slash-and-burn cultivation go on. Consequently, luxuriant forests were rendered bare into so-called “red mountains” (*chasan* 赭山). Verdant landscapes were transformed into mounds of reddish-brown dirt. The regulations describe hillsides bereft of any trees, leaving local residents with no fuel or lumber. A “rising population” left little new land to reclaim in the lowlands, rendering hills and mountains into prime real estate.⁶⁷

The dark rhetoric had a particular purpose. The regulation authors painted a gloomy picture of the seventeenth-century environment in order to advocate a more predictable, legible landscape. Their preferred environment is the state’s orthodox landscape, a landscape built on sedentary fields and managed forests, not fire and unregulated felling. Ironically, the burning and logging of mixed forests by seventeenth-century vagrants actually paved the way for the dominance of the state’s preferred conifer, the pine. Free from competitors and hardy enough to prosper in thinner hilly soils, the shade-intolerant *Pinus densiflora* and *Pinus thunbergii* continued to prosper thanks to both government policy and local assistance, however inadvertent such assistance may have been.

The 1674 slash-and-burn regulations also charged local officials with further duties for swidden suppression. They were to report any sign of slash-and-burn activity. Failure to report

⁶⁶ PBSTR, Sukchong 1.8.1 (1674).

⁶⁷ Ibid.

would result in major punishment for local magistrates and his staff. Authorities were also to restrict any farming or logging above certain points on the hillside, usually a zone halfway up the mountain or hill known as the *sanyo* 山腰. As with state forests, a warden (*sanjik* 山直) was to be appointed to watch over the hillside zones and ensure that no illegal logging or cultivation transpired.⁶⁸ Warden recruitment can be seen as part the post-Imjin administrative drive to employ lower-level personnel for various duties. As more and more local *sajok* shunned administrative duties as beneath their status, the government had to recruit men of lower social status to accomplish the day-to-day tasks of administration.⁶⁹

The resurgence of slash-and-burn cultivation in post-Imjin Korea thus incurred a severe government response. As it did with the problems of illegal logging and vagrancy, the Chosŏn state treated fire fields as threats to postwar rehabilitation, to the revamping and reassertion of control over society and the environment. The solution, however, was not without cost. The imposition of a proper type of land-use pattern, of the state's preferred landscape, required mobilization of more administrative personnel and, in turn, more intrusion of the state into everyday Chosŏn life.

State Forestry and the Expansion of Government into Daily Life

State forestry was a key component of the expanding post-Imjin administrative state. Kwanghaegun's logging assessors began the rehabilitation of state forests after the Imjin War. Then, during Injo's reign, state-run forests expanded across the islands and coasts. By the middle

⁶⁸ Ibid.

⁶⁹ Deuchler, *Under the Ancestors' Eyes*, 262. See also Sun Joo Kim and Jungwon Kim, trans. *Wrongful Deaths: Selected Inquest Records from Nineteenth-Century Korea* (Seattle, WA: University of Washington Press), 12, citation 20.

of the seventeenth century, state forestry reached an inordinate level of pervasiveness, as court officials and local literati alike complained about forest regulations.

For instance, the spread of the naval garrisons into the island zones marked the further intervention of Chosŏn government officials into the workaday uses of forests. The scholar-official and poet Yun Sŏndo (1587-1671), a native of the south Chŏlla region, complained that new forest regulations hampered local lives. Coastal residents and islanders “did not even dare to peer into pine forests” due to the strict government regulations. While non-pine “miscellaneous forest land” was legally available to reclaim, they were “but few.”⁷⁰

New regulations passed after the Imjin War stipulated that people in the southern coasts and islands had to live five *li* outside of state forests.⁷¹ Yun Sŏndo describes the new pine protection laws as “extremely strict.” “It is not just the wardens who patrol and investigates,” Yun wrote, “the border commander as well pursues and investigates. If there is even a minor transgression, the navy officer comes and punishes them ... The residents fear pines like they are tigers.”⁷² Yet, state intrusion did not nourish obedience. Yun observed that people, fearing punishment, no longer reported illegal felling or fires. Yun castigated the state’s policies, in terms increasingly common among late Chosŏn rural literati, for abandoning Confucian principles in favor of resource extraction. “What the state should love and cherish,” he wrote, “is surely its people, not its pines. But now, it is on behalf of the pines and does not look after its people.”⁷³

⁷⁰ Yun Sŏndo, “Sip’ye sajo so” [Four Comments on the Ills of our Time]. *Kosan yugo* [The Collected Works of Kosan]. Vol. 2. Seoul: Han’guk kojŏn pŏnyŏgwŏn. 然而松林所在。意不敢窺。雜樹餘地。田不可多

⁷¹ Ibid.

⁷² Ibid.

⁷³ Ibid., 國家所愛恤者。當在於民。不當在於松也。而今也爲松而不顧民。

Figure 8: A nineteenth-century depiction of pine forests across the southwestern islands with a naval garrison.



Source: Reproduced from Kim Kyöngok (2004), 217

Such excessive enforcement of state forestry can be corroborated in mid-seventeenth-century sources from the central bureaucracy. A 1650 report to the Border Defense Command, for instance, criticized local officials in Ch'ungch'ŏng province for overzealous execution of the court's post-Imjin forestry policies. In addition to protecting the older Restricted Forests along the coasts, a local magistrate had also sent military officials and clerks to monitor inland pine forests in Ch'ungch'ŏng. As a result, even pines from private and open forests were put under *ad hoc* state jurisdiction. Local residents were threatened and fined for simply using pine lumber for fences and houses. To prevent such exactions, King Hyojong (r. 1649-1659) ordered local officials to cease any extension of jurisdiction outside of the coastal Restricted Forest zones. The magistrates were to clearly demarcate Restricted Forests and severely punish any officials caught levying taxes or fines on “privately grown trees” (*sayangmok* 私養木).⁷⁴

Yun Sŏndo's account and the 1650 Border Defense Command report reveal three major problems stemming from the expansion of state forests in seventeenth-century Korea. One, post-Imjin administrative reconsolidation, such as in the campaigns against vagrancy and swidden, also generated administrative intrusions into daily life. Everything from household registration to labor and taxation to the very material of fences could potentially come under the jurisdiction of the state. The ability of local officials to unpredictably extend and retreat such authority would be the bane of late Chosŏn life.

Two, there were ecological consequences. Pine forests remained plentiful but other types of construction-grade trees were becoming far and in between in parts of Ch'ungch'ŏng province. According to the report, “miscellaneous trees” fit for building houses and fences could be found “only in great mountains ... but not in low-lying hills (*yasan* 野山).” Consequently, the houses

⁷⁴ *PBSTR*, Hyojong 1.2.12 (1650)

of great and small families alike were “all pine.”⁷⁵ Officials were increasingly noting the incessant spread of the shade intolerant *Pinus densiflora* and *Pinus thunbergii*. As noted before, these pines prosper in the absence of competing species, a trend only accelerated by the state’s post-Imjin emphasis on pine rehabilitation.

Finally, the report throws into the light yet another forest-related institution: the tomb grove (*myosan* 墓山, *punsan* 墳山). The 1650 report notes that some people would plant pines around graves behind their houses and then ban outsiders from cutting the trees. Accordingly, “pines would grow luxuriantly” in these “gravesite groves.” As seen in the previous chapters, protection of grave land was part of royal and elite practices in the early-to-mid Chosŏn era. Notably, the protection of grave land also entailed usufruct rights over the surrounding trees for both ritual and construction purposes. In the seventeenth century, the organized tomb burials spread as a wider non-elite custom. As a result, more and more woodlots around graves became exclusive to private proprietors. The planting and protection of pines seems to fit into the logic of Chosŏn government policy. But did the interests of the grave owners necessarily match the state’s?

Graves, Pines, and the Localist Re-Appropriation of State Policy

From the beginning of the Chosŏn dynasty, grave land was a key method of inscribing human territoriality. By “territoriality,” I mean Robert David Sack’s definition, “the attempt by an individual or group to affect, influence, or control people, phenomena, and relationships, by delimiting and asserting control over a geographic area.”⁷⁶ Territoriality conveys relationships of authority and hierarchy. Moreover, territoriality renders those relationships into a space that is, at

⁷⁵ *Ibid.*, 凡雜木, 可爲室屋, 可爲蕃籬者, 惟大山中有之, 野山則絕無, 故大小民家皆松木也, 唯松木則或家後山

⁷⁶ Robert David Sack, *Human Territoriality: Its Theory and History* (Cambridge University Press, 1986), 19.

once, personal and impersonal. The contemporary church and school impart both close community and entrenched authority. Likewise, the Chosŏn tomb is a spatial representation of both the closeness of kinship and the institutionalized authority accorded to sites of ancestral veneration.

Fifteenth-century Chosŏn laws recorded in the *Great Code of Administration* banned farming and livestock around tombs. The amount of protected land depended on one's status and was measured by the number of paces (*po* 步) from the tomb. Royal kin, for instance, received protection on land one hundred paces (*paekpo* 百步) around the relevant tomb.⁷⁷ First-rank officials received ninety paces of grave land, second-rank officials received 80, third-rank officials got 70 paces and so forth in decreasing ten-pace allotments. Officials below rank seven, lower-level examination passers, and inherited appointees were allotted fifty paces of protected grave land.

The grave land allotments, while ensured of state protection, were restricted in their size and utility. According to Kim Kyŏngsuk's calculations, the top allotment of one hundred paces would have been approximately 138.6 meters in the fifteenth century.⁷⁸ At the bottom, officials below rank seven would have had 55.44 meters of protected grave land. Accordingly, even a prominent official of senior third rank would have been entitled to only 97.02 meters of grave land. Moreover, grazing and farming were prohibited within these confines.

⁷⁷ The degree of relevant relation to the entombed is a complex issue. Increasingly over the course of the Chosŏn dynasty, the upkeep of grave land and ancestral rituals were charged to a main ritual heir, almost always the eldest son. Their array of duties involved not only maintenance of the tombs and relevant grave land but also the management of separate farmland for the upkeep of the costly ancestral rites. Deuchler, *Under the Ancestors' Eyes*, 188-194, 266-268.

⁷⁸ The calculations are based on conversions of *ch'ŏk*, *li*, and *po* mentioned in the *T'aejong sillok*. Kim Kyŏngsuk, *Chosŏn ūi myoji sosong* [Tomb Lawsuits in the Chosŏn Dynasty] (P'aju, South Korea: Munhak tongne, 2012).

The one resource that could be used and cultivated on grave land was trees. Trees around tombs had geomantic and ritual value. The planting of pines around royal tombs dates back to the Three Kingdoms era and continued into the Koryŏ period.⁷⁹ Pines screened the tombs from daylight and added, according to Chosŏn-era geomantic belief, an intense propitiousness that could filter down to the fortunes of the family and their descendants. From the beginning of the dynasty, the government instilled the protection of trees around royal tombs. In the sixteenth century, elites such as Yu Hŭich'un and Yi Mun'gŏn adopted the same practice, hiring wardens to maintain and protect trees around their ancestral graves. In the seventeenth and eighteenth century, as local elites came under pressure from diminishing status and the encroachments of the post-Imjin administrative state, the Neo-Confucian emphasis on patrilineal organization became all the more ingrained as part of what Deuchler calls "localist strategies" designed to "buttress their social standing and preserve their local dominance."⁸⁰ In turn, the gravesite, surrounded by trees and attached to service land, became a locus of late Chosŏn lineage culture and economics.

It is important to note that various political and cultural objectives dictated attempts to protect tombs and trees. Royal tomb proscriptions, for instance, were compelled by the monarchy's need to cement its authority. As discussed in chapter one, coffin burial was also a country-wide bureaucratic initiative pushed through agencies such as the Funerary Bureau. By the sixteenth century however, local elites were practicing the same ancestral rituals for a variety of reasons ranging from the social to the economic and ideological. Moreover, after the Imjin War, the gravesite became key pathway to inscribing local power and status. Socially, the ancestral cult and its territorialized paraphernalia – the tombs, ancestral shrine and hall – were

⁷⁹ See Chapter 1. For Three Kingdoms-era precedents, see *CBMHBG* 88.35.

⁸⁰ Deuchler, 266

the gathering sites of the lineage members. Culturally, the ancestral cult and its rituals demonstrated the members' status. Economically, the rituals demonstrated wealth, and the gravesite and attached lands marked territorial control over key lineage assets.

Of course, as with all types of land tenure, such markers of territoriality were not devoid of conflict. Ownership rights themselves were ambiguous. Grave mounds (*punmyo* 墳墓) belonged to the ritual heir whereas the surrounding resources technically fell under the common property of the lineage.⁸¹ The trees on lineage property, meant to provide shelter to the tomb and geomantic fortune for the family, could also be easy targets for neighbors or vagrants, particularly during the tumultuous era that followed the Imjin War and Manchu invasions. Demographic pressures also incurred greater social and economic competition as the population recovered. Consequently, the spread of the family-centered gravesite across southern Korea in the seventeenth century coincided with a pronounced rise in gravesite lawsuits (*sansong* 山訟) in the late Chosŏn era.

The gravesite lawsuit has been called one of the “three characteristic lawsuits” of the late Chosŏn era, the other two being lawsuits regarding slave and paddy ownership.⁸² The term *sansong* first appears in a Censorate report from 1664 urging the removal of Kyŏnggi junior governor Yi Simae (1603-1667) for delaying the resolution of gravesite lawsuits.⁸³ Some decades later, an official named Yi T'an (1669-1718) wrote an illuminating memorial about the grave lawsuit problem based on his experiences as governor of Kyŏngsang province.⁸⁴ Yi saw the tomb lawsuit as a perversion of older government protections for gravesite space. He noted

⁸¹ Deuchler, 529, footnote 72

⁸² Kim Kyŏngsuk, *Chosŏn ūi myoji sosong*, 15

⁸³ *Hyŏnjong sillok* 5.11.6 (1664)

⁸⁴ *CBMHBG* 88.35 *yego*.

that the tomb lawsuit had not existed in ancient times or the dynasty's early years. The spread of tombs as territorial markers, according to Yi, was a recent phenomenon driven by acquisitive elites. "Some establish empty tombs (*hŏch'ong* 虛塚) to take control of land," he wrote, while "others [take control] by cultivating and planting pines on the hillside." To combat such land grabs, Yi urged the government to more strictly regulate illegal burials and delimit the spread of tomb lands.

Official objections notwithstanding, the gravesite lawsuit continued to proliferate in the eighteenth and nineteenth centuries. Even non-*yangban* families scrambled to acquire burial grounds. Illegal burials, including the reinternment of corpses in particularly auspicious plots, sparked countless lawsuits and even violence.⁸⁵ *Yangban* sparred with their own kinsmen over access to gravesite trees, particularly pines, leaving special classes of gravesite litigation known as "pine lawsuits" (*songsong* 松訟).⁸⁶ As to be discussed in chapters four and five, the increasing commercialization of the late Chosŏn economy further amplified the value of trees existing outside of state forests. Gravesite pines, conveniently located as they were near inhabited areas, were opportune targets.

In response, government pronouncements decried tomb-related litigation throughout the late Chosŏn era. By the mid-eighteenth century, twenty-four new official statutes regarding gravesite litigation had been collected in the *Revised Compendium of Royal Pronouncements* [*Sinbo sugyo chimnok*]. The statutes should be seen as prescriptions reflective of the tomb-related issues ongoing in the provinces in the late seventeenth and early eighteenth centuries.

⁸⁵ For example, see Sun Joo Kim and Jungwon Kim, *Wrongful Deaths*, 129-203.

⁸⁶ For examples, see Deuchler, 354-55. For detailed analysis of a representative pine lawsuit, see Chŏn Kyŏngmok, "Chosŏn hugi sansong ūi han sarye: Chŏlla-do Yŏnggwang-gun Ipsŏk-ri segŏ Tokpaegi Sin-ssi' songsong ūl chungsim ūro [A gravesite lawsuit case in the late Chosŏn dynasty: with focus on the Tokpaegi Sin pine lawsuit in Ipsŏk village, Yŏnggwang county, Chŏlla province]" *Komunsŏ yŏn'gu* 14:1 (1998).

Tomb-related litigation may have been a new phenomenon in seventeenth-century Korea, but Chosŏn officials could count on precedents from China as guides. Local gravesite litigation was a serious issue during the Ming Dynasty, particularly in parts of southern China where the corporate lineage became a widely effective tool of estate and woodland management.⁸⁷ The *Great Ming Code* listed numerous statutes regarding tomb-related offense, and they guided Chosŏn officials when gravesite conflict became a Korean problem. For instance, in regards to those who built fake tombs devoid of corpse and coffin, the *Compendium* cites a *Great Ming Code* statute prescribing one hundred strokes as punishment. Similar punishments, in accordance with the same *Ming Code*, were levied on those who farmed another's grave land, threw rubbish or set fires there, or illegally reinterred another body.⁸⁸ Additional prescriptions were added to deal with particular Korean contexts such as the legal proximity of gravesites to residences and the procedures that officials should follow when extirpating illegal tombs and processing relevant lawsuits.⁸⁹

While the *Compendium* and similar prescriptions helped direct bureaucratic efforts, regulations alone could not solve the demographic and economic pressures that drove the rising tide of gravesite litigation. At the center of this dramatic localist re-appropriation of state policy stood forests and trees. Ironically, it was the Chosŏn government's own funerary and forestry policies that had incentivized such zealous acquisition of grave land. Early Chosŏn bureaucrats had protected forests to reserve timber for the then-rare practice of coffin burial. Now, in the seventeenth century, local elites across southern Korea used trees to surround subterranean

⁸⁷ Ian Matthew Miller, "Roots and Branches: Woodland Institutions in South China, 800-1600" (Ph.D. diss., Harvard University, 2015) .

⁸⁸ *Sinbo sugyo chimnok* [Revised Compendium of Royal Pronouncements], ed., Han'guk yŏksa yŏn'guhoe (Seoul: Ch'ŏngnyŏnsa, 2000), 201-202.

⁸⁹ *Ibid.*, 204-207.

coffins. Whereas pine forests had provided early Chosŏn bureaucrats with hopes of worthier rituals for the departed, the same trees now pocked hillsides across the country as the jealous demarcations of local elite interests.

The State Strikes Back: The 1684 Pine Prohibition Regulations

Over the course of the seventeenth century, attempts at forest management reforms had met constant obstacles: from wartime destruction to moving populations and shifting cultivation to illegal fires and proprietary tombs. Finally in 1684, the Chosŏn government attempted to remedy the situation with the most comprehensive set of forestry regulations written to that point in Korean history. In the spring of that year, the Border Defense Command proposed to organize various forest-related statutes into a single document. King Sukchong assented to the proposal, and the statutes were issued as the “Pine Prohibition Regulations for the Coastal Regions” (*Chedo yŏnhae songgŭm samok* 諸道沿海松禁事目).⁹⁰ Later the same year, the government issued the “Pine Prohibition Regulations for Coastal Hwanghae Province” (*Hwanghaedo yŏnhae kŭmsong samok* 黃海道沿海禁松事目), a supplementary set of provisions aimed at the military garrisons manning state forests along the Hwanghae coast.

The 1684 Pine Prohibition Regulations were the culmination of a near-century of tensions between a government trying to reassert control over forests and a wider populace undergoing dramatic social changes. The regulations addressed the myriad issues that had accordingly emerged: the recruitment of personnel to maintain state forests; oversight of forestry officials; the expansion of military garrisons to protect forests in the coastal and island zones; the

⁹⁰ *PBSTR*, Sukchong 10.2.30 (1684).

problems of vagrancy and slash-and-burn cultivation; and the rising disputes over gravesite woodland.

The government also streamlined the basic units of forest administration, applying the terms “Reserved Forest” (*pongsan* 封山) and “Pine Fields” (*songjŏn* 松田) to denote the array of state forests that had emerged since the end of the Imjin War. No longer were state forests simply “restricted” zones cordoned by edict and maintained by corvée labor. Since the end of the Imjin War, an array of lower administrative personnel – wardens, stewards, military officials, soldiers – had taken charge of managing the state’s forests. Inspectors, magistrates, and clerks oversaw their activities. Procedures for replanting, harvesting, and distribution were dictated; the purposes of various forests were far more organized. The majority of these woods were pine forests reserved for shipbuilding and construction. A minority of the Reserved Forests were chestnut tree groves harvested for ritual ceremonies and oak trees used to supplement construction and naval quotas.⁹¹ Pine Fields denoted coastal pine forests maintained by garrison commanders and subject to replanting procedures.

The beginning of the 1684 regulations laid out the basic problems bedeviling state forestry in the seventeenth century. Official discipline was “slackening” (*haei* 解弛), and corruption (*p’ye* 弊) was on the rise. Officials were using investigations as pretexts for illegal requisitions of grain. They overlooked violations made by “powerful locals” (*hou* 豪右) and demanded bribes from “impoverished people” (*kungmin* 窮民). Meanwhile, “cunning people” were profiting from slash-and-burn agriculture in pine forests while magistrates acquiesced to the newly taxable “fire fields.” The central government laid much of the blame on local

⁹¹ More discussion of protected chestnut and oak forests will follow in Chapter Four. For discussion of specific chestnut and oak forest sites, see Kim Hŭit’ae, “Kurye naedongni ‘chinmok yulmok ponggye’ myŏng amgakmu”n [Granite inscriptions of oak and chestnut tree boundary postings in Naedong village, Kurye County]. *Pulgyo munhwa yŏn’gu* 12 (2014): 285-302.

administration, notably the “army and navy commander’s inability to enforce” the laws and “the magistrates inability to enact them.”⁹²

Moreover, the gradual post-Imjin shift from corvée labor to bureaucratic administration in forest management had also produced a glut of wardens and stewards (*kamgwan* 監官) who were “pestering the people.” Thus, the regulations carefully stipulate the number of wardens who would be assigned per state forest. Forests that exceeded thirty *li* in area would be assigned three wardens, forests of between ten and thirty *li* would be assigned two, and mountains below ten *li* in area would only have one warden.⁹³

The government’s complaint about wardens and stewards being “too many in number” and “pestering the people” reflects the more prominent role a variety of lower-level officials were playing in seventeenth-century Korea. During the eighteenth century, the central government would try to rectify problems related to official corruption by sending more inspectors (*ōsa* 御使) to surveil local governments.⁹⁴ New regulations dictated strict punishments for officials who illegally “seized goods” (*changri* 贓吏) or “turned a blind eye to illegal loggers” (*pulgak silinrul* 不覺失因律, literally the “law regarding failing to reveal escaped prisoners).

