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Transformation of China's Landscape: Assessing the Multiple Scales of Change in Shanghai, Beijing, and along the Middle Reaches of the Yangtze River

Holly R. Barcus

China has undergone a profound metamorphosis that is unmatched in its long history. Its sustained fast economic growth, burgeoning market economy, expanding private sector, rural industrialization, unprecedented interregional migration, and increasing links between the Chinese economy and the world economy are all reshaping the landscape of this fascinating and complex giant.

Max Lu (2004), p. 1.

I. Introduction

China's social and economic landscapes have changed rapidly over the past 26 years with the opening up of China to outside investors and the influx of new corporations and businesses. Paralleling these changes are striking alterations and attendant contradictions in the landscape. Zones of transition in which places are being transformed from one productive use to another abound in China. This essay explores a few of these transformations focusing on the urban-rural fringe areas of Shanghai and Wuhan; the rapidly changing middle reaches of the Yangtze River; and the urban redevelopment in Beijing. In this essay I provide a broad brush view of landscape changes occurring in these three areas during China's economic transition as well as a discussion of a few of the underlying processes that inform our understanding of the patterns that are emerging.

The process by which landscapes are transformed from one productive use to another and the conditions under which these changes take place have long been a topic of interest to geographers. In Western industrialized countries, the evolution of rural landscapes from primarily agricultural production to new post-productivist landscapes of consumption signals shifts in the valuation of rural landscapes as well as broader historic, social, and economic processes, including the