The 1684 regulations also confirmed state forestry’s place as centrally managed institution that, by design, was insulated from private commerce and local elite interests. Supplementary regulations issued for the Pyōnsan area in 1691 include a statute ordering the local garrison to eliminate any sale of pines around the state forest.⁹⁵ State forestry in its

⁹² *Songgŭm samok* [Pine Prohibition Regulations], *Pibyōnsa tŭngrok*, Sukchong 10.2.30 (1684)

⁹³ *Ibid.*

⁹⁴ For more information on government attempts to control magistrates and other local officials in the eighteenth century, see Han Sanggwōn, “Ōsa p’agyōn kwa chibang chibae kanghwa,” in *Chosōn ūn chibang ūl ottok’e chibaehannŭn’ga?* Ed. Han’guk Yōksa Yōn’guhoe (Seoul: Acanet, 2000), 205-219.

⁹⁵ *PBSTR*, Sukchong 10.5.3.

expanded, post-Imjin form exemplified the Chosŏn government's ability to directly conscript and appropriate administrative personnel to suit the state's perceived needs. For instance, since wardens considered their work to be "the greatest of sufferings," they were exempted from other types of miscellaneous labor. Patrolling the forests would be their full-time duty.⁹⁶

The regulations directly confronted the aforementioned problems of land grabs and gravesite groves. One statute decreed that "for the sake of eliminating the transgression of large-scale grabs of pine fields," the royal court was to further cordon off forests for its *hwangjang*-grade coffins as well as other court uses.⁹⁷ Most of these royal forests were in Kangwŏn and eastern Kyŏnggi provinces. Also, the 1684 regulations strictly prohibited any interring of bodies within Reserved Forest and Pine Field boundaries. Any violators would be forced to excavate and reinter the corpses outside the state forests, after which they would be further punished according to the "statutes against grave-robbing" (*t'ujang* 偷葬).

Finally, the regulations combat slash-and-burn cultivation in state forests through a highly punitive checks-and-balances system. Following a precedent from 1670, commoners caught engaging in slash-and-burn cultivation in Pine Fields could be subject to exile, and any officials caught colluding with them were subject to severe punishments. All officials had the duty to immediately report slash-and-burn incidents in and around state forests. The local *yangban* association was to ascertain that wardens accurately reported all occurrences; the magistrate was to check on the local *yangban* association; and the military officials were to

⁹⁶ Ibid., 10.2.30.

⁹⁷ By the early nineteenth century, Reserved Forest and Pine Field sites stretched through mountainous Kangwŏn province, northern Kyŏngsang province, the northern provinces of Hwanghae and Hamgyŏng, and most prominently, in the coastal littoral stretching from the T'aean peninsula in western Ch'ungch'ŏng province down through southern Chŏlla and Kyŏngsang provinces. See the *Man'gi yoram* [Essentials of State Affairs] (1808) and the *Haedong yŏjido* [Map of the East of the Sea] (1787).

investigate any non-reporting by the magistrate and his clerks. Any failures were to be prosecuted under the crime of “hiding land from tax levies” (*ũn ’gyŏl* 隱結).⁹⁸

Overall, the new set of forestry regulations laid out in 1684 culminated a near-century of postwar reforms aimed strengthening the state’s authority over the peninsula’s sylvan environments. In the critical two decades after the Imjin War, the Chosŏn government regained control over the state forestry system. Even after Kwanghaegun’s overthrow, his successors then stretched state forests into new areas, particularly the southwestern islands.

Vast new regulations and an empowered bureaucracy proved capable of managing forests, fighting fires, and blocking the spread of illegal tombs into state forests. An expansion of government control, with the military as primary vehicle, preserved state forests across the Korean peninsula after the Imjin War. The new regulative drive coincided with worries over timber scarcity and social disorder. Through it all, the Chosŏn military proved to be a reliable supplier of labor, supervision, and control over the sylvan environments.

State forestry was a key component of the post-Imjin rehabilitation project, in which the Chosŏn state was able to revamp institutions and regain control over the countryside. Consequently, the Chosŏn government survived the calamitous seventeenth century, an era of “global crisis” in Geoffrey Parker’s words.⁹⁹ Korea’s western and eastern neighbors underwent violent regime changes, as China fell to the Manchus while Japan transitioned to the Tokugawa shogunate. A decades-long war savaged central Europe. Rebellions and famine struck Russia and

⁹⁸ “Songgŭm chŏlmok [Pine Prohibition Regulations]” in *Pibyŏnsa tŭngrok* [Records of the Border Defense Command], Sukjong 10.2.30 (1684).

⁹⁹ Geoffrey Parker, *Global Crisis: War, Climate Change and Catastrophe in the Seventeenth Century* (New Haven, CT: Yale University Press, 2013).

the Middle East. Most ominously, global temperatures dropped to a precipitous degree, marking the era in climatic history as the “Little Ice Age.”

It is still unclear how much the Little Ice Age affected the Korean environment in the seventeenth century.¹⁰⁰ Having already undergone its own dramatic calamity in the last decade of the sixteenth century, the Korean peninsula perhaps escaped the downward trajectory one might call “crisis” in perspective during its long seventeenth-century recovery. I argue that the expansion of state forestry exemplified the successful recovery of the post-Imjin Chosŏn state. Even amidst conflict with social and economic changes, with new threats to sylvan environments, the Chosŏn government was able to maintain and then expand bureaucratic authority over a significant amount of forest land. Moreover, the government was able to reassert its privileged sylvan landscape, the pine forest, and impose it on new areas.

Yet, the expansion of state forestry also met obstacles. The reach of administrative personnel intruded into workaday usage of forest resources. The state’s regulative drive over sylvan environments had to contend with widespread vagrancy and slash-and-burn cultivation. The spread of gravesite property engendered conflict over forest usage rights and even threatened the integrity of state forests. Finally, administrative expansion also expanded opportunities for administrative corruption.

The “successful” expansion of state forestry in the post-Imjin era, while conducive to political stability, certainly did not benefit the lives of the majority of Chosŏn-era Koreans. State forestry was as political a project as it was environmental, a regulative drive meant to impose the state’s preferred practices over a selective ecology. Extensive bureaucratic procedures helped pine forests recover and prosper for statist needs. The same procedures, however, could not

¹⁰⁰ Yi T’aejin, “Sobinggi (1500-1750) ūi ch’ŏnch’e hyŏnsangjŏk wŏnin – Chosŏn wangjo sillok ūi kwallyŏn kirok punsŏ [Celestial phenomena and the causes of the Little Ice Age: an analysis of records in the *Chosŏn wangjo sillok*]” *Kuksagwannonch’ong* 72 (1996): 237-245.

account another wave of changes that would reshape state forestry in the eighteenth century.

Most notably, a more commercialized economy would subject Chosŏn forests to a new wave of changes.

Chapter Four

The Challenges of Growth: State Forestry in the Changing Society of Eighteenth-Century Korea

In Korea and in the rest of Northeast Asia, the eighteenth century was a period of political stability and economic growth. Chosŏn's eighteenth-century prosperity was a by-product of seventeenth-century travails, as it took two ruinous wars to finally force the conservative Korean *yangban* to undertake some long-necessary economic reforms. With most of the arable land ruined during the Imjin conflict, the land tax system had to be reformed if the Korean government wished to retain pre-Imjin revenue levels. As explained earlier, the Korean government during the early seventeenth century decided to streamline the tax system, issuing the Uniform Tax Law (*taedongbŏp*). Under the new law, peasants paid tribute tax in rice and cloth to local government offices. The government then hired middle men or tribute merchants (*kongin* 工人) to procure necessary goods for the state. The reforms were initially successful, as they not only lessened peasant burdens, but also stimulated commerce, as markets formed and grew in order to meet the demands of middlemen and the government.

Further changes came in the realm of agriculture. Agricultural productivity greatly improved with the continuous spread of techniques such as double-cropping and rice seedling transplantation and new crops such as tobacco and potatoes. In 1600, right after the Imjin War, the average Korean rice paddy yielded about 15.85 *tu* (the standard Korean measurement for rice) per ten acres. By 1750, thanks to the development of the aforementioned intensive farming techniques, the rice yield had improved to 25.3 *tu* per ten acres.¹ If the seventeenth century was

¹ Yi Hochŏl, *Nongŏp kyŏngjesa yŏn'gu* [An Economic History of Korean Agriculture] (South Korea: Kyŏngbuk Taehakkyo ch'ulp'anbul, 1992), 143

an era of administrative recovery and regrowth in Korea, the eighteenth century was the economic and demographic boom.

Forestry went through dramatic changes in the same era. Private shipbuilding and commercial industries such as salt manufacturing opened forests to wider uses. Facing increasing competition over forest resources, Chosŏn government intensified the management of state forests in the southwest. Inspectors cracked down on official corruption; more wardens, soldiers, and even monks were brought into the forestry system. Meanwhile, an expanding Seoul devoured timber for buildings and fuel wood for industries and warmth. The Chosŏn government accordingly utilized more officials and licensed merchants to exploit the forests of the upper Han River basin. Around Seoul, new laws protected the increasingly denuded hillsides from erosion and downriver sedimentation. By continuing patterns of administrative expansion and wider personnel management, the Choson government and the state forestry system endured the challenges of the eighteenth century.

Yet, as in the sixteenth century, local problems exposed cracks in the forestry system. The admonitions of inspectors alone could not stamp out the innumerable avenues for corruption around the state forests. Merchants and shipbuilders increasingly accessed woodland that lay outside of the state forest system. At the local level, villagers began forming forestry organizations to protect woodland for their usage. Accordingly, while the state's forestry system merely endured, alternative forms of forestry and forest usage expanded through the eighteenth century.

The Changing Economy of Eighteenth –Century Korea

In late Chosŏn Korea, the spread of rice transplantation and more intensive farming helped spur the rise of markets. Landlords needed to sell their surpluses; landless workers needed

to buy necessities; and tenants needed to sell goods so that they could acquire cash and pay rent. Market and circulation zones hence arose throughout Korea during the seventeenth and eighteenth centuries, catering to the needs of the new rural economy. Before the Imjin War, markets had been held only in Seoul, provincial capitals, and county seats. However, the postwar economic expansion fueled the growth of local rural markets, so that, by the end of the seventeenth century, “local markets could be found even in deep hills and valleys where human footsteps hardly reached.”²

Meanwhile, along the rivers and roads that connected the capital city of Seoul to the countryside, a new group of merchants arose. These merchants transported goods like rice, salt, and timber from rural markets to the capital city of Seoul, where a rapidly growing population demanded high quantities of food and construction supplies. Though unlicensed, these merchants used rational business practices to transport and sell goods in a highly efficient manner, hence putting many licensed tax merchants out of business. The Korean government gradually realized that the unlicensed merchants, due to their more efficient business practices, kept the prices of essential goods down. As a result, the Korean government changed its commercial policy during the latter half of the eighteenth century. Under the so-called “Commercial Equalization Policy,” many of the monopolistic privileges granted to licensed tax merchants were abolished.³

Shipbuilding was one sector through which wood merchants gained greater access to state forests. The difficulties of timber distribution reflected the problem of transportation infrastructure that bedeviled the Chosŏn era. What is more, timber was a particularly difficult

² Baek Sŭng-ch’ŏl, “The Development of Local Markets and the Establishment of a New Circulation System in Late Chosŏn Society” *Seoul Journal of Korean Studies*, no. 12 (1999): 155.

³ Ko Donghwan, “Development of Commerce and Commercial Policy during the Reign of King Chongjo.” *Korea Journal* 40:4 (Winter 2000): 202-226.

resource to transport. Timber required rivers to efficiently transport to urban centers, and it necessitated ships built of the same material to transport on the ocean.

The Slow Move toward Private Shipping: The Logistical Context, 1392-1683

One of the chronic problems of pre-industrial Korean history has been the relative lack of material integration between the regions of the peninsula. Throughout the Koryŏ and Chosŏn the country's mountainous landscape and uncooperative waters constantly hampered large-scale flows of bulk resources between the agricultural southernmost provinces and the heavily populated Han and Taedong river basins.

Of course, Korean governments were not blind to the problem. In terms of the logistical difficulties of Korean geography and government responses, the T'aean canal projects of 1134 to 1537 are especially instructive, when Korean governments made five major attempts to build a viable canal through the T'aean peninsula on Korea's Yellow Sea coast.

Located along a critical shipping route for southern tribute grain headed to the capital region, the T'aean peninsula had been infamous since the Koryŏ era for its rough waters, unpredictable tides, and proclivity for hastening shipwrecks. A successful canal would have allowed grain ships to bypass the treacherous tidal flats at the western base of the T'aean peninsula, an area known as the Anhŭng cape. However, due to the Korean government's inability to mitigate the area's formidable environmental obstacles – namely, its extreme tidal fluctuations and hard granite rock bed – no canal was ever finished.

Moreover, the canal projects' repeated failures exposed early Chosŏn centralization's logistical and technological limits - limits that, in turn, would have tremendous long-term consequences in shaping the very political and social contours of the Chosŏn polity. A comparison with late imperial Chinese hydraulic projects is quite apt here. For the Chinese states,

the maintenance of the Grand Canal and other waterways was critical to the political and economic well-being of both the state and the localities, and accordingly over time, Chinese officials built up an impressive array of hydraulic institutions and knowledge partly in order to ensure the regular flow of grain and goods between China's cores and peripheries. In contrast, over the course of the Chosŏn dynasty, the state would take on a more hands-off approach to transport shipping.

The role of private shipping, either through the use of merchant brokers or encouragement of private shipbuilding, was an ongoing debate in the Chosŏn era during the fifteenth and sixteenth centuries.⁴ After the Imjin War, the government tried to exercise greater control over transport shipping as part of its postwar reassertion of the administrative state. Yet, the aforementioned high transaction costs involved in coastal shipping continued to take a toll. Shipwrecks were common along the tidal flats of the western coast, particularly along the Anhŭng cape and around the coastal forests of Changsan.⁵ The treacherous currents of Korea's southwestern coast were not merely a nuisance. According to a government report from 1640, a full 93 percent of grain taxes came from the three southern provinces of Chŏlla, Kyŏngsang, and Ch'unch'ŏng, with Chŏlla alone comprising 48.5 percent of the total.⁶ The government suffered not only from lost ships but also insufficient labor. Thousands of people were corvéeed for transport duty in the mid-to-late seventeenth century, but as with state forestry, the work was considered dangerous, and corvéeed sailors had a propensity to flee.⁷

⁴ Choe Wan'gi, *Chosŏn hugi sŏnunŏpsa yŏn'gu* [A History of Transport Shipping in the Late Chosŏn Dynasty] (Seoul: Ilchogak, 1993), 22-23.

⁵ *Ibid.*, 32.

⁶ Choe Wan'gi, *Chosŏn hugi sŏnunŏpsa yŏn'gu*, 31; *Injo Sillok* 18.12.1 (1640)

⁷ Choe Wan'gi, *Chosŏn hugi sŏnunŏpsa yŏn'gu*, 33-34.

In the late seventeenth century, the Chosŏn government continued to try to maintain transport infrastructure through an array of transport hubs, post stations, and tribute agents. Yet, such infrastructure relied on a critical component - ships. Yi Chunghwan (1690-1756), a late Chosŏn literati famed for an influential geographical treatise, noted that Korea's many mountains caused "profits to suffer due to the high costs of transportation," thus rendering coastal shipping preferable over the horse and cart.⁸ Pre-industrial Korean infrastructure thus required government action to guarantee shipbuilding sources, manage wood distribution, and, once the ships were finished, maintain navigable routes.

The expansion of state forestry in the seventeenth century helped guarantee timber sources in the southwest, but the distribution of wood and its by-products remained a problem. In 1682, a court official named Kim Sŏkchu (1634-1684) noted the logistical complexities of building a single warship, a task that required the transportation of "three to four hundred pieces of timber" from islands to the coasts as well as the movement of "hundreds of laborers."⁹ The difficulties were compounded by the dwindling timber reserves in the core state forest zones of Changsan in Hwanghae, Pyŏnsan in Chŏlla, and Anmyŏn in Ch'ungch'ŏng. Competing local industries siphoned off forest resources. In Changsan, prospering iron works required charcoal from local forests. In Anmyŏn, naval officers could not stem the flow of wood from state forests to the growing salt works of the T'aeon peninsula region.¹⁰

As logistical issues hampered state forestry operations in the late seventeenth century, government officials sought new solutions. In 1683, a court official named Yi Sang (1620-1690)

⁸ Yi Chunghwan, *Taengniji: The Korean Classic for Choosing Settlements*, trans. Inshil Choe Yoon (Sydney: Wild Peony Ltd., 1998), 67.

⁹ *PBSTR* Sukchong 8.5.17 (1682).

¹⁰ *PBSTR* Sukchong 8.5.17 (1682).

lamented the “high costs” of state-run transport and the “serious suffering” of corvée sailors, and as an alternative, pressed for increased hiring of private ships.¹¹ Such proposals, however, were easier expressed in court than actually implemented on the ground. Since the government still controlled the major timber reserves on the western and southern coasts, there was little opportunity for independent timber merchants to gather or control necessary timber. While private shipping was an attractive alternative to the costly state-run transport system, the Chosŏn state was not willing to surrender control over pine forests over which so much legislation had passed, so much labor had toiled, and so many lives had been lost.

The Rise of Timber Merchants in the Seoul Region

Only in the Seoul region could the Chosŏn government make a determined move toward private shipping. South Korean historian Kang Man’gil lauded the rise of private merchants in the late Chosŏn economy as evidence of sprouts of capitalism.¹² While their macroeconomic implications are debatable, the rise of private shipbuilding and transport operations in Seoul was one of the most significant economic developments in late seventeenth and early eighteenth-century Korea. Control of transport and shipping operations moved from the realm of government brokers to the hands of private merchant based in the capital region and western ports such as Inchŏn. The transition to private shipbuilding, in turn, alleviated pressure on the state forestry and maritime transport systems.

One solution to this problem of wood distribution was the usage of merchants as brokers and distributors. While merchants did not attain high status or government positions during the

¹¹ *Sukchong Sillok* 9.2.7 (1683).

¹² Kang Man’gil, *Chosŏn sidae sanggongŏpsa yŏn’gu* [A history of mercantile activity in the Chosŏn era] (Seoul: Han’gilsa, 1984).

Chosŏn dynasty, they were key cogs in the flow of goods for state purposes and as part of workaday life. In Seoul by the seventeenth century, guilds known as *sijŏn* 市廛 held exclusive rights over certain goods such as silk, cloth, paper, and rice. Hereditary structures and close ties to government ensured the guilds' continuity from generation to generation. Like similar types of guilds throughout pre-industrial Eurasia, the *sijŏn* were organs of a statist political economy built on patronage networks between state and merchant, and they formed the basis of the distribution of goods to and from Seoul in the early-to-mid Chosŏn era.¹³

Timber, however, largely lay outside of the control of the major guilds before the eighteenth century. As discussed in previous chapters, the government's tight control of state forests prevented merchants from gaining major access to timber supplies. While firewood sales and small-scale lumber trades existed throughout the peninsula, their scope was limited by the government's control over the coastal pine forests of southern and western Korea and the high-quality timber forests of the upper Han River. Even after the depredations of the Imjin War, the government kept the management of state forests "in-house": the military, rather than merchants, managed the expanded state forestry system of seventeenth-century Korea.

In fact, major legal stipulations regarding the regulation of lumber merchants do not appear until the 1746 compendium to the Great Code (*Soktaejon*). The 1746 compendium required lumber merchants (*p'ansang* 板商) to receive written approval (*ch'emun* 帖文) from the Board of Taxation or the Funerary Bureau as a prerequisite to engaging in wood-related commerce. Moreover, the new regulations stipulated a "ten-percent tax" on all coffin-grade, construction-grade, and pine lumber that passed into Seoul. Private merchants (*sasang* 私商),

¹³ Lee Uk, "The Merchants of Seoul," in Shin, *Everyday Life in Joseon-era Korea*, 83-92. Owen Miller, "The silk merchants of the Myonjujon: guild and government in late Chosŏn Korea" (PhD diss., School of Oriental and African Studies, University of London, 2007).

that is, merchants who lacked government approval, were forbidden from using state forests. If private merchants were caught accessing state-forest wood, they had to return all stolen goods and profits.¹⁴

Why did new regulations regarding lumber merchants suddenly appear in the mid-eighteenth century? New developments, particularly the expanding role of licensed and private merchants in transportation and shipbuilding during the late seventeenth and early eighteenth century, spurred more regulation of the wood market. Moreover, the aforementioned problem of government timber distribution required more cooperation with merchants.

Most importantly, the late seventeenth century and early eighteenth centuries saw the demographic and economic expansion of the Seoul region.¹⁵ In 1648, the capital of Chosŏn held approximately 16,006 households and 95,569 people. By 1732, the population had more than doubled to 35,836 households and 207,733 people.¹⁶ In the chaos and deprivations of the postwar seventeenth century, landless people streamed into Seoul and its environs. Yi T'aejin has argued that the Little Ice Age of the seventeenth century contributed to deleterious fluctuations of floods, drought, and famine that further spurred the movement of vagrants toward Seoul.¹⁷ The Kyŏngsin famine of 1670-1671 was particularly tragic. Starving children littered the streets of

¹⁴ *Sok taejŏn* [Continuation of the Great Code], hojŏn: chapse (Seoul: Pŏpchech'ŏ, 1965), 106

¹⁵ Sŏul t'ukpŏlsisa p'yŏnch'an wiwŏnhoe [The City History Compilation Committee of Seoul], *Sŏul kŏnch'uksa* [An Architectural History of Seoul], (Seoul: Sŏul t'ukpŏlsisa p'yŏnch'an wiwŏnhoe, 1999).

¹⁶ Ko Tonghwan, *Sŏul sanŏp paltalsa yŏn'gu* [The Development of Commerce in Late Chosŏn Seoul] (Seoul: Chisik sanŏpsa, 2002), 28.

¹⁷ Yi T'aejin, "Sobinggi (1500-1750) ūi ch'ŏnch'e hyŏnsangjŏk wŏnin – Chosŏn wangjo sillok ūi kwallyŏn kirok punsŏ" *Kuksagwannonch'ong* 72 (1996); "18-19 segi Sŏul ūi kŏndae chŏk tosi paltal yangsang [Dimensions of Seoul's modern development in the 18th and 19th centuries]" *Sŏulhak yŏn'gu* 4 (1995): 3-8.

the capital; freezing people dug up graves to huddle in the garments of the dead. Reports from the provinces describe parents abandoning and even devouring their children.¹⁸

The influx of people into Seoul spurred both key policy reforms and commercial development. South Korean scholars such as Yi Ta'ejin and Ko Tonghwan have argued that seventeenth-century tax and labor reforms were partly motivated by the rising need to support Seoul's growing population. The rising tide of vagrants and new residents required the Chosŏn government to expand its networks of granaries along the Han River and its tributaries.¹⁹ The twin demands of famine relief and grain supplies thus forced the government into further dependence on merchants.

The rise of the state-sponsored merchant is a well-documented aspect of late Chosŏn economic history.²⁰ Kang Man'gil identified the main commercial agents that emerged in the seventeenth century as the Han River merchants who distributed goods along the waterways of Kyŏnggi province, the Kaesŏng merchants of the old Koryŏ capital, and the aforementioned *sijŏn* guilds of Seoul.²¹ The Han River merchants, in particular, became major cogs of good distribution in the changing institutional and economic climate of late seventeenth and early eighteenth-century Korea. The gradual execution of the tax reforms spurred further flows of grain, cotton cloth, and, particularly in the eighteenth century, copper coinage into Seoul.

A new group of wood merchants arose in this changing economic landscape. While small-scale firewood and lumber operations had existed since the beginning of the dynasty, the

¹⁸ Ko Tonghwan, *Sŏul sanŏp paltalsa yŏn'gu*, 38-39.

¹⁹ Ko Tonghwan, *Sŏul sanŏp paltalsa yŏn'gu*, pp. 39-43; Yi T'aejin, "18-19 segi Sŏul ūi kŭndae chŏk tosi paltal yangsang" 3-8.

²⁰ For a summary of the relevant South Korean and Japanese-language historiography on late Chosŏn economic history, see Owen Miller, "The silk merchants of the Myonjujon," 27-36.

²¹ Kang Man'gil, *Chosŏn sidae sanggongŏpsa yŏn'gu* [A history of mercantile activity in the Chosŏn era] (Seoul: Han'gilsa, 1984).

government's tight control of forestry precluded the rise of any large-scale commercial timbering during the first half of the Chosŏn dynasty. Only in the late seventeenth century, as the population of Seoul expanded and a wider array of merchants gained a role in resource distribution, did wood merchants become a major cog in the economy of the Seoul region.

Nowhere was this new course of merchant-centered wood distribution more evident than in Seoul's Ttuksŏm district along the Han River. The district lay on key waterways to Ch'ungch'ŏng, Kyŏngsang, and Kangwŏn provinces and thus was especially well-positioned to receive wood products. In 1656, the Board of Taxation set up a toll waystation (*susesŏ* 收稅所) in Ttuksŏm to levy taxes on the growing quantities of wood being floated through the district.²² By the eighteenth century, Ttuksŏm had become the epicenter of fuelwood commerce in the Kyŏnggi region. A 1731 report by the Border Defense Command notes that the residents of Ttuksŏm, "having long ago made selling fuelwood their livelihood," had developed into the preferred dealers of fuelwood to administrative offices in Seoul. "400 to 500 households, high, middling, and low" in status engaged in various aspects of the fuelwood trade.²³

The situation was the different in the coastal areas of the southern provinces, where the government continued to maintain its grip over numerous pine forests. After the Imjin War, the government allowed a limited number of official merchants to cut and distribute pine timber in the state forests. However, the government strictly limited the amount of available timber, and moreover, offered very low prices to merchants that de-incentivized logging activity.²⁴

Accordingly, for much of the seventeenth century, the Chosŏn government had to rely on the

²² Ko Tonghwan, *Sŏul sanŏp paltalsa yŏn'gu*, 251.

²³ *Ibid.*; SJWIG, Yŏngjo 7.6.3 .

²⁴ O, Sŏng. *Chosŏn hugi sangin yŏn'gu: 17, 18 segi insam, mokchae, yŏmsang ūi hwaltong ūi chungsim ūro* [A study of late Chosŏn merchants: with a focus on ginseng, timber, and salt trading activity in the seventeenth and eighteenth centuries] (Seoul: Ilchogak, 1989).

military to manage state forests along the southern and western coasts. The military was capable of protecting forests and even accessing labor; however, the problem of cheap, efficient distribution remained.

Problems in taxation policy further exacerbated the problem of wood distribution in the southern provinces. The Uniform Tax (*taedong* 大同) reforms of the seventeenth century were partly intended to streamline the plethora of surtaxes, labor levies, and tribute taxes that burdened Korea's provinces after the Imjin War. In the coastal areas of Ch'ungch'ŏng province in the mid-seventeenth century for instance, the provincial army headquarters laid a levy on fish products that eventually bankrupted local residents, who then fled the area to avoid further taxation.²⁵ In Ch'ŏlla province in the same period, warship repair became pretexts for extra labor levies and cloth taxes that further encumbered the local population.²⁶ While the Uniform Tax Law was intended to commute various types of taxation into basic surtax of grain per *kyŏl* of land, surtaxes and in-kind levies continued at the local level until the end of the dynasty. Moreover, as seen with the instance of Kyŏkp'o garrison, officials had an incentive to purchase such goods at deflated prices. Profits could be then pocketed or even loaned out at interest.²⁷

Critically for state forestry, most wood products did not fall under the Uniform Tax system.²⁸ Across the state forests, government continued to maintain the direct management of pine timber. When garrisons, district offices, or the central government needed firewood and

²⁵ Palais, *Confucian Statecraft and Korean Institutions*, 794-95

²⁶ Ibid.; see also Han Yŏngguk "Honam e silsi toen taedongbŏp [On the Taedong system in Ch'ŏlla province]" in *Yŏksa Hakpo* 15 (1961): 31-59

²⁷ Palais 795

²⁸ Other items that did not fall under the Uniform Tax reforms were pheasants, chickens, and ice.

timber, they could enact arbitrary levies at any time. The centuries-long system of state forestry maintained the protection of pine stands – but after the cut, how was the wood to be distributed?

Into this void stepped the merchant. One group, private shipbuilders, prospered in the capital region starting from the late seventeenth century onward. While the official state forestry system prevented private accumulation of naval-grade timber in the southern provinces, the situation was different closer to Seoul. There, enterprising merchants capitalized upon the social and economic change that embroiled Chosŏn’s capital in the post-Imjin era. Some shipbuilders would utilize government facilities, labor, and funds to build transport ships and then take the vessels for their own use. On other occasions, the government would hire shipbuilders to repair a certain ship, whereupon the shipbuilders would simply sell the vessel off for scrap wood in practice known as *toesŏn* 退船, “retiring the ship.”²⁹ While government officials did complain about mercantile corruption, the late Chosŏn state came to rely more and more on the growing strata of commercial agents. Shipbuilders and private transport merchants provided valuable services to a Chosŏn government in need of adequate infrastructure to execute tax reforms and govern an expanding populace.

In order to acquire the necessary timber for ship and edifice construction, private merchants often utilized forests from palace estates (*kungbang* 宮房), which were land set aside for use by royal relatives, and Royal Treasury land (Naesusajŏn 內需司田) established for the private expenses of the monarchy. Palace estates and Royal Treasury land were part of the archipelago of institutions that brokered fiscal distribution and status maintenance for the Chosŏn state. Just as the military and other mid-level administrative institutions served as brokers of postwar recovery, from the seventeenth century onward the state expanded “official support

²⁹ Ko Tonghwan, 387.

estates” (*kwandunjŏn* 官屯田) for the support of governmental officials, “clerk support estates” (*amun tunjŏn* 衙門屯田) for the support of administrative personnel, and palace estates that supported members of the royal family.³⁰

Royal kin and their stewards who maintained the palace estates and Royal Treasury lands tended to participate in extralegal activities, largely to supplement incomes. Moreover, their lands often encompassed high-quality timber land. By the eighteenth century, most “private forests” (*sayangsan* 私養山) in the Seoul region tended to produce timber of lower quality. Devoid of government protection, much of the open woodland in the Kyŏnggi region had been stripped of higher-grade timber.³¹ Palace estates, Royal Treasury lands, and official and clerk support estates, meanwhile, maintained control over rich timber forests along the Han River and the western coast of Kyŏnggi province. Enterprising merchants, armed with a bribe or fee, could access forests on such lands without running into the complications of the more tightly guarded state forests.³²

The proliferation of such informal government institutions has several causes but ultimately can be rooted in the Chosŏn state’s particular course of administrative expansion after the Imjin War. The expansion of various government and quasi-government institutions helped re-establish state control over the countryside after the devastating conflict. The same process, however, required the expansion of “informal structures” outside of the formal structure of the court and central bureaucracy located in Seoul.

³⁰ James Palais, *Confucian Statecraft and Korean Institutions: Yu Hyŏngwŏn and the Late Chosŏn Dynasty* (University of Washington Press, 2002), 104-105.

³¹ Choe Wan’gi, 169

³² Kang Man’gil, *Chosŏn sidae sanggongŏpsa yŏn’gu* [A history of mercantile activity in the Chosŏn era] (Seoul: Han’gilsa, 1984), 201; Paek Sŭngch’ŏl, *Chosŏn hugi sangŏpsa yŏn’gu* [A history of mercantile activity in the late Chosŏn era] (Seoul: Hyeon, 2000), 283-284.

Prasenjit Duara has described a similar development occurring in north China in the early twentieth century, where the expansion of the Chinese state occurred simultaneously with the growth of informal structures such as tax farmers and private armies. Duara describes the resulting process as “state involution,” in which “state organizations expand through the increasingly efficient use of existing or new inputs ... but through the replications, extension, and elaboration of an inherited pattern of state-society relations.”³³ In late Chosŏn Korea as well over an extended period in seventeenth and eighteenth centuries, a similar type of state involution enabled the expansion of the “brokered state,” of military garrisons, palace estates, and clerk support lands that, while nominally fulfilling social and fiscal interests of the Chosŏn state, also could potentially undermine the central government’s ability to access and control certain resources.

The problematic intersection of informal government institutions and forest usage in the capital region is reflected in a 1708 report from the Border Defense Command.³⁴ The report decried the growing ability of palace estates and individual administrative offices to collect revenues on an arbitrary basis. Throughout the seventeenth century, according to the report, new palace estates and government offices had grown in number, and their revenue agents (*tojang* 導掌, *ch’ain* 差人) had risen in both their numbers and depredations. The government was particularly concerned over the rising amount of woodland, fishing weirs, salt flats, and even shipping routes under the tax authority of palace estates and individual administrative offices. The 1708 report put forward numerous proposals for regulating the growth of palace estates, particularly along rivers and coasts. Notably, while Border Defense Command officially forbade

³³ Prasenjit Duara, “State Involution: A Study of Local Finances in North China, 1911-1935” *Comparative Studies in Society and History* 29:1 (Jan., 1987), 135.

³⁴ *PBSTR*, Sukchong 34.12.30 (1708).

palace estates from controlling forests for construction and naval-grade timber, the report did make allowances for palace estates to maintain *sijang* 柴場 woodland for fuel. Palace estates were even allowed to corvée labor to fell trees and gather brushwood.³⁵

The 1708 report on palace estates and administrative lands was followed with a survey of their relevant woodland holdings across the provinces. For instance, near Yanggŭn in Kyōnggi province on the banks of the southern branch of the Han River, there were six *sijang* woodland under the control of various palace estates and administrative offices. One stretch of forest was set aside as ritual incense woodland (*hyangt'an sijang* 香炭柴場) to support the royal tomb of Queen Pak (1555-1600), wife of King Sŏnjo. Another area was marked as military manufactory woodland (*kun'gisi sijang* 軍器寺柴場) for making weapons. Separate woodland were demarcated for use by Sujin Palace, the Royal Cuisine Office (Saongwŏn 司饗院), the Meat Procurement Office (Chŏnsaengsŏ 典牲署), and the Military Training Agency (Hullyŏndogam 訓練都監).³⁶

While government officials could separate timber forests and *sijang* woodland by edict, such pronouncements alone did not shift the reality of ecology on the ground. Construction and naval-grade pines could easily grow in *sijang* areas. Government proscriptions notwithstanding, it is clear that palace estates and administrative offices did not limit their woodland usage to simply fuelwood. A 1713 report from the Board of Works notes that merchants and shipbuilders in the Kyōnggi region eagerly sought timber from palace estates and administrative office lands. Palace estates, the report's authors argued, had become "havens" (*yŏnsu* 淵藪) for shippers and

³⁵ Ibid.

³⁶ Ibid.

shipbuilders seeking to avoid taxes and corvée duties. Consequently, the government found trouble accessing adequate amounts of timber in the Kyōnggi region and had to rely more and more on private merchants for both shipping and shipbuilding along the Han River and its tributaries.³⁷ Over the course of the eighteenth century, wood distribution in the Han River basin fell increasingly into hands of men lying outside the conventional state forestry system.

Wood and Salt: The Changing Economy of Chosŏn Forestry

Commercial expansion also subjected state forests to multiple uses that in turn complicated the narrow band of uses prescribed by the Chosŏn government. The supplementary forestry regulations for coastal Hwanghae province issued in 1684 included rules regarding an increasingly important resource in late Chosŏn Korea: salt. Namely, the regulations ordered local military garrison to cease any usage of state forests for salt production. The statute, though short, reflected the array of problems that would shape state forestry in the eighteenth century, when the Chosŏn commercial economy would expand, and state forests would be exposed to wider usages, and accordingly, wider threats.

As it is today, salt was a fixture in Chosŏn-era cuisine, in pickling, in sauces and storage, even for medicines. Salt was also vital for edifice construction thanks to its capacity to repel insects and reduce moisture. The prime salt production zones happened to be the southern and western coasts, the same areas that were the center of Chosŏn state forestry. The significant tidal variations along these coasts allowed for easy maintenance of salt fields. By constructing a soil leveler or embankment around a salt well, one could gather saline water from the incoming tides.

³⁷ *PBSTR*, Sukchong 39.7.18 (1718).

The saline water could then be boiled in iron or earthenware pots. For the necessary fuel wood, pine was favored due to its high burning temperature.³⁸

Thus, because salt production required the prodigious expenditure of wood and since pine happened to be the most valuable source, Chosŏn state forests were vulnerable to enterprising salt producers. Moreover, salt was becoming an increasingly valuable commodity in late seventeenth-century Korea. Shifts in salt production, as with numerous social and economic changes in seventeenth-century Korea, were by-products of the Chosŏn state's post-Imjin reforms. In order to revamp revenue collection after the Imjin War, the government abandoned attempts to monopolize salt production and instead parceled out the right to collect salt taxes to the palace estates of royal relatives and coastal military garrisons. Improved technologies during the seventeenth century, particularly the use of embankments and more widespread ironware, further raised salt supplies.³⁹ In effect, some military garrisons came to pay their resident troops through salt production.⁴⁰

However, the simultaneous need to protect state forests and produce salt certainly offered military garrisons a contradictory set of incentives. As early as 1640, court officials expressed concern that naval-grade timber was being sacrificed for salt fields and accordingly ordered local military commanders to crack down on local residents and their own troops. The 1684 Hwanghae Pine Prohibition regulations reiterated the fact that coastal state forests were for the

³⁸ Kim Eui-Hwan (Kim Ŭihwan), "Salt: White Gold," in *Everyday Life in Joseon Korea: Economy and Society* ed., trans., Michael Shin (Leiden: Brill, 2014), 118-126; Kim Ilgi "Chosŏn siade chayŏm saengsan pangsik [Methods of salt field production in the Chosŏn dynasty]" in *Chosŏn siade sogŭm saengsan pangsik* [Methods of salt production in the Chosŏn dynasty], eds., Ko Kwangmin, Kim Ŭi hwan, et al. (Seoul: Tosŏ ch'ulp'an sinsiwŏn, 2006), 11-19.

³⁹ Kim Eui-Hwan (Kim Ŭihwan), "Salt: White Gold," in *Everyday Life in Joseon Korea: Economy*, 118-126.

⁴⁰ In ancient Rome as well, the word *salarium* ("salary") was reportedly derived from *salarium* ("salt"), due to soldiers once being paid in salt.

“long-term cultivation” (*changyang* 長養) of naval-grade timber, and any use of state forests for salt production “was to be completely banned.”⁴¹

Such regulations notwithstanding, evidence remains that forestry officials were attracted by the potential profits of the salt trade. In 1691, the Chosŏn court issued two more sets of regulations regarding state forestry operations in Pyŏnsan: the “Kyŏkp’o Garrison Commander Regulations” (*Kyŏkp’o ch’ŏmsa samok*) and the “Pyŏnsan Pine Prohibition Regulations” (*Pyŏnsan kŭmsong samok*). The regulations not only reaffirmed forestry policies but also cracked down on reports of forest administrators engaging in salt and lumber commerce.

The Kyŏkp’o and Kŭmmop’o garrisons, located in the vicinity of the Pyŏnsan state forests, had been established during the reign of King Injo (r. 1623-1649) and were located in Puan County (Fig. 9). The garrisons were located on land reclaimed from the sea, a setting which in turn gave the garrisoned troops access to both the ocean and salt flats.⁴² Pyŏnsan’s state forests were located along a creek with easy access to the sea. Thus, Pyŏnsan’s timber was easily transportable – but also easily accessible to poachers.

⁴¹ *PBSTR*, Sukchong 10.11.26.

⁴² *Man’gi yoram* [Essentials of State of Affairs] vol.2, 464.

Figure 9: Puan County in the late eighteenth century.



Source: Map of Puan County in the *Haedong Yōjido* [Map of the East of Sea], vol. 1. (Seoul: National Library of Korea, 2005), p. 72

The 1691 regulations stipulated that the Kyökp'o garrison should cease levying "items of pine boards (*songp'an* 松板), fish, and salt" at artificially low rates. What is more, the regulations order the garrison to cut out any commercial traffic "even in the smallest of goods."⁴³ Such regulations notwithstanding, salt manufacturing continued within the Pyönsan state forests. In 1729, a Border Defense Command report uncovered six illegal salt-production kilns operating within Pyönsan's state forest boundaries.⁴⁴ The suspects were agents from administrative offices and palace estates located just beyond the state forest limits (10 *li*, approximately 24 miles or 39 kilometers).⁴⁵ In this area, just across the state forest boundaries, over 82 salt kilns were active in 1729.

Rising demand for salt, moreover, made illegal logging all the more attractive. "Fuelwood boats" (*sisö'n* 柴船) went back and forth from Pyönsan, their decks stacked with wood bound for salt kilns along the coast. Local wood prices would soar in line with the rising overall demand for salt in the fall and winter. Such price changes, according to the report, caused the local garrison to increase wood levies and essentially "do away with the meaning of strict prohibitions" on logging.⁴⁶ Moreover, both Kyökp'o and Kümmp'o garrisons made a hefty sum levying taxes on the fuelwood trade. The garrisons would levy a tax of two *yang* on any incoming large boat, one *yang* and five *chö'n* on a medium boat, and five *chö'n* on a small boat.⁴⁷

⁴³ *PBSTR*, Sukchong 17.8.24 (1691).

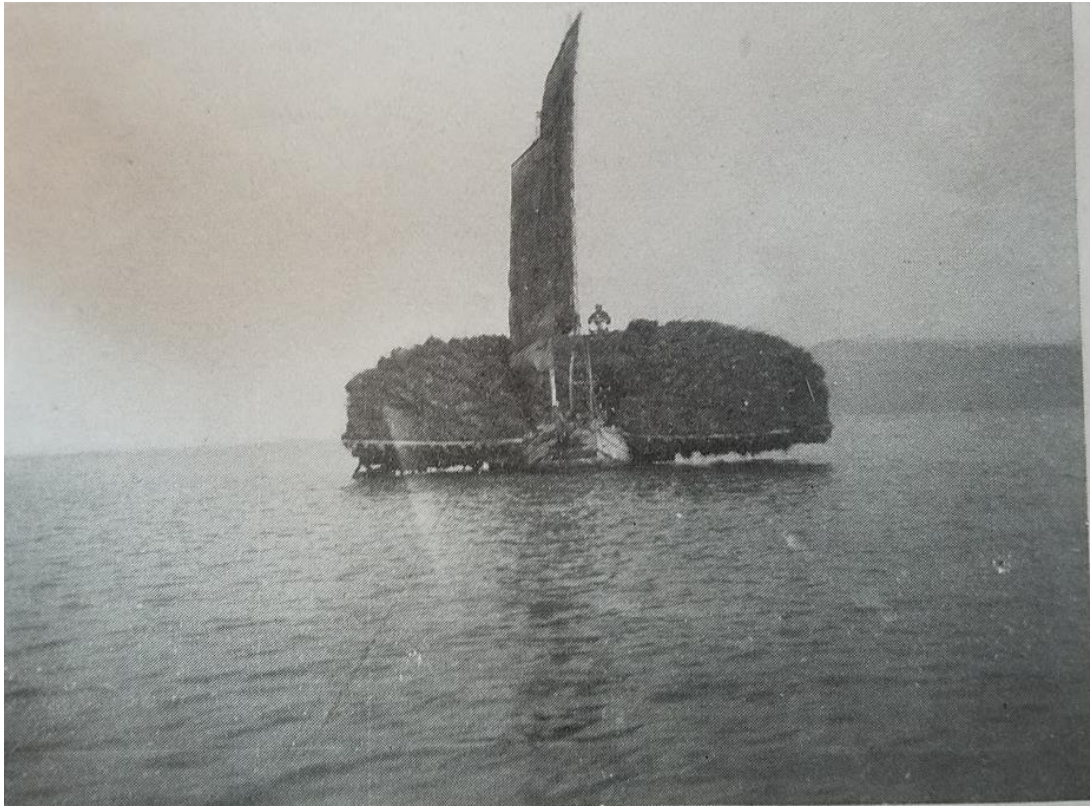
⁴⁴ *PBSTR*, Yöngjo 5.4.19 (1729).

⁴⁵ Measurements based on *Yöksa munhwa such'ö'p* [A handbook of history and culture], Hang'guk yöksa yön'guhoe, ed. (Seoul: Yöngminsa, 2000), 195.

⁴⁶ *PBSTR*, Yöngjo 5.4.19 (1729).

⁴⁷ *PBSTR*, Yöngjo 1.6.22 (1725). 又曰, 船人之賣木爲業之弊, 與前無異, 兩鎮不但不爲嚴禁, 稱以柴船貫錢, 大船捧二兩, 中船捧一兩五錢, 小船捧七錢, 其來已久.

Figure 10: Korean boat loaded with brushwood, early twentieth century.



Source: Horace Underwood, *Korean Boats and Ships* (Seoul: Royal Asiatic Society, Korea Branch, 1934), Fig. 16.

The 1729 Border Defense Command report accordingly urged for the local garrisons to crack down on the removal of fuelwood from the Pyōnsan state forests. Even the levying of extra taxes on fuelwood boats was deemed counterproductive. Mere taxation, the report’s authors argued, would not instill “the principle of disciplinary action” (*chinggye chi li* 懲戒之理) when profits from salt production were high. Accordingly, “pine would gradually become denuded (*moson*

耗損).”⁴⁸ To prevent such an outcome, the Border Defense Command urged the area garrisons to ban any fuelwood ships from mooring near Pyŏnsan’s state forests.

The overlap of salt production and pine protection was a particularly difficult issue that reflected an era of economic change and resultant institutional complications. As much as the Chosŏn government could do to expel salt production from within state forest boundaries, it could not stop the expansion of salt kilns outside those boundaries. Even the military garrisons were permitted to support themselves through the sale of a limited amount of wood to salt manufacturers.⁴⁹

Meanwhile, the state forest system continued to be rooted in the protection of live, standing pines. Reports from the Chosŏn court often criticized levies of pine lumber as an extra tax-in-kind, as the central government feared such measures might add unnecessary hardships to local residents as well as accelerate deforestation. Such worries stand in contrast to the strict protection of local timber forests, a policy executed with little concern for the welfare of local villagers. Thus, what emerges from these regulations is a striking discrepancy. Government rhetoric disparaged wood levies as damaging to local welfare; yet, the Chosŏn state still prioritized strict regulations on forest-use against the same “cunning people” (*kanmin* 奸民) around the garrisons.⁵⁰ Arbitrary wood requisitions were seen as a burden on local residents; yet, the need to protect forests turned the same people into perceived threats.

The discrepancy points to a classic problem that endured in Chosŏn forest management. While extensive rules governed the management of forest usage and the intendent personnel, comparatively few rules articulated what happened *after* trees were cut. The “legible” forest,

⁴⁸ *PBSTR*, Yŏngjo 5.4.19 (1729).

⁴⁹ *PBSTR*, Yŏngjo 1.6.22 (1725); *PBSTR*, Yŏngjo 5.4.19 (1729)

⁵⁰ *PBSTR*, Yŏngjo 5.4.19 (1729).

within the apparatus of Chosŏn state forestry, was the static timber rooted in dense stands of pines. Once the pines were felled however, and the trees were transformed into fungible assets such as lumber, boards, and firewood, the state forestry system lacked set procedures for the distribution and management of wood resources. The late Chosŏn government increasingly had to rely on brokers, usually merchants, soldiers, or lower-ranking officials, to collect and transport key goods such as wood, salt, and grain. The reliance on brokerage in a changing economy thus further widened the scope of commercialization. Ultimately, the government could only intensify the protection of pine timber; it could not forestall the economic and demographic factors raising demand for wood.

The Intensification of State Forestry in the Southwest in the 1720s

When it came to state forestry in the southwest, the government's response to the changes wrought by commercialization was less adaptation as much as intensification. More state forests fell under the cordon of government edict; more rules governed the behavior of forestry personnel and the people residing near forests. As commercial expansion changed the usage patterns of Korean forests, the Chosŏn government continued to intensify regulations regarding forest usage along the southern and western coasts. Even wilted, fallen, crooked, and "low-grade" pine trees within state forests were placed under government cordon. If villagers need to use wilted or fallen trees for purposes outside of state-use, they had to ask the local garrison which then had to file a request with the Border Defense Command in Seoul to attain approval.⁵¹ Government edicts throughout the eighteenth century continued to ban new gravesites or fields within the boundaries of state forests. Military garrisons and even monasteries gained wider control responsibility over forest management, even if such responsibility was not always desired.

⁵¹ *PBSTR*, Sukchong 17.8.24 (1691)

In Pyŏnsan in the 1720s, even amidst the wood thieves and salt merchants, state forests continued to be logged for government usage.⁵² Both the intensity of logging operations and their regulation intensified in the eighteenth century. In 1725, a staff official (*nangch'ŏng* 郎廳) named Yun Hwajŏng (?-?) from the Border Defense Command reported that Kyŏkp'o garrison accounted for 4,628 logged pine trees from Pyŏnsan state forests under its jurisdiction, and Kŭmmop'o garrison had counted 3,230 logged pines in its zone. Three years later, the same garrisons logged approximately 5,281 pine trees from Pyŏnsan's state forests. Each tree was stamped with official seals (*nagin* 烙印) before being set aside for delivery to Seoul or the shipyards for warship and transport ship construction. The official seals helped determine whether the pines had been legally logged.⁵³

Suitably for an era of rising commercialization and fears of corruption, even tasks as the mundane as the stamping of tree trunks came under the increased scrutiny of the state. Economic change and commercial opportunities had opened new avenues for corruption. For a simple bribe, officials in the Pyŏnsan area would even illegally stamp trees with the necessary seals. A lengthy Border Defense Command report issued in 1729 regarding the Pyŏnsan state forests specifically urged a crackdown on such corruption, particularly the issuing of “arbitrary” seals. A similar

⁵² 1728 was also the year of the Musin Rebellion, an unsuccessful revolt by disaffected military and civil officials that the central government crushed after seventeen days of fighting. While the rebellion began in the southern provinces, it is unclear where the rebellion had any significant effect on state forestry operations. For more information on the Musin Rebellion, see Andrew David Jackson, *The 1728 Musin Rebellion: Politics and Plotting in Eighteenth-Century Korea* (Honolulu, HI: University of Hawaii Press, 2016).

⁵³ *PBSTR*, Yŏngjo 1.6.22 (1725). 烙印, 留置監營, 公用木斫伐時, 自監營, 發遣軍官, 烙印斫根事, 曾已定式分付是白去乙, 全不舉行, 以致偷斫之數至此之多; *PBSTR*, Yŏngjo 5.4.19 (1729).

report from 1725 blamed official neglect of proper seals and accounting for a recent rise in timber theft.⁵⁴

The forest management procedures for Pyönsan laid out in the 1729 were far stricter than even the general Pine Prohibition regulations issued in 1684, thus reflecting the changes that had shifted the economy of Korean forests in the span of several decades. The report notes the rising demand for wood for salt and iron works as well as for housing and farming. Furthermore, “bands of local residents secretly vended” wood products from the state forests, and “merchant ships secretly hauled” wood products away. The illegal outflow of wood supplies was compounded by “garrison commanders, stewards, and wardens colluding to take bribes (受賂 *suroe*) and raising costs.”⁵⁵

An instructive case of official corruption appears in the 1725 investigative report by the Border Defense Command staff official, Yun Hwajöng. The case involved a previous lower magistrate (*hyön'gam* 縣監) named Kwön Sin (1689-?) who had tried to enrich himself using Pyönsan's pines. In one instance, Kwön claimed to a local naval officer that an official guesthouse (*kaeksa* 客舍) was in need of repair. With the naval officer's approval, Kwön then ordered the logging of 212 large pines and 100 small pines by Kyökpo garrison and the logging of 50 small pines by Kümmpo's garrison. Yun Hwajong observed that the sheer number of pines was suspicious for a simple guesthouse. “If one Pyönsan pine tree was cut, then even a small one could make four to five huts. There is no reason to put so many [pines] into a ten *k'an*

⁵⁴ *PBSTR*, Yöngjo 1.6.22 (1725); *PBSTR*, Yöngjo 5.4.19 (1729). 成冊持納是如爲白置, 朝家成置烙印於監營, 戰漕船材斫出時, 報監營受來營軍官眼同斫伐者, 蓋欲防其憑公濫斫之弊, 且欲區別私斫, 以爲摘奸時憑考之地, 而鎮將輩以其烙印之有妨於弄奸, 雖有朝令, 不爲舉行.

⁵⁵ *PBSTR*, Yöngjo 5.4.19 (1729).

building.”⁵⁶ Upon investigation, a clerk reported that beams and poles had indeed been sold. The profits ostensibly seem to have gone into a government revenue stream. Local government ledgers, according to Yun, included a deposit of 171 *yang* and 5 *p'un* from the “sale of trees” but lacked information about how the money was spent – or who spent it.⁵⁷

Kwŏn Sin, ever the entrepreneur, then set his eyes on a certain mixed pine and bamboo grove under the jurisdiction of Kyŏkp'o garrison. In the fall of 1722, Kwŏn proposed to the local naval officer that they log the pines in the bamboo grove, sell the timber, and then use the profits for famine relief. Again with the naval officer's approval, Kwŏn ordered the logging of 50 to 60 large and medium pines and “countless” small and young pines. He then sold the wood to a salt manufacturer.⁵⁸

However, investigation soon uncovered another accounting discrepancy. Of the 674 *yang* in profits from the wood sale to the salt manufacturer, 215 *yang* could not be accounted for. Kwŏn had also botched the transportation of the pines from the bamboo grove. As the pines were dragged away, they damaged the remaining bamboo beyond repair.⁵⁹ Kwŏn was subsequently thrown in jail. Yun Hwajŏng used the incidents as a warning to Pyŏnsan's military officials. They should not be so trusting of higher civil officials, he warned, and any local request for state

⁵⁶*PBSTR*, Yŏngjo 1.6.22 (1725). 邊山一株之松裁折, 則小不下四五土莫, 數十間官舍造成之時, 萬無盡入之理.

⁵⁷ *Ibid.*, 覈問於色吏處, 則以爲末端枝幹等木, 果有發賣之事是如, 木價錢一百七十一兩五分, 奉上成冊現納爲白乎矣, 木價錢用下冊, 則初無成置之事是如爲白乎旂.

⁵⁸ *Ibid.*, 本縣所管箭竹田, 在於格浦鎮所掌, 而松竹相雜者不知其幾十年矣, 壬寅秋, 權責稱以竹田修治, 報巡營, 請斫竹田松木, 發賣補賑得題之後, 大中松五六十株, 稚小松累千餘株, 斫賣鹽所, 而斫伐曳運之際, 箭竹, 反有折傷之患, 小無修治之效是遣, 取考文書, 則發賣錢六百七十四兩內二百十五兩, 元無去處是如爲白置, 邊山松木, 句管於廟堂, 雖有公用之處, 自監營報本司得題然後, 許斫是白去乙, 監司之擅自許斫, 守令之憑公營私, 俱極驚駭, 權責方在拿囚中.

⁵⁹ *Ibid.*, 而斫伐曳運之際, 箭竹, 反有折傷之患, 小無修治之效是遣, 取考文書, 則發賣錢六百七十四兩內二百十五兩, 元無去處是如爲白置, 邊山松木, 句管於廟堂, 雖有公用之處, 自監營報本司得題然後, 許斫是白去乙, 監司之擅自許斫, 守令之憑公營私, 俱極驚駭, 權責方在拿囚中

forest timber should first be approved by the Border Defense Command. In reality, it is unlikely every official request for state forest timber would have gone through such a bureaucratic headache, particularly when one considers the distance between Seoul and the provinces. Nonetheless, the case of Kwŏn Sin illustrates the lure of corruption and the difficulties of effective forest management in a changing economy.

Against the threat of corruption, government's primary solution was more careful surveillance of personnel. The strategy of more intensive personnel regulation was a hackneyed one, but it was the timeworn solution for a forestry system reliant upon the diligence of bureaucratic personnel. The problem of pine trees "gradually denuding away," for instance, was partly attributed to the "low status" of the local military officials. Local residents, it was believed, thus flouted regulations without fear of punishment. Accordingly in a 1729 report, the government urged for more personnel of higher status, preferably above rank six, to be assigned to forest management duties in the Pyŏnsan area. Even after the unfortunate case of Kwŏn Sin and his pine profiteering, court officials continued to believe that more high-status, diligent officials, combined with more frequent patrols and exhaustive prosecutions, could cure any ills in the forestry system.⁶⁰

The Chosŏn government also redeployed personnel to address problems posed by a growing population and the lure of land reclamation. In 1725, the government counted 59 households residing or farming illegally within state forest boundaries in Pyŏnsan, with an additional 45 households counted in 1729. The solution, however, again was more "strict prohibition" (*ŏmgŭm* 嚴禁). "Even if the land within the [state forest] boundaries is fertile," the report maintains, "any approval of land reclamation would allow plows and plowshares to violate

⁶⁰ *PBSTR*, Yŏngjo 5.4.19 (1729).

[the law] and axes to enter,” leaving deforestation in their wake.⁶¹ The government thus urged local forest officials to restrict any agricultural expansion into state forests boundaries. Any reclaimed land was to be left alone and allowed to revert to “fallow land” (*chinjŏn* 陳田). Garrisons were also warned about potential environmental hazards such as the accumulation of dried kindling on the forest floor, which when “hit by sunlight” could lead to wildfires.⁶²

Moreover, tomb burial continued to proliferate across Korea in the eighteenth century, and Pyŏnsan was no different in the popularity of the practice. 65 tombs were recorded as illegally overlapping with state forest boundaries in 1725; the government counted an additional 83 illegal tombs in 1729. The government’s response was in line with the 1684 regulations: all illegal residences and tombs were to be removed. Officials were allowed to give extensions during famine years but only until the next autumn harvest. After initial removal of tombs, any repeat violators were to be punished along the draconian punishments reserved for pine poachers, including beatings, imprisonment, and in the worst cases, even exile.⁶³

Pyŏnsan state forest boundaries were demarcated not only through posting of *kŭmp’yo* 禁標 markers on fences and boulders but also through the planting of fir (K: *chŏn namu*, *hoe* 檜) and trifoliolate orange trees (*Poncirus trifoliolate* Rafinesque; K: *t’aengja namu*, *chi* 枳). Since acquisitive farmers could easily traverse fences and rocks, the Chosŏn government preferred the use of fir and trifoliolate orange trees as state forest boundaries wherever applicable. Both types of

⁶¹ *PBSTR*, Yŏngjo 5.4.19 (1729).

⁶² *PBSTR*, Yŏngjo 5.4.19 (1729). 落葉頽積, 烈日所曝, 易致火災.

⁶³ *PBSTR*, Yŏngjo 5.4.19 (1729).

trees were hardy through all seasons and easily discernable from pines. The forest boundaries themselves were usually set along roads and the far edges of agricultural fields.⁶⁴

Ultimately, the new state forest regulations issued in the 1720s reflected two major trends: the changing economy of late Chosŏn forestry and the widening role of the military in resource management. Starting with the expansion of military-managed forests in the post-Imjin era, garrisons such as those around Pyŏnsan had become primary forest guardians. Their dual roles as forest managers and as conventional soldiers, however, did lead to problems. For instance, some salt and wood merchants would sneak into forests during spring military exercises. Taking advantage of the propitious absence of soldiers “precisely during the salt-making season,” these poachers “had no scruples at all” about cutting trees and then departing with stolen wood before the troops returned from their training.⁶⁵

In order to prevent similar violations of state forests during military exercises, the central government urged the Pyŏnsan garrisons to appoint more wardens and stewards to guard forests when regular-duty soldiers were absent. Wardens and stewards, too, were associated with “people of military rank” (*kunjŏk chi in* 軍籍之人), even though their status was often temporary and certainly not part of the conventional military system.⁶⁶ Wardens and stewards, moreover, could come from all sorts of backgrounds: local residents of non-*yangban* background, idle soldiers, and even monks. The increasing reliance on lower-level temporary positions reflected a broader pattern in late Chosŏn resource management. Since the number of prestigious civil official positions were limited, the Chosŏn government relied on a growing number of clerks,

⁶⁴ *PBSTR*, Yŏngjo 1.6.22 (1725); *PBSTR*, Yŏngjo 5.4.19 (1729)

⁶⁵ *Ibid.*, 其中春操, 尤有甚焉, 正當煮鹽之時, 許多鹽漢及木商輩, 自以為不可失此時, 而恣意偷斫, 略無顧忌

⁶⁶ *Ibid.*, 監色山直輩, 果皆名係軍籍之人是喻鎮內若有不為赴操之類, 則臨時權宜差定監色山直等任

soldiers, and temporary (*ilsi* 日時) administrative positions to manage a growing population and diversifying economy.⁶⁷

Monastic Foresters: Monasteries and Forests, 1729-1745

The use of monks as wardens, stewards, and loggers was an issue that drew particular attention from the central government. On one hand, the use of monks for corvée labor and military positions was a long-standing practice during the Chosŏn era. In the fifteenth and sixteenth centuries, monks were utilized for numerous construction projects, including the building of coffins for the Funerary Bureau and the dredging of the failed canal projects in the T'aean peninsula. Their proximity to forest resources and easy capacity for mobilization made monks particularly useful for forestry and construction work.⁶⁸ During the Imjin War, the Chosŏn government organized monks near mountain fortresses as part of the broader military campaign against the Japanese. The monks were charged with maintaining the fortresses and manning defenses when under attack.⁶⁹ In addition, the government bestowed the heads of these

⁶⁷ For more analysis of the growing number of *hyangni* clerks and similar lower-level administrative populations in late Chosŏn Korea, see Chang Tong'yo, *Chosŏn hugi chibang chaejŏng yŏn'gu* [A Study of Regional Finance in the Late Chosŏn Era] (Seoul: Kukhak charyowŏn, 1999); Kwŏn Kijung, *Chosŏn sidae hyangni wa chibang sahoe* [The *Hyangni* and Local Society in the Chosŏn Dynasty] (Seoul: Kyŏngin, 2010)

⁶⁸ While the Chosŏn dynasty is conventionally seen as a Confucian polity hostile to Buddhism, South Korean and international research in recent decades has uncovered the key role that Buddhist institutions and ideas played in Chosŏn history. For critical analysis of the place of Buddhism and Buddhist monks in late Chosŏn society, see Younghee Lee, "A Buddhist Reconquest of Korea? Namho Yŏnggi and 'Changan kŏlsikka.'" *Journal of Korean Religions* 3.1 (April 2012): 85-104; Boudewijn Walraven, "Buddhist Accommodation and Appropriation and the Limits of Confucianization." *Journal of Korean Religions* 3.1 (April 2012): 105-116. For an overview of monasteries and their role in the broader Chosŏn economy, see Kim Kapchu, *Chosŏn sidae sawŏn kyŏngje yŏn'gu* [Research on the Temple Economy during the Chosŏn Period] (Seoul, Tongwa ch'ulp'an kongsŏ, 1983).

⁶⁹ Yŏ Un'gyŏng, "Chosŏn hugi sansŏng ŭi sŏnggun ch'ongsŏp [Monastic military directorship within the mountain fortresses of late Chosŏn]," *Taegu sahak* (1987): 5-8.

militarized monasteries with special administrative titles, notably “Monastic Administration Director” (*ch’ongsöp* 總攝) and “Monastic Military Commanding Officer” (*sūngjang* 僧將).⁷⁰

After the Imjin War, monasteries became part of the broader pattern of militarized resource management and administrative expansion. In Seoul, corvée monks were instrumental in royal tomb and sculpture construction in the postwar reconstruction era of the mid-seventeenth century.⁷¹ Meanwhile, near state forests such as Pyōnsan, monks were requisitioned to protect, log, and replant trees and even guard against forest fires. A local abbot was given the title of “Monastic Director of Pine Protection” (禁松總攝 *kūmsong ch’ongsöp*) with accordant responsibilities to gather monks for forestry duty when the government required such labor. A Monastic Military Commanding Officer simultaneously managed similar forestry and wildfire prevention (*kūmhwa* 禁火) duties supported by a stipend of forty *mal* of rice levied from the four monasteries in the vicinity of Puan.⁷²

In 1729 however, the central government requested that the military garrisons around Pyōnsan reform the usage of monks for forest-related work. The central government ordered the local garrisons to pay the Monastic Director of Pine Protection and his monks an appropriate rice stipend (*yomi* 料米) for their forestry labor. In turn, the report suggests doing away with the

⁷⁰ Chōn Yōnggūn, “Chosōn sidae sūnggwanje wa sūng’in insa kwallyōn munsō [Documents related to the monk management system and employment of monks in the Chosōn period]” *Komunsō yōn’gu* 30 (2007.2): 1-11. Special thanks to Philip Gant for the translation and explanation of key monastic terms.

⁷¹ Yun Yongch’ul, “17 segi huban sannūng’yōk ūi sūnggun chingbal [The requisition of Buddhist monk laborers for the construction of royal tombs in the latter seventeenth century],” *Yōksa wa kyōnggye* 73 (2009.12): 71-105.

⁷² *PBSTR*, Yōngjo 1.6.22 (1725). 又曰，邊山內四刹僧徒，有關禁火之事，而本官多般侵徵，他官僧之來在四寺者，該色稱以本鄉僧，一一刷還，實無支保之道是如爲白有置，邊山各寺僧徒，不可不各別護恤，使之着實禁養是白去乎，本官雜役，一併蠲除，他官僧來居者不得刷還事；
PBSTR, Yōngjo 5.4.19 (1729). 又以爲禁松總攝，獨無印信料米，故僧皆厭避，當初率僧徒禁火養松之意，果安在哉，格浦之初置僧將，只爲行殿，而既罷行殿，只以營舍爲名，則僧將之任，可謂不緊，所謂僧將，定給義僧，每朔義僧二名，邊山四寺，輪回定送，僧將無料米，故四寺諸僧每年收給四十斗米，以成規例，以此僧徒，尤爲難支，從今以後，罷格浦僧將，以其料米及義僧移給總攝是白遣，茂長禪雲寺住持印信，亦甚不緊，竝爲移給於總攝使之恒留中央

Monastic Military Commanding Officer since his stipend put unnecessary economic burdens on the local monks. His responsibilities were instead transferred to the Monastic Director of Pine Protection.⁷³ Other burdens imposed on local monasteries, such as a papermaking levy, were reduced or eliminated. By streamlining jurisdictions and reducing some tax burdens, the government hoped to improve the implementation of forestry policy.⁷⁴ Overall, the 1729 Border Defense Command report should be understood as part of a revamping and intensification of state forestry in an era when commercialization broadened the scope of forest usage, and both military and religious institutions took on greater roles in forest management.

Through the eighteenth century, the Chosŏn state continued to assign similar forest management duties to other monasteries in southern Korea. In the 1740s, the Office of Sacrificial Rites (*Pongsangsi* 奉常寺) ordered Yŏn'gok Temple (燕谷寺) near Kurye in the Chiri Mountain region of southern Korea to strengthen the protection of local chestnut tree (*Castanea crenata*) groves. As described in Chapter One, these “Chestnut Tree Reserved Forests” (*yulmok pongsan* 栗木封山) provided key wood resources for altars and tablets used in Confucian ceremonies. The Chestnut Reserved Forests near Yŏn'gok Temple were specifically reserved for use by the Chosŏn royal court and high officials (*chaesin* 宰臣) for their respective ancestral rites. The government ordered a cutting and delivery of chestnut tree lumber every three years.⁷⁵

⁷³ *Ibid.*, 以爲專意巡山禁火養松之地是如爲白置, 邊山之設置摠攝, 欲令禁護船材, 則其任不輕, 而初無料米, 誠爲可矜, 格浦旣罷行殿, 則仍置僧將, 定給義僧, 收納料米, 以貽邊山四寺難支之弊者, 誠極不緊是白如乎, 格浦僧將, 從今革罷, 禁松摠攝處, 移給其料米, 義僧竝給禪雲寺住持印信, 留處中央, 總率四寺, 以爲着實禁護之地, 誠極便好是白

⁷⁴ *Ibid.*, 邊山諸寺, 果能有益於船材禁養之政, 則不可無各別顧護之道

⁷⁵ *Sŭngjŏngwŏn Ilgi* [Diary of the Royal Secretariat] (henceforth, SJWIG), Yŏngjo 17.8.19 (1741). 又以奉常寺官員, 以都提調·提調意啓曰, 每式年國用及功臣·宰臣所用栗木, 慶尙·全羅·公洪 三道斫伐, 而慶尙道, 則素多栗林處, 故每式年斫伐, 全羅·公洪兩道, 則間式年斫伐, 而自其本道, 栗木有處, 預爲分定列邑, 使之擇取斫伐者, 自前定式矣. See also Kim Hüit'ae, “Kurye naedongni ‘chinmok yulmok ponggye’ myŏng amgakmu”n [Granite

Between 1729, when the Border Defense Command issued its comprehensive forestry regulations regarding Pyŏnsan, and 1745, the chestnut tree groves near Yŏn'gok monastery were the main source of chestnut wood to the Chosŏn court.⁷⁶ The Office of Sacrificial Rites noted that the area's chestnut trees were of particularly high quality.⁷⁷ However, overreliance on the site had led to overcutting, and in 1741 Yŏngok Temple had to supply young and diseased trees just to barely meet the triennial quota.⁷⁸ Three years later, the Office of Sacrificial Rites thus recommended that Yŏn'gok's monks explicitly mark the Reserved Forest boundaries and strictly regulate logging in the area.⁷⁹ The monks carved the boundary notifications into boulders at the edge of the Chestnut Tree groves; the inscriptions still remain visible today (Figure 11).

Preservation amidst Change: The Continuation of State Forestry in Seoul and the Han River Basin, 1731-1800

Back in the capital region during the late seventeenth and early eighteenth centuries, the rise of private timber merchants and shipbuilders had diversified patterns of forest usage and protection. Fuel wood markets, private shipbuilders, timber and salt merchants, and palace estates presented a wider array of wood-related agents and wood sources. Yet, while the government could no longer claim overarching authority over the majority of the forests around

inscriptions of oak and chestnut tree boundary postings in Naedong village, Kurye County]. *Pulgyo munhwa yŏn'gu* 12 (2014): 285-302.

⁷⁶ Kun Hŭit'ae, 290-91.

⁷⁷ SJWIG, Yŏngjo 20.4.2 (1744). 本道求禮縣·燕谷寺一洞, 栗木甚盛, 且其地勢深僻, 木品淨潔.

⁷⁸ SJWIG, Yŏngjo 17.8.19 (1741). 只以求禮燕谷寺一處栗木都斫事, 自本道變通. 所謂燕谷寺栗木, 間式年斫伐勿論, 兒木病木, 苟充株數.

⁷⁹ SJWIG, Yŏngjo 20.4.2 (1744). 實合於國用之材. 故以其山定界封標, 以爲道內三百株都斫之地, 以省各邑分斫之弊. 而栗木禁養凡事, 令本寺僧專當, 僧人等, 各項侵責之役, 一併減給, 使之專意於禁養之意,

Figure 11: Boundary demarcations for Chestnut Tree Reserved Forest carved into a granite boulder. Naedong village, Kurye County, South Chōlla province, Republic of Korea. The inscription reads, “Chestnut tree boundaries from here below.” 以下栗木界



Source: Kim Hŭit'ae, “Kurye naedongni ‘chinmok yulmok ponggye’ myōng amgakmu”n [Granite inscriptions of oak and chestnut tree boundary postings in Naedong village, Kurye County]. *Pulgyo munhwa yōn'gu* 12 (2014): 285-302, p. 300

Seoul, it still needed forest-related regulations. Forests around royal tombs continued to require protection. The government still needed to manage the flow of timber from the mountains of Kangwŏn province down the Han River into Seoul. The Four Mountains around Seoul still required government oversight to guard against vagrancy, deforestation, and erosion.

In 1731, the Chosŏn government issued regulations regarding the protection of trees around the new gravesite of King Injo. For almost one hundred years, King Injo had been entombed near Pukunch'ŏn village in P'aju just north of Seoul. "Though the trees around the tomb were still lush," sometime ago "snakes and scorpions" (*sagal* 蛇蝎) had overwhelmed the gravesite. The government deemed the abundance of the poisonous creatures to be an inauspicious sign, and accordingly in the third lunar month of 1731, it moved Injo's tomb to a site near T'ahyŏn hamlet (Tahyŏn-myŏn) in P'aju.⁸⁰

The new regulations particularly emphasized the protection of trees around the new gravesite. The proposed practices and even the terminologies mirrored the development of state forestry in the provinces. For instance, the Chosŏn government deemed the forested area around Injo's new gravesite to be *kŭmsan* 禁山. Though *kŭmsan* here referred not to Restricted Forests but to the older designation of restricted spaces around royal tombs, the protection of trees remained the focus. The regulations call for the selection of ten "diligent and honest" soldiers as tomb guardians (*sanjik* 山直, the same term used for forest wardens). Just as in the state forests around Pyŏnsan, two soldiers were to patrol the wooded area surrounding the gravesite daily. "If anyone entered with an axe or scythe to cut" a tree, the soldiers were to take all measures to seize

⁸⁰*PBSTR*, Yŏngjo 7.8.24 (1731); Pae Chaesu, Kim Sŏn'gyŏng, Yi Kibong, Chu Rinwŏn, *Chosŏn hugi sallim chŏngch'aeksa* [A history of late Chosŏn forestry policies] (Seoul: Imŏp yŏn'guwŏn [Korea Forest Research Institute], 2002), 189, footnote 10.

and arrest them.⁸¹ Anyone caught cutting more than ten trees were to be punished and then exiled; the most severe punishments were reserved for those who cut pines or firs.⁸²

The 1731 P'aju regulations also banned any new agricultural lands near Injo's gravesite. The reason was not simply to protect sacred space. "If farming and reclamation were permitted," the regulations note, "then they would be greatly detrimental to our policy of afforestation." Every spring and fall, new pines and firs were to be planted on empty land.⁸³ Finally, in order to check against corruption and collusion, a local civil official was to patrol the woods around Injo's tomb four times a year. If any evidence of unreported clear-cutting or heavy logging was found, the tomb guardians were to be punished as if they had been the perpetrators.

Thus, in the woods around royal tombs near capital as in the forests along the southern coast of eighteenth-century Korea, regular procedures governed the management of forests and their personnel. Wardens, whether they were soldiers, monks, or local residents, guarded the state's trees via regular patrols and mandated vigilance. They watched against illegal loggers and new farmers; when possible, the government planted more trees. A bureaucratic hierarchy watched for any official corruption. While the system certainly could not prevent all illegal logging, it provided a replicable set of procedures that could, in theory, be applied to any set of woodland across the Korean peninsula.

In 1754, the Chosŏn government re-established pine-cutting bans in the Four Mountains around Seoul. The trees on these mountains had been subject to some of Korea's earliest forestry regulations in 1469 (see Chapter 1). Over time, both the mountains and the city they surrounded

⁸¹ *PBSTR*, Yŏngjo 7.8.24 (1731). 山下所居守護軍中, 擇其勤幹者十名, 仍定山直之任, 一日二名式輪回巡山, 或有持斧鎌入斫者, 這這執捉, 告官處置爲白齊.

⁸² *Ibid.*, 樹木斫伐之罪, 松檜十株以上, 嚴刑三次, 邊遠定.

⁸³ *Ibid.*, 陵內若許耕墾, 則大有害於養木之政, 雖齋室舊地, 切勿開土爲白乎旒, 每當春秋, 栽植松檜於空閑處爲白.

had undergone significant transformations. The regulations from 1469 had been issued in a different era when Seoul represented a fresh beginning, a template for new ideas and policies. Three centuries later, Seoul soaked in a murkier reality, layered in a buildup of commercialization, growth, and the specter of venality and corruption.

The 1754 edict, titled “Regulations for the Designated Military Garrison regarding Pine Prohibitions in the Four Mountains” (*Sasan songgŭm punsok kunmun chŏlmok* 四山松禁分屬軍門節目), begins on a cynical note: “While ‘pine prohibition’ may be in the wardens’ titles, they take stealing and selling [wood] as their profession.” The military was no better: “they too wield axes to make money from cutting wood.” The clerks at the Magistracy pocketed bribes and even took the initiative to sell wood themselves.⁸⁴

The cynical introduction gives way to a darker environmental warning. Due to lax regulations, “formerly lush forests are now denuded. This is also why streams are clogged with dirt.”⁸⁵ Demographic and economic growth in Seoul since the late seventeenth century had brought along dire consequences: more opportunities for corruption among officials, fewer incentives to protect state forests, more vagrants in the hills, and fewer trees to block erosion stream sedimentation.⁸⁶

Thus in response, the 1754 regulations designated four “bailiffs” (*ch’amgun* 參軍), each of whom was assigned one of the Four Mountains. Each bailiff received several wardens and clerks under his command. Beyond this unorthodox organizational structure, the basic

⁸⁴ *PBSTR*, Yŏngjo 30.10.16 (1754). 蓋山直則名雖禁松, 而惟以偷賣爲業軍門別牌, 亦爲伐木之資斧, 京兆禁吏, 憑藉徵賂, 分授主人, 潛賣報債, 互相推諉, 弊日益甚.

⁸⁵ *Ibid.*, 昔之鬱密, 今漸濯濯, 川渠填塞, 亦由於此.

⁸⁶ For more information on the problem of sedimentation and water drainage in late Chosŏn Korea, see Yŏm Chŏngsŏp, “Chosŏn hugi Hansŏngbu chunch’ŏn ŭ sihaeng [The implementation of dredging by the Seoul Magistracy in the late Chosŏn era]” *Sŏulhak yŏn’gu* [The Journal of Seoul Studies] 12 (1998): 83-111.

procedures of the Four Mountain Pine Prohibitions did not greatly differ from other eighteenth-century state forestry regulations. Bailiffs and their wardens were to patrol their mountain's forests and stamp out any illegal farming and tombs. They had the authority to punish any illegal woodcutter with ten lashes; any higher punishment however required a judgement from a higher official. Every spring and autumn, bailiffs oversaw the planting of new pines and miscellaneous trees.⁸⁷ The new regulations were further buttressed by the 1744 edition of the Chosŏn law code, a clause in which mandated the biannual corvée of Seoul residents to plant trees on the Four Mountains.⁸⁸

It is important to note, however, that the 1731 P'aju regulations and the 1754 Four Mountains regulations were not aimed at preserving for forests for actual timber usage. Unlike the state forests along the southern and western coasts, the forests around Injo's tomb and the Four Mountains were not for government consumption. Rather, the trees required protection for other functions. In the case of the Injo's tomb, the forests were markers of a key ritual space, a crucial intersection of royal territoriality and state power. The forests in the Four Mountains were protected not to be logged but precisely because they were being logged. Deforestation and erosion along the slopes of the Four Mountains threatened the waterways around Seoul and the livelihoods of people below. Since the goal was erosion control and not timber production, lower-quality *Pinus thunbergii* was used to replant slopes.⁸⁹ In the early-to-mid eighteenth century, the Chosŏn government accordingly redeployed the mechanisms of the state forestry system to protect trees not for their values as timber but for their value, as trees.

⁸⁷ *PBSTR*, Yŏngjo 30.10.16 (1754).

⁸⁸ *Sok taejŏn* [Continuation of the Great Code] (Seoul: Pŏpchech'ŏ, 1965), 326.

⁸⁹ *Ibid.*

Such protection was all the more necessary because Seoul, like so many other late pre-industrial cities, remained ravenous for wood. In the eighteenth century, more and more of necessary construction timber came to Seoul from the upper reaches of the Han River in the mountains of Kangwŏn province. The Office of Construction (*Sŏn'gonggam* 繕工監) continued to oversee the procurement of lumber and labor for the building and repair of government buildings in the Seoul region. Thanks to availability of merchants and similar brokers, the Office of Construction in the eighteenth century no longer needed to corvée lumberjacks and laborers along the Han River. Office of Construction officials were still needed to oversee the delivery of timber to Seoul for government use.

In 1759, the Office of Construction issued a series of regulations regarding the procurement of wood from Kangwŏn province down the Han River to Seoul. The previous year, an official in charge of timber procurement in Kangwŏn province had failed to float the timber quota down the Han River before the water froze for the winter.⁹⁰ As a result, the merchants tasked with brokering wood-related transactions were “panicking.” Moreover, problems had arisen in [resources for] state use,” leading to “serious concerns.”⁹¹ The 1759 Office of Construction regulations hence itemized the type and quantity of wood expected in each quota (Table 5) and installed strict procedures to ensure their timely delivery.⁹²

⁹⁰ *PBSTR*, Yŏngjo 35.4.18 (1759). 發關於江原監營, 以爲貿斫流下之地, 而近年以來, 本道不諒事勢.

⁹¹ *Ibid.*, 非但貢人之難堪, 莫重國用之生事, 亦甚可慮.

⁹² As the availability of wood in the Han River basin diminished in the eighteenth century, other types of construction material such as brick gained in popularity. Kim Tonguk, *Chosŏn sidae kŏnch'uk ūi ihae* [Understanding Chosŏn architecture] (Seoul: Sŏul taehakkyo ch'ulp'anbu, 2011), 26-27.

Table 5: Itemized tally of the yearly timber quota, Kangwŏn province to Seoul

Type of Wood	Number of Pieces
Large size, highest-grade framing timber	9
Medium size, highest-grade framing	5
Small size, highest-grade framing timber	10
Large beam wood	1,220
Medium beam wood	2,020
Small beam wood	2,320
Large raft logs	690
Planks for rafts and boats	520
Timber for palaces	590
Basic timber	1,000
Mature pines	60
Round lumber	210
Other pines	220

Source: PBSTR, Yŏngjo 35.4.18 (1759)

New construction projects in the eighteenth century supported not only the teeming population of Seoul but also buttressed the interests of the Chosŏn monarchy. In 1782, the Chosŏn court issued the *Compendium on Tree Planting* (*Singmok silch'ong*) to organize the planting and protection of trees around royal palaces. Around sites such as Kyŏngmo Palace, King Chŏngjo ordered the planting of “pines, cypress, maple, and camphor,” numerous fruit trees and willows, and “beautiful flowers and grasses.” Land around the palace that long been “degraded” (*muye* 蕪翳), he hoped, could once again “bloom and blossom.”⁹³

In the last decade of the eighteenth century, Chŏngjo oversaw the construction of a major fortress called Hwasŏng near present-day Suwŏn, thirty kilometers south of Seoul. Chŏngjo’s expressed intention was for Hwasŏng to protect the tomb of his father, Prince Sado. Historians, however, have since argued that the fortress had wider political purposes. The fortress was an extension of royal power through which Hwasŏng would be transformed into a center of monarchical authority removed from the quarrelling factions of the Seoul-based bureaucracy.⁹⁴

Though Chŏngjo insisted on the use of stone rather than wood as the fortress’s main construction material,⁹⁵ trees were a key component of the fortress’s layout and function. The fortress required a substantial amount of charcoal wood for construction purposes. Timber from near and far was necessary for ramparts, frames, and the construction of countless houses, offices, and implements.⁹⁶ The government ordered the planting of pines and other trees along the main

⁹³ *Singmok silch'ong* [Compendium on tree planting], 1782, Kyu 9953, Kyujanggak Archives, Seoul National University, Seoul, South Korea.

⁹⁴ Christopher Lovins, “Testing the Limits: King Chŏngjo and Royal Power in Late Chosŏn” (Ph.D. diss, University of British Columbia, 2014), 141-142.

⁹⁵ *Ibid.*, 146

⁹⁶ *Yŏkchu Chosŏn ūi imsu* [The the forests of Korea, Korean-language edition]. Originally in Japanese, *Chōsen no rinju* (1938). Edited and translated into Korean by Saengmyŏng ūi sup kungmin undong (Seoul: Geobook, 2007), 890.

road into Hwasŏng, on which Chŏngjo would lead massive annual processions to visit his father's grave (Figure 12). Furthermore, a tree-planting overseer (*singmok kamgwan* 植木監官) was appointed to manage forests in the hills around Sado's gravesite. Pines were to be planted in deforested areas; sawtooth oaks were planted in "particularly deforested" areas.⁹⁷ Residents of the newly forested areas were removed and supposedly compensated with new housing.⁹⁸

Chosŏn government records even recognize military officials and soldiers who planted particularly large numbers of trees during the Hwasŏng construction process. A military official named Kim Naksŏng, for instance, was recognized for overseeing the planting of 70,000 pines near Hwasŏng. Two soldiers named Pak Suŭi and Yŏ Munyŏng were noted for each planting 20,000 miscellaneous trees.⁹⁹

The government also monetarily compensated people who planted trees on their own outside of military or corvée duty. A clause in the 1785 edition of the Chosŏn law code calls for awarding of prizes to anyone who planted at least 1,000 trees.¹⁰⁰ A commoner from Kangnŭng named Yi Sundong who had newly taken residence in Suwŏn is listed for planting 1,000 pines, a quantity that yielded him two *yang*. Another person named Hwang Kijŏng received twenty *yang* for planting 10,000 pines. A man named Pak Sech'ae received the "price of 1,000 trees" for planting 2,000 pines, presumably due to their lower quality. Since three or four *yang* could feed a Chosŏn family for a month, a rate of one *yang* per 500 planted pines was a fair sum.

⁹⁷ Ibid., 898.

⁹⁸ Ibid., 894.

⁹⁹ Choe Honggyu, *Chŏngjo ūi hwasŏng kŏnsŏl* [Chŏngjo's construction of Hwasŏng] (Seoul: Iljasa, 2001), 295.

¹⁰⁰ *Taejŏn t'ongpyŏn* [Comprehensive Great Code], vol. 2, ed. Seoul taehakkyo Kyujanggak (Seoul: Seoul taehakkyo Kyujanggak, 1998), 319.

Figure 12: A stand of pines along the main road toward Hwasŏng fortress, 1930s



Source: *Yŏkchu Chosŏn ūi imsu* [The Forests of Korea, Korean-language edition], ed., trans. Saengmyŏng ūi sup kungmin undong (Seoul: Geobook, 2007), p. 895.

“A State without Laws”: The 1788 Regulations

In 1788, the Chosŏn government issued a new set of “pine prohibition” regulations that amended and expanded previous editions. The new authors decried more transgressions that had piled up over the eighteenth century: peasants eating protected pine bark under the pretext of famine, woodcutters cutting pines with no thought of replanting, even non-elites burying their dead in state forests and claiming ignorance of the forest’s boundaries. Wardens were taking bribes while

prosecuting the indigent over a mere pine fence. “We are practically a country without laws (*mubŏp chi kuk* 無法之國!)” the authors exclaim.¹⁰¹

While the quote is eye-opening, the 1788 regulations were, once again, largely personnel and procedure-oriented. Such administrative detail was crucial for the Chosŏn state forestry’s longevity. The government added more layers of bureaucratic oversight and more severe penalties against arsonists and bribe-takers. In order to preclude wily pretexts for cutting, any wilted pines and “rotten forests” (*huyŏpsan* 朽葉山) were to be left as they were until the central government could send inspectors. Prizes and promotions were to be awarded to officials who maintained luxuriant state forests and encouraged replanting of pines. Military officers were charged with mobilizing relevant labor for forest work such as patrolling, felling, and the arduous task of picking off troublesome pine moth larvae that infested the increasingly pine-dominant forests of the Chosŏn state.¹⁰²

Additionally in the late eighteenth century, the Chosŏn government launched its last major survey of state forest locations (Table 6). From a certain perspective, the results showed impressive success. Whereas 291 state forests had hugged the coast of Korea in 1449, more than 635 locations were listed in the 1808 survey. State forests had expanded into the southwestern islands and the riverine areas of eastern Korea. More and more people throughout Korea accepted the importance of pine administration, or at the very least, had daily encounters with the Chosŏn state through the prism of forest usage.

¹⁰¹ *Chedo songgŭm samok* [Pine prohibition regulations for the various provinces], 1788, Kyu 957, Kyujanggak Archives, Seoul National University, Seoul, South Korea.

¹⁰² *Ibid.*

Table 6: Distribution of state forests in the late eighteenth century

	Reserved Forest	<i>Hwangjang</i> -grade (Royal Coffin) Forest	Pine Field	Total
Ch'unch'öng	73			73
Chölla	142	3		145
Kyöngsang	65	14	264	343
Hwanghae	2			2
Kangwön		43		43
Hamgyöng			29	29
	282	60	293	635

Source: *Man'gi yoram* [Essentials of State Affairs] (1808)

South Korean historian Kim Yongsöp famously argued that agrarian reform proposals during the late Chosön era generally followed “two courses” of thought. One vein advocated institutional adjustments such as tax reform while maintaining the privileges of the landlord stratum. The other “course” sought to fundamentally transform Korean agriculture through the elimination of the landlord system, replacing it a model based on small-scale farmers.¹⁰³ In a sense, institutionalized forestry as well took on two courses of development. One was the state forestry system that continued to expand during the era. The other course was a variety of private and local-level forms of management: commercial organizations, government brokers, informal government institutions, and even local forestry organizations (*songgye* 松契) dedicated to protecting pine forests around settlements and gravesites. Throughout the eighteenth century, state forestry remained in force along the coasts and in the Han River basin thanks to the efforts of widening array of officials, brokers, wardens, and monks,

¹⁰³ Kim Yong-sop, “The Two Courses of Agrarian Reform in Korea’s Modernization,” in Shin, *Landlords, Peasants, and Intellectuals*.

Overall, the expansion of commerce and agriculture, the rapid growth of Seoul, and the establishment of new markets zones fueled population growth and helped Korea enter a period of relative prosperity during the eighteenth century. New forms of popular literature emerged, and *yangban* engaged in increasingly sophisticated critiques of conventional philosophy and politics. Yet, the ruinous aftermath of the Imjin War had forced an almost entirely agrarian economy to undergo some swift changes, changes that Korea's forestry infrastructure could not fully accommodate. The same social and economic forces that drove eighteenth-century prosperity would overturn the traditional social order, increase competition for resources, and actually lay the foundations of a coming century of crisis.

Chapter 5

For Whom the Tree Falls: Local Alternatives and Critiques of Forest Management in Late Chosŏn Korea

Following a relatively prosperous and stable eighteenth century, Chosŏn Korea sank into a period of political turmoil, social unrest, and demographic stagnation. Rural unrest ensued, racking the nineteenth century with a succession of violent revolts, starting with the Hong Kyong-nae rebellion in 1812 and culminating with the massive Tonghak rebellions at the end of the century. A poignant statistic helps highlight the extent of this turmoil: after two centuries of gradual growth, the Korean population actually declined during the early nineteenth century.¹

The Chosŏn state forestry system would die out with the dynasty when Japan annexed Korea. A question remains: what was the connection between forestry and the crises of the nineteenth century? Some clues can be found exactly where our story started, near the silvicidal monks of Kangjin. For many locals residing around state forests, incentives to poach trees or shirk forestry duties far outweighed incentives to follow forestry ordinances. The expansion of state forestry in the seventeenth and eighteenth centuries had spawned a vast array of military officials, clerks, wardens, and draconian punishments dedicated to preserving all-important pine forests. The same forces, however, could not engender the servile obedience of the local populace. Such institutional issues were symptomatic of wider administrative problems that plagued nineteenth-century Korean society, including corruption in the grain loan system and stark inequalities in land ownership.

At the same time, not all forest management radiated from the halls of Seoul. Away from the push of government authority, Koreans in the late Chosŏn also formed their own forestry and

¹ Tony Michel, "Fact and hypothesis in Yi Dynasty history: the demographic dimension" in *Korean Studies Forum* 6 (Winter/Spring 1979-1980)

silviculture arrangements. So-called *kŭmsonggye* 禁松契, roughly translating to “Pine Protection Associations,” organized villagers for tree-planting and forest protection. Agricultural manuals from the eighteenth and nineteenth centuries describe the care and management of dozens of tree species for private use. Even as the authority of the Chosŏn state declined in the latter half of the nineteenth century, local forms of forest management would continue to thrive.

The Rise of the Pine Protection *Kye*

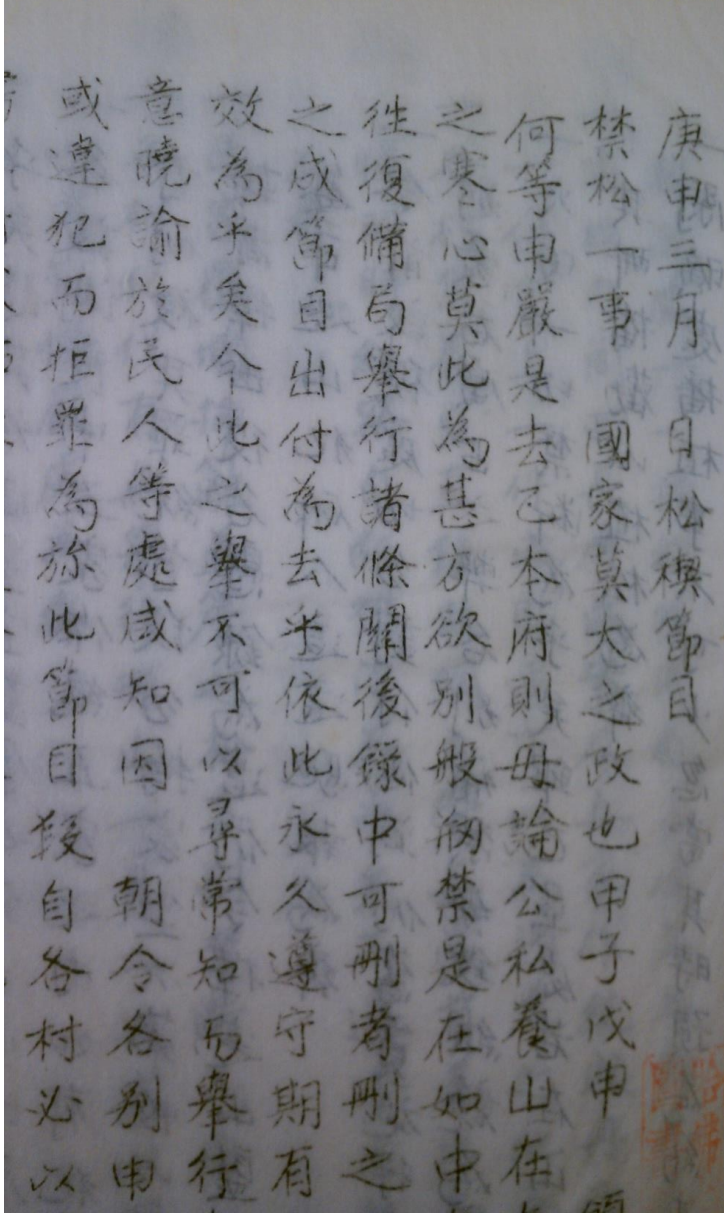
In 1860, 121 villages in Hadong district in southeastern Korea chartered a “Pine Protection Association” (*kŭmsonggye* 禁松契). Their charter starts with the following quote: “In the governance of the state, there is nothing more important than the protection of pines.”² Whether the villagers actually believed this is doubtful; the line is actually quoting the 1788 iteration of the government’s Pine Protection Regulations. Still, the Pine Association document evidences a local counterpart to state forestry that emerged during the eighteenth and nineteenth centuries.

According to the association charter, each village in Hadong district was to appoint one warden and one steward to patrol the local pine forest. Furthermore each village was organized itself into Five Household System to ensure their neighbors did not cut down any pines.³ If any villagers were caught, the headman of the perpetrator’s five-household group would be punished as well. Villagers were to work together to cut down mature pine timber, which they then sold to

² *Songgye chŏlmok* [Pine Association Regulations], 1860, Kyu 2329, Kyujanggak Archives, Seoul National University, Seoul, South Korea.

³ See Chapter 3 for discussion of the Five Household Control Law.

Figure 13: Preface to the “Pine Association Regulations” 松契節目. Hadong-gun, Kyōngsang Province, 1860. The first line reads, “There is no matter of greater importance in the operation of the state than the protection of pines.” 禁松一事，國家莫大之政也



Source: *Songgye chōlmok* [Pine Association Regulations], 1860, Kyu 12329, Kyujanggak Archives, Seoul National University, Seoul, South Korea.

the military or government-licensed merchants to help pay off taxes or other communal obligations.⁴

Throughout the late Chosŏn period, Koreans formed a host of similar *kye* to coordinate activities between and within villages. By the seventeenth century, several distinct types of *kye* organizations had emerged across the peninsula. In general, members of the *kye* made initial financial contributions for common goals. To avoid recurring contributions, most *kye* engaged in profit-seeking activities to earn extra income, such as by renting fields or selling wood. Depending on the activities and financial health of the individual *kye*, members might also be asked to make supplementary contributions as necessary.⁵

These *kye* also provide a prime opportunity to peer into the dynamics of late Chosŏn social history. Chŏng Sŭngmo has argued that village-level associations in late Chosŏn Korea usually split along status-group lines, with *yangban* forming “high associations” (*sanggye* 上契) while commoners formed “low associations” (*hagye* 下契).⁶ The phenomenon corroborates Samuel Popkin’s argument that “village procedures reinforce, not level, differences and ... stratification within the peasantry.”⁷ Yi Yŏnghun has found a similar pattern in southeastern Korea during the eighteenth and nineteenth centuries, though with a twist: he argues that stratification may have become less important during the nineteenth century as *yangban*

⁴ *Songgye chŏlmok*

⁵ Kim P’iltong, *Han ’guk sahoe chojiksa yŏn’gu: kye chojik ŭi kujojŏk t’ŭksŏng kwa yŏksajŏk pyŏndong* (Seoul: Ilchogak, 1992), 130, 131, 338-341. For summary of late Chosŏn and colonial-era *kye* and their functions in English, see Holly Stephens, “Agriculture and Development in an Age of Empire: Institutions, Associations, and Market Networks, 1876-1945,” (Ph.D diss, University of Pennsylvania, 2017), 202-206.

⁶ Chŏng Sŭngmo *Chosŏn hugi chiyŏk sahŏe kujo yŏn’gu* [A study of the regional social structure in the late Chosŏn] (Seoul: Minsok’wŏn, 2010)

⁷ Samuel Popkin *The Rational Peasant: The Political Economy of Rural Society in Vietnam* (University of California Press, 1979), 17

economic fortunes declined and local functionary intrusion in social and economic life became more rampant.⁸

According to Pak Chongch'ae, the Hadong Pine Protection *kye* were particularly remarkable for their wide participation in the statist project of forest protection.⁹ Periodically, the Chosŏn state did encourage local people to organize *kye* to protect state forests. In 1710 for instance, the government urged residents along the coasts of Ch'ungch'ŏng province to form Pine Protection *kye* for the sake of managing key state forests.¹⁰ On Anmyŏn island on the far western tip of the T'aean peninsula, local Pine Protection *kye* continued to provide timber management services for the state until the end of the dynasty.¹¹

Most Pine Protection *kye*, however, were formed for local interests with little or no links to the broader state forestry project. On Kŭmdang island in the southwest, Pine Associations formed only after the local Reserved Forest was opened to general use in 1756.¹² Around the village of Kurim in Yŏngam County in south Chŏlla province, well-organized local *kye* took it upon themselves to manage forests around their village. In 1768, a group of Kurim villagers formed a Pine Protection *kye* that was entrusted with the management of the local pine forests.

⁸ Yi Yŏnghun “18-19 segi taejŏ'ri ūi sinbun kusŏng kwa chach'i chilsŏ [Status organization and autonomous order in eighteenth and nineteenth-century Taejŏ'ri]” in Yi Yŏnghun, An Pyŏngjik, ed. *Matjil ūi nongmindŭl* [The peasants of Matjil] (Seoul: Ilchogak, 1998), 247-248

⁹ Pak Chongch'ae, “Chosŏn hugi kŭmsonggye ūi yuhyŏng [Types of Pine Prohibition Associations in the late Chosŏn]” *Yŏksa sok e sup kwa imŏp* (2000): 192-193.

¹⁰ *Sukchong Sillok*, 36.11.13 (1710).

¹¹ *Anmyŏndo minho kŭp wŏnyŏk kŏhaeng chŏlmok* [The Duties of Households and Government Personnel on Anmyŏn Island], 1895, Kyu 18937, Kyujanggak Archives, Seoul National University, Seoul, South Korea.

¹² Kim Kyŏngok, *Chosŏn hugi tosŏ yŏn'gu* [A Study of Islands in the Late Chosŏn Period] (Seoul: Hyeon, 2004), 36.

Kye members patrolled the forests, replanted trees, and even doled out punishments to unpermitted loggers.¹³

A pre-industrial state such as Chosŏn lacked the means to perform every government function with its own personnel. Thus, in realms ranging from forest protection to tax collection and funerary expenses, village *kye* filled a key role. Moreover, government demand for naval timber slackened in the eighteenth century due to the extended era of international peace in East Asia. Accordingly, some state forests inevitably opened to local usage, though the government could and did reinstate bans at any time.

Pine Protection Associations even emerged in direct opposition to state intrusion. In 1756, a magistrate near Andong in southeastern Korea ordered the felling of a number of pine trees located in the private grove of the Ŭisong Kim lineage. The magistrate had been angry at the Kim family for supporting a rival political faction. The government then took the felled timber as a tax levy. In response, the Kim lineage formed a pine protection charter. Two men from the family were to be appointed “tree protection officers” who patrolled the pine grove and tended to its affairs. The incident demonstrates that the government also had the authority to appropriate pine timber as it saw fit. However, such arbitrary actions could also engender local resistance and spur organizational formation.¹⁴

Thus, Pine Protection *kye* cannot be seen as strictly serving the interests of the state. Koreans in the late Chosŏn era of all status groups needed wood for daily use. Moreover, an increasingly commercialized economy provided ample profits for villagers willing to organize

¹³ Kurim taedonggye [The Kurim Village Kye], ed. *Kurim taedonggye chi* [Records of the Kurim Village Kye]. (Yŏngam, South Korea: Kurim taedonggye sabogwŏn ch’ujin wiwŏnhoe, 2004), 55.

¹⁴ Martina Duechler, *Under the Ancestor’s Eyes: Kinship, Status, and Locality in Premodern Korea* (Cambridge, MA: Harvard University Asia Center, 2015), 371; Mun Okp’yo et al., *Chosŏn yangban ũi saenghwal segye – Ŭisong Kim-ssi Ch’ŏnjŏn-pa charyo rŭl chungsim ũro* [The everyday world of Chosŏn yangban: with focus on the documents of the Ch’ŏnjŏn branch of the Ŭisong Kim lineage] (Seoul: Paeksan sŏdang, 2004), 403-407.

the tasks of forest management. Even so, these Pine Protection *kye* all had something in common: an organized dedication to protecting a tree that had become synonymous with state usage. Their nomenclature reflected the successful dissemination of a certain discourse promulgated since the beginning of the Chosŏn dynasty. Even in the workaday crevices of Chosŏn village life, pine stood atop the sylvan hierarchy.

Agricultural Manuals and the Use of Trees in Everyday Life

The late Chosŏn era also saw the proliferation of agricultural manuals (*nongsŏ* 農書) compiled by local literati. In a changing economy amidst a growing number of literati out of office and in the countryside, information on the household economy was increasingly sought and gathered. Manual compilers sought information from extant sources, gazetteers, and word-of-mouth. The study of “practical matters” additionally became a scholarly pursuit in some circles. Many of these manuals took on an encyclopedic quality, going beyond mere farming to describe the making of furniture, the construction of buildings, and the best ways to bury a body, prune a tree, or make an axe. Thus, silviculture and woodworking were centers of discussion. Altogether, agricultural manuals and encyclopedias provide a window into the everyday economy of wood in late Chosŏn Korea. They also display alternative methods of organizing trees and forests outside of the realm of the state.

Pine, the paramount tree of Chosŏn state policy, was usually listed first in manual sections regarding arboreal management. The *General Explanation of Agriculture* compiled in 1830 by the scholar-official Choe Han’gi (1803-1879) cites pine as “foremost of trees.”¹⁵ Choe goes on to cite different sources regarding the management of pine, with suggestions running

¹⁵ Choe Han’gi, *Nongjŏng hoeyo* [General Explanation of Agriculture], vol. 2, ed. Kim Insik, et al. (Suwŏn, South Korea: Nongch’ŏn chinhŭngch’ŏng, 2007), 204.

from the mundane to the eccentric. One source suggests harvesting pine in the dead of night to forestall termite infestation. Choe's cited sources differ on the best season to plant pine: some suggest laying seeds in spring while others argue for early fall.¹⁶ Choe also includes instructions regarding pines' various other uses, including the extraction of pine resin for oils and adhesives and the preparation of pine needle porridge during famine.¹⁷ *Pinus thunbergii* cones were guaranteed to reduce the pangs of hunger.¹⁸ The downside was extreme constipation.

The far more encyclopedic *Treatises on the Economy of Land and Forest* by Sō Yugu (1764-1845) also list pine as the first tree in their arboreal sections. Sō's text classifies pines by the number of needles per fascicle; *Pinus densiflora* is noted for its two-needle features distinct from the five-needled *Pinus koraiensis* (*channamu*, *paek* 柏).¹⁹ Sō also gives more definitive instruction regarding the planting and harvesting of pines. His sources posit spring as the season for planting and autumn as the time for logging. Sō suggests setting up a barrier around young pine groves to block cold northern winds during the winter.

Sō includes rich information regarding the management of different types and sizes of pines. For instance, the text has instructions regarding the preparation of small ornamental pines (*pansong* 盤松) for gardens. To make an ornamental pine, according to Sō, one simply had to remove a young pine, cut out its tap root, and then replant the now-stunted tree.²⁰ The replanting of small pines is described as an easy task similar to "replanting bamboo": "As long as the root is

¹⁶ Ibid., 205-207.

¹⁷ Choe Han'gi, 340-341.

¹⁸ Ibid., 347.

¹⁹ Sō Yugu, *Imwŏn kyŏngjeji: manhakchi* [Treatises on the Economy of Land and Forest: Treatise on Twilight Studies], vol. 2, ed., trans. Pak Sunch'ŏl and Kim Yŏng (Seoul: Sowadang, 2009), 14.

²⁰ Ibid., 18.

sturdy, and it has not moved around too much during replanting, it will grow on its own.”²¹

Large pines required a much more complex process for replanting. Careful attention had to be given to the quality and thickness of the new soil. Once the pine was in the ground, it had to be tied with straw rope to a large wooden strut for support.

While Sō describes fully-grown pines as extremely hardy, he notes that pine saplings are weak and “greatly fear sun, oxen, and goats.” Oxen and goats were real threats; oxen can trample young pine, and goats enjoy stripping off bark and branches. Sunlight, however, is not necessarily a danger to pine. Pine is a shade-intolerant species that grows best in the open. Sō may have been advocating semi-shaded seedbeds that can protect young saplings from disease and inclement weather.

Sō also describes proper branch-cutting and pruning practices. The removal of branches and smaller woody material for firewood, dikes, and implements was a common practice in the pre-industrial world. Societies across Eurasia independently developed the billhook (K: *nat*) to accomplish the critical task of pruning branches. The billhook became especially valuable where forest ordinances limited the amount of available firewood. The phrase “by hook or by crook” originates from medieval and early modern English laws that allowed people to only take branches that they could reach with a billhook or a shepherd’s crook.²²

In late Chosŏn Korea, pine branches (*songji* 松枝) were central to the hearth, the salt kiln, and the irrigation dike. They were key components of the everyday economy. Branches could be harvested directly from the forest or bought at the market. Sim Wŏn’gwŏn (1850-1933), a farmer from the vicinity of Ulsan in Kyŏngsang province, regularly cut pine branches to sell at

²¹ Ibid., 17.

²² H. L. Edlin, *England’s Forests: A survey of the woodlands old and new in the English and Welsh counties* (London, Faber and Faber, 1958), 19-20.

local markets.²³ In his diary, he regularly records the number of branches and their price.²⁴ The sale of pine branches helped cover his expenses between harvests.²⁵

Sim also lived in the vicinity of several state forests. On several occasions, he had to turn back from a wood-gathering excursion due to government reinstatements of pine prohibitions in the area.²⁶ Even for a relatively well-to-do farmer, state forest policies could impose sudden hardships. A pine-cutting ban issued in 1886 left Sim unable to cover his household expenses, taxes, and debts.²⁷ The Chosŏn government could open or close forests based on warden reports, evidence of overlogging, or simple state needs for timber. Needless to say, the arbitrary nature of such decisions could create difficulties for the local economy.

Carpentry and craftsmen tools also diversified in the late Chosŏn era. A widening array of saws and planes reflected growing demand for housing and furniture.²⁸ More and more carpenters worked for wages or private guilds rather than government offices and *yangban* masters.²⁹ The government abolished the Funerary Bureau in the late eighteenth century.

²³ For extended analysis of Sim Wŏn'gwŏn and his diary, see Holly Stephens, "Agriculture and Development in an Age of Empire: Institutions, Associations, and Market Networks, 1876-1945," (Ph.D diss, University of Pennsylvania, 2017), 83-139.

²⁴ For analysis of the wood price data in Sim Wŏn'gwŏn's diary and their trends, see Yi Uyŏn, 18-19 segi sallim hwangp'yehwa wa nongŏp saengsansŏng [Deforestation and agricultural productivity in eighteenth and nineteenth centuries], in *Suryang kyongjesa ro tasi bon chosŏn hugi* [A Cliometric Re-examination of the Late Chosŏn Dynasty], ed. Yi Yŏnghun (Seoul: Seoul taehakgyo ch'ulp'anbu, 2004), 350-351.

²⁵ Stephens, 107.

²⁶ *Sim Wŏn'gwŏn ilgi*, 1879.1.24, 1885.4.1

²⁷ Stephens, 107-108; *Sim Wŏn'gwŏn ilgi*, 1886.12.30.

²⁸ Kim Tonguk. *Chosŏn sidae kŏnch'uk ūi ihae* [Understanding Chosŏn-era Architecture] (Seoul: Sŏul taehakkyo ch'ulp'anbu, 2011), 16.

²⁹ *Ibid.*, 14-16; *Namu wa chongi, Han'guk ūi chŏnt'ong kongye* [Wood and Paper in Korean Traditional Crafts], ed. Kungnip minsok pangmulgwan [The National Folk Museum of Korea] (Seoul: Kungnip minsok pangmulgwan [The National Folk Museum of Korea], 2004), 216.

Figure 14: A crew laying roof tiles, late eighteenth century. In the bottom right, a carpenter smooths lumber with a plane while another craftsman inspects the columns. Painting by Kim Hongdo (1745-?)



Source: Kim Hongdo, "Kiwa Igi [Roof Tiling]," in *Kim Hongdo p'il p'ungsok hwach'öp* [Album of Genre Paintings], late eighteenth century, paper, 39.7 x 26.7 cm, The National Museum of Korea, Seoul, South Korea. Reproduced with permission.

Skilled carpenters in Seoul ran their own high-end furniture stores where they sold cabinets, dining tables, and wooden vessels to officials, merchants, and their families.³⁰ Outside of the capital, most carpenters built houses and made furniture for the occasional wedding or a coffin for the occasional funeral. Demand for wood was insatiable. The looming question in the nineteenth century was that of supply. After five centuries of population growth, war, recovery, and economic expansion, could the state maintain its control over Korea's forests?

Critiques of a Troubled System: The Chǒng Brothers' Appraisals of State Forestry

No one illuminated the problems and potential of late Chosŏn life as well as Tasan Chǒng Yagyong. His masterpiece, *Admonitions for Governing the People* (*Mongmin simsŏ*), explains and critiques the workings of every major late Chosŏn institution. Written while he was in exile in the early nineteenth century, Tasan intended the book to be a handbook for political and social reform, ideally to be read by magistrates and similar high administrators. His encyclopedic analysis includes a lengthy critique of the state forestry system.

Tasan's main criticism of the state forestry system was that the policies "shut off the supplies necessary for ordinary people who have to raise those who are alive and bury the dead." Meanwhile, the "prohibition against logging pine trees" was "very strict, and its details very elaborate," yet state forestry added very little to state revenues.³¹ Tasan was even skeptical of the value of pine itself. Like numerous other late Chosŏn commentators, he noted that pine was often the only available timber and yet was "not of the highest quality" for construction and shipbuilding. Centuries of pine-centric policy had left Tasan's generation with a pine-dominant landscape.

³⁰ *Namu wa chongi*, 216.

³¹ Chǒng Yagyong, *Admonitions for Governing the People: Manual for All Administrators*, trans. Choi Byonghyon (Berkeley; Los Angeles; London: University of California Press, 2010), 826.

Tasan criticizes the logic of numerous forestry statutes, including the clause from the 1788 Pine Prohibition regulations that outlawed the usage of fallen pines in state forests. He argues that fallen trees should be cut and sawed immediately to save their valuable wood.³² Tasan urges the use of carts to ease the danger and hardship of forestry labor;³³ he also urges a crackdown on official corruption in state forests and along the timber transportation routes on the Han River.³⁴ The effects of corruption, he argued, were detrimental to both people and the environment. People caught for illegal logging on Wan island had to “cut down a hundred more trees” in order to pay off their government captors. Others such as the monks of Kangjin resorted to purposeful deforestation to avoid corvée duties and official predation. Like Yun Sŏndo a century and half before, Tasan wished for a state forest system that took into consideration the hardships of local residents and the realities of local environments.

Around the same time, on a remote island only a few dozen kilometers from Kangjin’s monks, Chŏng Yagyong’s brother, Chŏng Yakchŏn (1758-1816), was completing a document titled “A Personal Treatise on Pine Administration” (*Songjŏng saui*) that harshly criticized the later workings of the Reserved Forest system. When the Chŏng brothers became entangled in anti-Catholic purges in 1801, Yakchŏn was subsequently exiled to the southern island of Hŭksan off the coast of Chŏlla province – an island that happened to have one of the oldest Reserved Forests in Chosŏn Korea.³⁵ Though the treatise was not widely distributed, Chŏng’s observations

³² Ibid., 831-832.

³³ Ibid., 832

³⁴ Ibid., 826, 833.

³⁵ For more information on the Chŏng brothers, see Don Baker, “Tasan and His Brothers: How Religion Divided a Korean Confucian Family” in Sang-oak Lee and Duk-so Park, ed. *Perspectives on Korea* (Sydney, Australia: Wild Peony Press, 1998), p. 174.

and proposals reveal the tensions facing the relationship between state and society, particularly in the realm of forestry, in Chosŏn Korea's last century.

Like his brother, Chŏng Yakchŏn was harshly critical of the state forestry system, which he argued was a self-defeating mechanism that actually “discouraged replanting” and only fomented corruption. For instance, Chŏng complained that once private and village forests were depleted, desperate peasants had no choice but to “gather their coins on a string and go to the various Reserved Forests” with intent to bribe the necessary parties. Chŏng notes that the local clerks and wardens gladly accepted bribes because “they relied on these [circumstances] to direct their profits” and “to support their parents and take care of the wives and children.”³⁶ Lacking a regular stipend, they were expected to live off of surtaxes and backchannel transactions, creating a scenario akin to foxes guarding the henhouse.

Other records corroborate his claims. For instance, clerks were supposed to provide permits (*kwanmun* 關文) that allowed lumber merchants to log the Reserved Forests, albeit only up to a prescribed amount. In practice, overcutting beyond the permitted volume was a common occurrence, with clerks taking a cut of the illegal lumber.³⁷ Another entry in the *Records of the Border Defense Command* from 1776 complains that when the time came to gather high-quality timber for warship repair, avaricious clerks would instead designate fallen trees and young saplings. “Due to their swindling, the entry says, “the evil of overcutting is profuse and so large timbers are gradually diminishing [in number].”³⁸ Such criticisms are compounded by the fact

³⁶ Chŏng Yakchŏn, “Songjŏng saui [A Personal Treatise on Pine Administration],” *Munhŏn kwa haesŏk* 20 (2002).

³⁷ O Sŏng. *Chosŏn hugi sangin yŏn'gu: 17, 18 segi insam, mokchae, yŏmsang ūi hwaltong ūi chungsim ūro* [A study of late Chosŏn merchants: with a focus on ginseng, timber, and salt trading activity in the seventeenth and eighteenth centuries] (Seoul: Ilchogak, 1989), 67-69, 76-77.

³⁸ *PBSTR*, Yŏngjo 51.1.24.

that clerks, military officials, and other local functionaries were often depicted as the bogeymen of Chosŏn society; they were the unenviable middle men, castigated by the elite as immoral and self-serving and resented by the commoners as tax collectors and extortionists.

Economic changes in the eighteenth century also spurred yet another wave of vagrancy in southern Korea's hills. Intensive agriculture required a significant investment in hired labor, fertilizer, and water control, and many landlords during this period hence began replacing the older sharecropping arrangements with a more secure fixed-rent system. Tenants had to pay additional taxes for water, ox, and implement use. To top off the pile of burdens, non-elite tenants had to pay a significant land tax to the state; tax evasion was a *yangban* privilege. When taxes and rents became too exorbitant, vagrancy was an attractive option.

Lacking land, implements, and income, the vagrants often engaged in widespread and destructive slash-and-burn agriculture. Chŏng Yakchŏn described the slash-and-burn agriculturalists in horrified words:

In one pass [they] set fires burning as extreme as wind and thunder, and what took 100 years to grow and nourish is, in one morning, ashes. When it comes to timber, where can one find one who is not needy?³⁹

Late Chosŏn's vagrants had few alternatives. Chŏng notes that, if not for the outlet of the slash-and-burn lifestyle, close to "thirty to forty percent" of the local peoples in his south Chŏlla district would have been reduced to beggars and paupers.

While vagrants caused the most damage and alarm with their slash-and-burn techniques, late Chosŏn's social and economic changes precipitated an increased demand for forest products at all levels of society. For instance, peasants who had not lost their land needed fertilizer to engage in intensive paddy agriculture. The optimal fertilizer of the late Chosŏn era was human

³⁹ Chŏng Yakchŏn, 220.

waste mixed with hillside mulch, that is, the composed of the rich plant material found on Korea's many hills. As population grew and competition for resources grew fierce during the eighteenth century, these ingredients became more expensive and difficult to find. Countless workers scoured Korea's hillsides, ripping out any roots and bushes to use as mulch fertilizer. Little did the commoners know that those same roots and bushes prevented hillside erosion, downstream sedimentation, and flooding.⁴⁰

Koreans from all status groups still needed timber for building houses, implements, coffins, and carts. The growth of Seoul and the market towns, as well as general demographic expansion, required significant construction lumber, and as a result, more Korean mountains became the victims of the woodcutter's axe.⁴¹ Also, as deforestation further exhausted Korean forests, fuel wood became more precious for the ever-growing population, and woodcutters even began turning to young saplings to meet growing demand. Chŏng Yakchŏn bemoaned in 1804 that no forests reached maturity anymore because so many young trees were being sent to the furnaces and lumber yards.⁴²

By the end of the eighteenth century, the overwhelming pressures of widespread vagrancy, agricultural expansion, population growth, and tomb building had stretched forest supplies in parts of Korea to their limits. Chŏng Yakchŏn remarked in 1804 that the price of wood had increased "threefold to fourfold" since the late eighteenth century. A simple coffin would cost around 400 to 500 *yang*. Even rich households had to wait "up to ten days" to gather

⁴⁰ Conrad Totman, *Pre-Industrial Korea and Japan in Environmental Perspective* (Leiden: Brill, 2004), 141.

⁴¹ Kim Taegil, *Chosŏn hugi ugŭm chugŭm songgŭm yŏngu* [A Study of Ox, Alcohol, and Pine Prohibitions in the Late Chosŏn Dynasty] (Seoul: Kyŏngin.), 172-173.

⁴² Chŏng Yakchŏn, 221

the money and timber necessary for a proper coffin, and poorer families simply resorted to wrapping corpses in grass mats before burial.⁴³

The government, as well, found its forest supplies dwindling. As population continued to grow and move into the coastal and island regions after the seventeenth century, the enforcement of the Reserved-Restricted forests became difficult, and the aforementioned corruption perpetrated by local military officers did not help the matter. By the early nineteenth century, whenever the government engaged in large construction or ship-building projects, “timber had to be floated on water and dragged onto land” from hundreds of kilometers away.⁴⁴ The navy faced similar predicaments when it tried to repair and maintain the fleet. According to Chǒng, “Every time repair is due, [the navy] rushes here and there, east and west, merely improvising on the spot ... Alas!”⁴⁵

The local military officers charged with protecting the forests had to resort to draconian methods in order to curb the increasing predation of state forests. Chǒng describes the brutal punishment of trespassers as follows:

If of high status, the perpetrators are prosecuted through official channels, but if the perpetrators are unimportant, the officers informally imprison them. The officers then extort, disparage, and bully them, tie them up and shackle them, and then torture them more cruelly than the pain of burning fire.”⁴⁶

Military officers resorted to such measures not only due the increasing value of timber, but also since the forests they guarded served as their livelihood.

⁴³ Chǒng Yakchǒn, 220

⁴⁴ Ibid., 223

⁴⁵ Ibid., 222

⁴⁶ Ibid., 222

Ironically, such strict punishments only intensified deforestation. Overzealous protection of forests decreased the supply of available timber and thus inflated the price of workaday wooden items such as plows and farming implements. Added to the hardships of rents and taxes, exorbitant wood prices caused poorer peasants to abandon their lands and take to the hills, where the cycle of slash-and-burn agriculture fed a feedback loop of stricter governmental controls over shrinking supplies of forest land.

According to Chŏng Yakchŏn, this type of negative regimen forestry argues, promoted a zero-sum mentality amongst the peasantry, so that they “grow to hate pines” and give no care to replanting.⁴⁷ Meanwhile, in the Reserved and Restricted Forests, some more corrupt naval officers allowed a general free-for-all. Once local forests were depleted, desperate peasants had no choice but to “gather their coins on a string and go to the various Reserved Forests” to bribe the officers. Chŏng notes that the wardens gladly accepted bribes simply because “they relied on these [circumstances] to direct their profits.”⁴⁸ In many Chosŏn localities, unsalaried government officials such as clerks and runners had to rely on bribes and kickbacks to sustain themselves. As the late Chosŏn period wore on, many military officers fell for the same temptations.

While corruption was also a major issue, Chŏng attested that a systematic policy reform was the key to stemming deforestation:

The people say, “As for the law not being enforced, blame lies with the naval officers.” I answer, “Even if hawks and tigers served as the naval officers, surely that does not enable prohibition.” Why? As for the pine seeker’s need, it is more urgent than the thirst for water. As for the warden’s attraction to profit, it is more extreme than the water’s current ... From the naval officers of the left and right, to government officials, forest wardens, and the [local] people - everyone steals trees.

⁴⁷ Ibid., 223

⁴⁸ Ibid., 222

Perhaps due to his Catholic background, Chǒng saw the human weakness as a universal phenomenon irrespective of status and upbringing. He speculated that even Confucius and his disciples would have broken the current forestry laws in order to “obey the ritual and lay a coffin” for a dead relative.⁴⁹ Chǒng thus deduced that, in late Chosŏn Korea, “forests cannot be feasibly restricted.”⁵⁰ His alternative solution was for an active state to encourage sustainability and afforestation while eliminating most forest restrictions.

Sustainable growth was thus the first rung of Chong’s plan to solve the deforestation crisis. “Anyone who nourishes 1,000 pines,” he wrote, “and endures using straw as his [house’s] frame should be promoted with rewards.” He also proposed that villages that actively nourish their local forests should be rewarded with tax breaks.⁵¹ Rather than restricting forests and creating a zero-sum atmosphere, the state, must promote and reward ecologically sustainable behavior. Only then, Chǒng argues, will the unsustainable rate of deforestation cease.

Chǒng hence advocated the elimination of almost all forest restrictions, with only slash-and-burn agriculture remaining strictly prohibited. Forest restrictions, he argued, actually further abetted deforestation by discouraging a culture of growth and planting. He compared the current situation, where “everyone schemes for fuel wood and takes no care to plant trees,” to “wallowing in a hoof’s puddle” when they should be “digging a lake of nine fathoms.” In other words, Chǒng proposed a grander, more sustainable society, one where the environment is preserved not by draconian measures, but by promotion of sustainable growth.

⁴⁹ Ibid., 224

⁵⁰ Ibid, 222

⁵¹ Ibid, 224

In order to enable such a dialogue between center and local, Chǒng urged greater “trust” between the state and the people. He recommended that the king send more royal emissaries to check on corruption in the provinces, and he encourages active policy-making that “follows the times and sets laws accordingly,” particularly in the case of slash-and-burn agriculture.⁵² Chǒng saw the prevalence of slash-and-burn agriculture to be a structural problem lacking in easy solutions. While replanting and government-sponsored sustainability could solve the immediate roots of deforestation, slash-and-burn agriculture’s causes had greater social and economic origins. Chǒng considered these events to be part of a social equilibrium, “the normalization of what is reasonable and proper.” He outlined the historical road to late Chosŏn’s social disorder as follows:

Products were being abandoned to an extreme, and so the Uniform Tax Law was created. [Then] the people’s taxes were being discarded to an extreme, and so the Equalized Tax Law was installed. [Then] the private slaves were running away to an extreme, and so the children of commoner mothers were freed to become [free] servants. [Then] the slaves are running away to an extreme, so there was the burning of slave rosters.⁵³

Chǒng warns that the next step could be a popular uprising, declaring that “if things are pushed to an extreme, and there is a rebellion, this is [simply] the normalization of what is reasonable and proper.”⁵⁴ And indeed, beginning with the Hong Kyōngnae Rebellion of 1812 and concluding with the massive Tonghak rebellions of the 1890s, the nineteenth century would see a surge of popular uprisings unprecedented in Korean history. When the government asked the captured Tonghak leader, Chǒng Pongjun (?-?), about his grievances, Chǒng replied: “My

⁵² Ibid., 224

⁵³ Ibid., 224

⁵⁴ Ibid., 224

ultimate goal ... was to reform the field system and the forestry system.”⁵⁵ Though the environmental roots of Korea’s nineteenth-century problems are still difficult to ascertain, the Chosŏn state forestry system certainly ended with the fall of the dynasty and loss of independence in 1910.

Aftermath: Colonial Legacies and Misconceptions

In 1915, five years after Japan formally annexed Korea, American reverend E.W. Koons made the following observation on the state of Korean forests:

The traveler who coasts, as many of us have done, along the shores of the Peninsula and finds only desolate, rain-scarred hillsides ... can dismiss ‘Forestry’ from his notebook, with the single entry, reminiscent of the well-known chapter on Snakes in Ireland, ‘There is no Forestry in Korea.’⁵⁶

In the eyes of the twentieth-century Western traveler, Korea’s denuded hillsides offered little evidence of any pre-annexation conservation efforts. After dismissing Chosŏn forestry as non-existent, E.W. Koons went on to praise Japan’s establishment of the colonial Forestry Bureau in 1907. Koons particularly extolled Forest Bureau regulations that required government permission to cut any Korean forest land, private or public, and, moreover, required all cutters to replace any felled tree with a seedling. Though such regulations may seem noble in spirit, Koons noted that the majority of the planted trees were “principally the work of the Mistui Firm and the

⁵⁵ Quoted in Kim Sŏn’gyŏng, “Chosŏn hugi sansong kwa sallim soyugwŏn silt’ae [Gravesite lawsuits and the conditions of forest usufruct rights in the late Chosŏn era],” *Tongbang hakchi* 77-78-79 (1993): 498.

⁵⁶ E.W. Koons “Afforestation in Korea” in *Transactions of the Korea Branch of the Royal Asiatic Society* 6 (1915): 35.

Oriental Development Company, both of which are planning to raise material for railway and other construction on a large scale.”⁵⁷

For Koons, the infamous Company and the colonial government were models of modern scientific conservation. Koons claimed, in the tones of Western science, that afforestation would have “climactic and agricultural” benefits for the Koreans, noting that “the bare hills encircling the City intensify the heat of Summer, as they reflect the sun’s rays from their bare slopes.”⁵⁸ He even took time to scold the Koreans for their current political and ecological predicament, remarking that “these are among the penalties a land pays when it has been stripped of its forests.”⁵⁹ The Koreans’ reckless deforestation had engendered “the furious floods of Summer and the dreary drouths [sic] of Fall and Spring,” and so, according to Koons, “the people of Korea may well be glad, in knowing that this great and pressing problem is so well met by the [colonial] Government.”⁶⁰ In other words, the Korean people were to “rejoice” in their ascendancy from ecological backwardness to modern environmental awareness.

Japanese officials and scholars similarly censured the Koreans for building their own ecological deathbed. In 1912, Midori Komatsu, Director of Foreign Affairs of the Government-General of Chosŏn, wrote an article titled “The New Government and the Old People” justifying the Japanese Emperor’s rule over the benighted and backward Korean people. In particular, he argued that, in contrast to Togukawa Japan, Chosŏn Korea lacked any environmental ethic, and subsequently:

⁵⁷ Ibid., 41.

⁵⁸ Ibid., 38.

⁵⁹ Ibid.

⁶⁰ Ibid., 42.

No care was taken to replant. In consequence, trees became more and more scarce year and year, until it was difficult to obtain sufficient material for the construction of even small houses As the result of the deforestation, floods were frequently experienced and extensive arable lands laid waste.⁶¹

In a similar vein, forest scientist Andō Tokio proudly noted that “the mountains of Korea are red but the mountains of Japan are green.” The Koreans, according to Andō, knew “how to cut down but not how to plant” and accordingly “lacked awareness of the need to plant on the basis of a hundred year plan for the nation.”⁶² In the Japanese view, Korea’s denuded hills and economic backwardness were testaments to pre-modern immaturities, to an irresponsible people who did not consider the long-term consequences of short-term gains.

The Korean landscape and its history became tied to what Tessa Morris Suzuki calls Japan’s “militantly modern scientific rationality” and an accompanying “profound romanticism” that envisioned “the Japanese as a forest-loving people.”⁶³ Korea became a convenient foil. Japanese scholars who studied the pre-colonial forestry system found it symptomatic of the weakness of the Chosŏn government and the lack of clear forest ownership laws.⁶⁴ Japanese forestry scientists also critiqued the prevalence of *Pinus densiflora* on the peninsula as evidence of Korean failures. According to the “red pine ruination theory” (J: *akamatsu bōkokuron*) made popular by Japanese forestry professor Honda Seiroku (1866-1952), the favored pine of the Chosŏn state was actually an invasive species that thrived when human activities had stripped the

⁶¹ Midori Komatsu “The Old People and the New Government” in *Transactions of the Korea Branch of the Royal Asiatic Society* 4 (1912): 7-8.

⁶² Tessa Morris-Suzuki, “The Nature of Empire: Forest Ecology, Colonialism and Survival Politics in Japan’s Imperial Order,” *Japanese Studies* 33:3 (2013): 231.

⁶³ Morris-Suzuki, 230.

⁶⁴ David Fedman, *The Saw and the Seed: Japanese Forestry in Colonial Korea, 1895-1945* (Ph.D. diss., Stanford University, 2015), 120-122.

forest floor of nutrients.⁶⁵ The very success of Chosŏn policy became an avatar of its backwardness.

A preponderance of such rhetoric would shape the environmental memories of a generation of Koreans. For instance, American-educated Korean scientist Hoon-ku Lee, in his seminal 1936 text *Land Utilization and Rural Economy in Korea*, joined in blaming his Chosŏn ancestors for “unscrupulous felling of trees and reckless exploitation.”⁶⁶ He went on to credit the colonial government’s forestry efforts as a clear improvement over the Chosŏn dynasty’s neglect. In fact, he somewhat sarcastically remarked that “the Government is so loud in praising its own work relating to afforestation in Korea that to quote a passage from a government publication saves the trouble of using additional words of praise.”⁶⁷

Yet, the legacy of Chosŏn state forestry would linger after the host state died off. Japanese foresters expressed fascination with the Pine Protection *kye* and attempted to incorporate them into a broader program of what David Fedman terms “civic forestry” in colonial Korea. Essentially, the colonial state attempted what the Chosŏn state never fully did: the governmental coordination and standardization of local-level forestry.⁶⁸ Across the country, gravesite forests and their claimants continued to bedevil Japanese officials as they did their Chosŏn predecessors. On the ground, despite the variegated efforts of the colonial regime, *Pinus densiflora* and its cousins continued to dominate the Korean landscape.⁶⁹

⁶⁵ Ibid., 34-35.

⁶⁶ Lee Hun-ku, *Land Utilization and Rural Economy in Korea* (Shanghai: Kelly and Walsh, Ltd., 1936), 183.

⁶⁷ Ibid., 186

⁶⁸ Fedman, 263-264.

⁶⁹ Evidence can be observed in Lautensach, 136.

Conclusion: A Pre-Industrial Palimpsest

The relationship between forests and the state in pre-industrial Korea was a centuries-long drama of ambitious proposals, local challenges, regulative drives, reform, and conflict, all amidst a churning process of environmental change. Officials and scholars imagined state forestry as a centralized issue, a vehicle through which the state could ensure its construction and shipbuilding needs and install its preferred ecology of pine forests. Magistrates, clerks, soldiers, monks, and the general populace struggled to balance the demands of the state with their own wooden necessities. State forestry expanded the scope of the Chosŏn state, forged new links and points of conflict between government and governed, and forever changed the Korean peninsula's environment.

Chosŏn state forestry could be called a successful enterprise in the fifteenth and seventeenth centuries when dynastic renewal and postwar rehabilitation respectively paved the way for the expansion of government-managed pine forests. In the sixteenth and eighteenth centuries, however, local responses and realities – elite landholdings, administrative corruption, commercialization, gravesites, and alternative uses of woodland – complicated the state forestry system. Critically, the Chosŏn dynasty was never able to effectively integrate the variety of local forestry practices into the existent state forestry framework.

Another problem was the lack of administrative coherence at the local side of forest administration. The continuity of the state forestry system is a testament to the Chosŏn central bureaucracy's ability to reproduce its ethos and procedures over countless generations. Implementation of forest policy at the local level, however, was a constant by-play between the pine timber-centric imagination of Chosŏn bureaucrats and the ever-changing layers of undergrowth that was Chosŏn society. The implementation of forest management was left to

local magistrates and military commanders who in turn delegated authority to corvée laborers, soldiers, monks, and hereditary local clerks. The eventual result was not only a plethora of resistance and corruption but also a clutter of competing jurisdictions, where in the case of one Reserved Forest on island of Wando, “the garrison commander guards it, the district magistrate manages it, the provincial naval commander prohibits logging on it, and the governor rules it as a whole.”¹

Thus, there was a constant disconnect between the high timber imaginaries of the central policymakers and the reality on the ground. A certain crisis of ecological representation emerged: the "forests" imagined by central policymakers, lineage and village *kye*, and local literati were often different in function and form. Without the synthetic powers of technocratic expertise or environmentalist ethos, Chosŏn policymakers could not standardize a conservationist ethic among all of its administrators. Meanwhile, in the eighteenth and nineteenth centuries, Koreans of all status groups found diverse ways to use forests for their own needs. Enterprising merchants and farmers brought forest products into the market. Villagers formed Pine Protection *kye* to manage their communities' forests.

Seen through hindsight and the technics of modern policy-making, Chosŏn state forestry seems to end unceremoniously, the finale of a terminal process riven with flaws. Yet, when observed over the course of the second millennia C.E, the development of pre-industrial forestry on the Korean peninsula becomes a remarkable feature of world history. The geomantic, interpretive landscapes of the Koryŏ state shifted with the flows of political change in the thirteenth and fourteenth centuries. Foreign invaders and new ideas engendered fresh visions about how Korea should be ruled. Not only people but also trees would be administered as institutionalized nodes in a statist landscape. The resultant pine-centered forestry system would

¹ Chŏng Yagyong, *Admonitions for Governing the People*, 827.

span the Chosŏn's early modern era and beyond. On an insular peninsula removed from most trade networks, a sophisticated bureaucracy managed and sustained for centuries a most essential, exhaustible resource.

This dissertation thus inserts one of the longest state forestry systems in world history, that of Korea's Chosŏn dynasty, into Korean and global historiography. The history of forestry provides a fresh lens into the mindset and objectives of Chosŏn bureaucrats, the local economy of literati and commoners, and the expansion of mid-level administration. It is a history that encompasses almost every segment of Chosŏn society. Monarchs, soldiers, monks, and merchants re-imagined, institutionalized, and utilized trees and wood for varying ends. The resultant political, social, and environmental threads had significant consequences for Korean history. State forestry became a key aspect of administrative expansion. Protected forests became key components in dynastic survival, not only in the anxious minds of central bureaucrats but also on the ground, among the southern forests that built Yi Sunsin's fleets and along the tree-lined slopes above Seoul that protected the capital's waters and soil.

Pine, in turn, prospered. The history of state forestry on the Korean peninsula evidences the clear link between policy and environmental change. By creating a vast system of laws, edicts, and administrators dedicated to a single type of tree, a pre-industrial state reshaped the region's flora and fauna. Social organization and cultural practices, in turn, reflected the changing environment. From the Pine Protection Associations and pine lawsuits to extinct tigers and raging fires, Chosŏn's pine-centric policies left a plethora of impacts.

This dissertation also highlights the problematic relation between environmental protection and social inequality. State forestry did not necessarily benefit the majority of Koreans. Instead, they were laden with *corvée* labor duties and restricted forests. Bribes had to be paid;

punishments had to be taken. In order to gather basic firewood, villagers had to risk arbitrary exactions and bans. In our current era in the 2010s, when the conservationist state is under siege by libertarians and climate-change skeptics, it is important to consider the troubled history of environmental protection in world history. How can the state protect long-term environmental interests without provoking local resentment? Is “Green Leviathan” itself a terminal process?

The conclusion of the story of Chosŏn state forestry also marks the problematic transition between pre-industrial and modern forestry regimes. For much of the world, the break between pre-industrial and modern forestry could be considered on three levels: the epistemic (the rise of scientific and modernity-centered conceptions of environmental management); the ecological (the material transformation of forests and other environments); and the economic (changing energy dependencies across regions and groups; shifting modes of consumption and production of wood products).

In Korea, the break between the pre-industrial and modern is largely signified through the 1910 barrier, a seemingly convenient divide between the old and the new. When we peer further into the undergrowth of history, we find a modern Korea laid over landscapes shaped by pre-industrial institutions, forming a palimpsest that requires a historian’s treatment to unravel. A *longue durée* view of Chosŏn state forestry reveals a palimpsest of shifting populations, old and new species, and disparate ideas. Foreign invasion, material extraction, new policies, and more expansive institutions were catalysts in a long process, initial imprints in the landscape that successors would write over but not completely erase.

The legacy of Chosŏn’s system of bureaucratic forestry is far more mixed than the forests it generated. Chosŏn state forestry generated a peculiar mix of longevity and corruption, of cooperation and contestation. A complex bureaucracy and numerous associations sprouted to

wrap layers of rules largely around a single type of tree. Generations of countless officials oversaw forestry's regulation. In some cases, those most intimately connected with the forest had the least incentive to preserve it. Such contradictions bespeak to the richly ironic history that emerges when the abstract and bureaucratic entangle the material and organic.

Appendix A: Chǒng Yakchǒn 丁若銓 (1758–1816), A Personal Treatise on Forest Administration (Songjǒng saŭi 松政私議)

***** Original Text, translated from Classical Chinese and Korean*****

Our country lacks the timber of the camphor tree,¹ and so when palaces, houses, ships, carriages (our country's custom is not to use carriages; generally, we lump together types of vessels and call them "carriages")² and coffins are made, we all rely on the pine. Our country's borders from north to south are over 4000 *li* 里..³ The three western, northern, and eastern sides are all great mountains and steep peaks, while only the southern side is more like plains and marshes. Those too, though, are not even 100 *li* of fields. For the most part, the entire country is sixty to seventy percent mountain, and moreover, the mountains are largely made up of pine.

However, from the officials and nobles on high to the commoners down low, everyone has difficulties in obtaining lumber. At the top [of society], when building a house of ten pillars or ships of several in number, it is not the case that the government is preparing anything special, but from as far as perhaps 1000 *li* and at nearest distances still numbering 100 *li*, timber must be floated on water and dragged onto land to start the work. At the bottom of society, timber for one coffin approaches perhaps 400 to 500 *yang* (兩) (our country's custom takes 100 *chǒn* 錢 to be a *yang*).⁴ Yet this is still speaking in the generalities of a town. Out in the poor countryside, if

¹ Camphor tree (*Cinnamomum camphora* Sieb.) is an evergreen tree and usually grows in tropical or sub-tropical zone. A few are found at lower elevations on Cheju Island.

² Author's note in the text

³ One *li* is approximately 450 meters.

⁴ As a basis for comparison, three or four *yang* could feed a late Chosŏn family for a month.

a rich household has a funeral, the waiting period for laying a coffin reaches some ten days, and the most of the common people do grass burials without coffins.

According to my observations and recollection, wood has jumped three to four times in price compared to twenty years ago. Moreover, once twenty years have passed, surely prices will not stop at three to four times that of the present day's. Of the five elements, wood is one of them, and furthermore, fire relies on wood. These are two genuine elements.⁵ As for wood in relation to humans, how important it is! And yet, how can it so deeply not be considered so?

As for the government buildings' decay and collapse, one can still pull together some supports and get by. But our country is also pressed near Japan, and with Japan we inevitably have naval warfare. During the disturbances of the Dragon Year,⁶ we solely relied on our navy, and so this previous affair could be used as an example. If there were a crisis, how would we acquire the timber for a hundred ships? True, our country has arisen in peace for several hundred years, and our people live relieved. But they live lacking proper houses, and they die lacking means to lie in a coffin. All this is because our king's government is not comprehensive. Are those who plan the state thinking about this?

Out of ten, six or seven parts are mountain, and the mountains moreover are truly proper for pines. But as for the pine's value, how has it come to this? I have quietly thought about this problem, and it has three causes which do not include expenditures for palaces, houses, boats, carriages, and coffins. One cause is not sowing and planting trees. Another is that from when trees are young, they are cut to make fuel. Another is slash-and-burn agriculture and the burning

⁵ The five elements in traditional East Asian cosmology are fire, water, wood, metal, and soil.

⁶ This refers to the Imjin War (1592–1598), also known as the Hideyoshi Invasions.

of trees. Excluding these three worries, even if the woodcutter's axe enters daily, the timber can be infinitely used.

It has been said, "Let the producers be many, and the consumers few, and then the wealth will always be sufficient."⁷ Planting is fundamental for nurturing trees. But if there is only one who plants and there are ten who consume, already, the amount of timber would not be sufficient. Now there is not a single planter, but there is no impoverishment of users. When it comes to timber, is there anyone who is *not* impoverished? This is the concern about not planting trees.

Perhaps there is a stroke of luck and something grows, and it is slightly preserved, protected, and cared for, and it is not killed young by an axe. Then, it feasibly grows into timber. Now, one or two *ch'ōk* 尺⁸ of the tree have left the ground, and a woodcutter ignorantly sharpens his sickle, as he is only concerned about future persons getting there first. When it comes to timber, is there anyone who is *not* impoverished? This is the concern about young trees being cut to make fuel.

Perhaps deep in the mountains or unknown valleys, a tree sprouts on its own and grows on its own. Still, it is possible to be taken and used. In one pass, slash-and-burn agriculturalists make a fire burning as extreme as wind and thunder, and what took a hundred years to grow and nourish is, in one morning, ashes. When it comes to timber, where can one find one who is not needy? This is the concern over slash-and-burn agriculture and burning.

⁷ From *The Great Learning* (C: *Daxue*, K: *Taehak* 大學), 10. Trans. James Legge (Dover Publications, 1971). The complete quote is “生之者衆，食之者寡，為之者疾，用之者舒，則財恒足矣 [Let the producers be many and the consumers few. Let there be activity in the production, and economy in the expenditure. Then the wealth will always be sufficient.]” James Legge, *Confucian Analects, The Great Learning & The Doctrine of the Mean*, vol 1. (Dover Publications, 1971).

⁸ One *ch'ōk* is about 21 cm.

If these three concerns are not eliminated, even with Guan Zhong (725– 645 B.C.E)⁹ and Zhuge Liang's (181 - 234 C.E.)¹⁰ wisdom and Shen Buhai (385 - 337 B.C.E)¹¹ and Shang Yang's (? – 338 B.C.E)¹² execution of laws, in the end, they will not improve pine administration, and our country's people all remain hard-pressed.

The three concerns' origins are also in our country's laws, which are not yet completely good. As for the evil practice of slash-and-burning, the ancients have words about it. (In Yu Sōngryong's (1542–1607) writings, there are these words. The meanings are roughly as follows, saying, "The mountains and valleys lack trees, and so as for landslides, no one can block them. The fields are overturned and buried, and so subsistence shrinks by the day." He says, "The forests are bare, and so treasures and money are not arising." He says, "Birds and beasts do not multiply, and so for the Chinese tribute relations, gifts of animal hide are hard to continue. He says, "Tigers and leopards go far, and so those who travel in the mountains do not keep a big or small personal weapon. Our country's customs are daily yielding to stupidity and weakness." He says, "Trees for timber are wasting away, and so the people's consumption is poorer by the day. Even if we do not attain one commendation, we [must] prohibit plowing anywhere higher than the middle of the hillside. Now this in the Great Code.") But as for the prohibition of the hillside, this also was not done. This is truly 'prohibiting but not prohibiting.'

⁹ A Chinese statesman from the Spring and Autumn Period (722 BCE–481 BCE) who installed various bureaucratic and economic reforms.

¹⁰ A Chinese general from the Chinese Three Kingdoms period (220–280 C.E) renowned for his wisdom and strategic acumen.

¹¹ A Chinese statesman from the Warring States Period (475 BCE–221 BCE) who reformed his state's bureaucracy and law code.

¹² A Chinese statesman from the Warring States Period who installed various meritocratic and Legalist reforms in his state of Qin (778–207 B.C.E)

The boundaries of the government forests 公山 can be called expansive. The mountains of yellow pine 黃腸, are located in deep gorges. Fields appropriate for pine are also located along the coast. As for several *li* of mountains by the coastline, they all belonged to the government, and these ultimately were to be infinitely utilized. And moreover, there is a law that systematically prohibits cutting in both government and private forests that are within thirty miles from the coastline. If there are trees, and one prohibits cutting, still there is profit in cutting. If there are no trees, and one prohibits cutting, the people will just not plant any trees. What advantage is there in prohibition?

Not only that, let's say the people have a fist-sized mountain, and they nourish several tens of pines there. If they cut those trees for the sake of timber for houses, boats, or carriages, then corrupt and greedy officials, under the pretext of the law, have the cutter imprisoned, beaten, and whipped as if they had committed a capital crime, and in extreme cases, they are exiled. Therefore, people see pines as a bitter poison or malicious sickness, and so they clandestinely remove and secretly gouge out the trees. Only after they annihilate them, they would stop. If there are sprouts, then they are killed like poisonous snakes. As for the people, it is not the case that they want no trees. People simply realize securing safety lies in having no trees. Therefore, the private mountains 私山 lack even one stand of trees.

Some mountains appropriate for pines are under the administration of the Navy Commander's Office 水軍營. This office lacks the authority to obtain land taxes and associated bribes, so its revenue from the beginning is meager. And because it is a provincial commander's office, there are many officers and clerks. So in order to take care of their parents and take care of their wives and children, they lack other support other than, of course, the government pine forests and that is all. Accordingly, if one tries to build a house at the base of the mountain, the

officers declare, “These are government forests.” If one uses the trees to build a coffin, then they say, “These are government forests.” If the perpetrators are important, they are prosecuted by an official, but if the perpetrators are unimportant, the officers informally imprison them. The officers then extort them, disparage them, bully them, tie them up, confine them in shackles, and torture them more cruelly than the pain of a burning fire. The world’s pines all look the same. Even if they are not the government’s pines, how can the people submit themselves to such violence?

So currently many homes are broken, incomes are washed away, and those begging for food in all four directions are three to four out of every ten people. Even though their crimes are not much in number, these impoverished and homeless people live constantly terrified, as if they are falling into a deep ravine. Once they see a naval officer, they run forward on the double, like a rabbit meeting a tiger, and prostrate themselves and solely follow the officer’s orders. According to one household’s (people of the Reserved Forests 封山 are under the jurisdiction of naval officers. Even if they were not under the officers’ jurisdiction, they would not dare say that they were not such a household!) tax levy, the heaviest levy would reach 100 to 1000 *yang*. How do the people live!?

Due to this, the people living in the Reserved Forests say to each other, “Solely due to the pines, our lot has come to this. If there were no pines, then it is possible to not have these affairs.” Then, they clandestinely remove and secretly gouge out the trees. In the hundreds, they calculate, plan, and then remove the trees. What is more, when a thousand people combine their strength, their massed axes collectively echo, and what was several *li* of green forest in one night becomes red earth. There are also occasions where they collect money for weighty bribes in order to get

rid of future problems regarding felled trees. Afterward, even the smallest of small government forests lack even one stand of trees.

Alas! The government clerks 丞史 provide various services. A raincoat over clothes serves to block the rain. Without clerks, the government cannot manage on its own, and without a raincoat, clothes cannot stay dry on their own. Without private forests and small Reserved Forests, the great Reserved Forests cannot exist on their own. This is an inevitably looming principle.

The Reserved Forests barely exist in name only and only in mountains and large garrisons such as in Kōje and Namhae in Yōngnam,¹³ Wando and Pyōnsan in Honam,¹⁴ and Anmyōndo in Hosō¹⁵. These too are nearly barren of trees. The local people only hate the pines, and if pines are lacking like that, then it is also not possible to grow any more. Additionally, the private forests lack pines, and the smallest of small public forests lack pines. Like silkworms nibbling away, the forests are exhausted until one lacks woodland to lay a hand on. But the people cannot help but gather their coins on a string and go to the various Reserved Forests. The wardens of the Reserved Forest rely on these circumstances as their income. The naval officers prohibit them to no avail.

The people say, “As for the law not being enforced, blame lies with the naval officers.” I then answer, “Even if hawks or tigers served as the naval officers, surely that would not enable prohibition.” Why? As for the pine seeker’s need, it is more urgent than the thirst for water. As for the warden’s attraction to profit, it is more extreme than the water’s current. A popular saying goes, “Although there are ten keepers for one thief, the keepers don’t triumph over the stealer.”

¹³ Another name for Kyōngsang Province in southeastern Korea

¹⁴ Another name for Chōlla Province in southwestern Korea

¹⁵ Another name for Ch’ungch’ōng Province in western Korea

Now, those who keep are one, and those who steal are countless. (From the naval officers of the left and right, to supervisors, forest wardens, and the people along the coast, every one of them steals trees.) Even if the Wei River¹⁶ becomes completely red, how do we prohibit and stop the stealing? We do not straighten our fundamentals and just try to take care of trifling matters. Even a sage would not be able to fix this; as for our current naval commanders, all the more for those fellows!

I have another deep concern. Land from eight different provinces supply the capital's food and we still worry that this is not sufficient. If it were the case that a few districts supplied food for all eight provinces, even an idiot could realize that this is insufficient. The number of households in the land along the southwestern coast is not above 100,000. From lumber for ships, oars, and palace buildings on high to wood for plows and laundry clubs down low, now everyone takes them from those few Reserved Forests along the southwest coast. It's not the case that timber gushes out like geysers. After several years, we will not have any trees left to steal. Then, how would this be any different from a few districts having to feed all eight provinces?

As for the aforementioned concern over the Japanese, this still has not yet come to pass. For 100,000 households, if there were no shelters for living, no cover after death, no boats on water, and no tools for livelihood, (If no fish are caught, then mercantile activity is completely abandoned. If the islands have no ships, then the mainland will lack fish and salt. If people go about without implements, then agriculture and crafts will all be abandoned. Is it possible to go one day without disturbances?

The government forests were expansive, and the private forests were moreover protected. The government forests' pines must be abundant like water and fire, and now it is the reverse of

¹⁶ A river in north-central China that flows from Gansu to the Yellow Sea. It is noted as one of the cradles of Chinese civilization.

this. Once every five years, the government repairs several tens of warships, and there is no way to procure wood. So, every time repair is due, they rush here and there, east and west, merely improvising on the spot. Things are like this, and still they do not realize the problem? Alas! The government officials merely think that if their lands are expansive, then they can become wealthy. But they do not know that they are not sharing the benefits with the people. Therefore, lands becomes wider and wider, but poverty becomes increasingly extreme. Confucius said, “If the common people have enough, what ruler would not have enough?”¹⁷ The present planners of our state should thrice repeat and remind themselves of these words.

Generally speaking, pine-cutting cannot be feasibly prohibited. What they claim as prohibition is something scoundrels easily transgress. However, if even a gentleman would violate the prohibition, then this prohibition is inevitably wrong. Even Confucius and Yan Hui¹⁸ could not help but violate our contemporary forest prohibitions. Why? If Confucius and Yan Hui were living in our present world and they had a funeral for a parent, would they abandon the ritual of laying a coffin just because of this prohibitive law? I know surely it would not be so. If Confucius and Yan Hui could not help violating the law, but the government still desired to impose it on the people, I know that people surely would not obey it. This is the reason why the prohibition is not appropriate.

If this is so, are the aforementioned “three concerns” ultimately impossible to eliminate? I say to relax the law and that is all. As for the people’s hating pines, it is not that they hate the pines themselves. It is that they hate the law. If the laws were not feared, then since pines nourish our bodies in life and send us off in death, for what reason would people hate pines and not nourish them?

¹⁷ *Analects* 12.9

¹⁸ One of Confucius’s disciples, noted for his integrity

As for the private forests which have been lying to waste, I propose to have the owners nourish the pines and then utilize them. Allow abandoned Reserved Forests to be used for nourishing pines and then utilize them. Generally, when there are several fathoms of mountains that lack trees, penalize the people in charge. Anyone who can nourish 1000 pines and make them available for house's frames should be promoted with rewards of higher rank and title. Strictly order the prohibition of further slash-and-burn agriculture on the mountainsides, and this will lead to no more burning. In general, in mountains that lack ownership, if one village collectively nourishes pines there for one or two years and they luxuriantly grow into a forest, then the village is relieved of taxes for one or two years. Generally though, these new forest administration statutes must be supervised by the district magistrate so that the naval commander's office does not intervene. At present, besides the government forests, arable lands do not increase one bit. If the state does not interfere with the people's profits, then in about several decades, our country's mountains will flourish with mature trees, and so people naturally would stop trespassing into government forests

Some say, "Currently, our country's people are many, and our lands are narrow. Even if there were those decrees, we lack the leisure to nourish pines."

I reply, "People may be many and lands narrow, but if advantages are not exhaustively mobilized, then the things available for people's use will become even more meager. Presently, our mountains lack trees, and even grasses and roots are being pulled out. Day by day, the mountains become more barren, and fuel wood becomes more expensive. Even with the scheming for gathering fuel wood as it is, we still do not set plans for nourishing trees. We are still wallowing in a hoof print's puddle rather than digging up a well of nine fathoms. If my proposal is implemented, then day by day, forests will become lush, and that will protect the

roots and trunks. People will only take the leaves and branches, and fuel wood will be extremely abundant. Your artifice should not be considered.”

Some say, “Even if Reserved Forests are abandoned, they are still government property. In one morning, they are given to the people. As for your plan, how generous it is to the lower, and how cruel it is to the upper!”

I reply, “Refer to the proverb, ‘Though I hate my food, it’s a waste to throw it to the dogs.’ The government lacks the strength to nourish pines, and it lets so many fine fields go to waste and not grow a thing. This is just like simply abandoning them. How does this hurt to give the Reserved Forests to the people? Moreover, if small mountains all have trees, then violations will naturally come to a stop in the present great Reserved Forests, even without the prohibition laws. This is the first advantage. Also, if forests are under the people, and the people’s mountains have trees, then the people would not regret letting the government use them when it has emergency needs. There is no such thing as a king in dire need when the people have enough. This is the second advantage. Accordingly, this is how high and low share in the arts of profit.

Some say, “The people do not trust the state’s orders, and this has been long ongoing. Moreover, the way that the people fear the pine prohibition is like that of a bird wounded by an arrow. Even if you make these orders, the people will not act in accordance. So why?”

I reply, “This proposal is not something my stupidity can follow. The trust of the people is more crucial than soldiers or food. Wei Yang was extremely malevolent, but he was still able to establish trust with three *chang* of tree.¹⁹ Having no trust in decrees but still being able to make a state - since ancient times, such has never been. The king’s court should decree this proposal, the governor should declare it so forth, and the magistrate should carry out and

¹⁹ Wei Yang refers to Shang Yang, a Legalist statesman from the Qin dynasty. In order to earn people’s trust, he supposedly erected a three-*chang* tall tree on the south gate with an announcement saying that anyone who moves this tree to the north gate would be heavily rewarded. See Shi Ma Qian 史馬遷, *Shi Ji* 史記, 商君列傳第八.

implement it. In time, the king should send a Royal Emissary to investigate and inspect, and he should write a report back to the court, so that awards and punishments can be necessarily implemented. Afterwards, only if the people were not truly people would there be no trust.

If things are pushed to the extreme, then they turn back on their own. When the evil practices of tribute taxes became extreme, the Uniform Tax Law was created.²⁰ Then the abusive military tax was being evaded to an extreme, and so the Equalized Tax Law was installed.²¹ Then the corrupt aspects of private slavery were extreme, and so the children of commoner mothers were freed from slavery.²² Then the problem of slavery became extreme, and so there was the burning of slave rosters. As for all this, a great sage would follow the times and set laws accordingly, and he would protect the people like his children, with his vast virtue extending to excellence. Sigh! This is not something to forget.

The present day's extreme problems are the grain loan system and forest administration and that is all. If someone could rely on this treatise to ease a widow's worries and relieve the people and state's collective groans, then this lowly servant will lack even an ounce of regret, even as he dies secluded by the sea. Alas! Even Xi Shi²³ in her childhood was not clean, and the people would all cover their noses. I am even more unclean. Only Heaven is pure, and who looks back at all this? How sad, how sad!

²⁰ The Uniform Tax Law (*Taedongpö*) was first passed into 1608 in order to improve the efficiency of the tax collection system. Due to the Imjin War (1592-1598), tax revenues had fallen greatly, and the old system of indirect tribute payments had become inefficient, unwieldy, and subject to corruption and exploitation.

²¹ The Equalized Tax Law (*Kyunyökpö*) was an attempt by King Yöngjo (1724-1776) to ease the tax burden on the commoner population.

²² This refers to the Matrilineal Succession Law of 1750, which decreed that children of commoner-slave marriages would henceforth be of commoner status.

²³ Xi Shi (506 BCE - ?). One of the "Four Beauties" of ancient China, she lived during the Spring and Autumn Period (722 BCE - 481 BCE). Accordingly to legend, she was so beautiful that her presence made fish forget to swim and birds forget to fly.

In the eleventh lunar month of the *kapcha* year,²⁴ written by Sŏn'gwan.

²⁴ 1804.

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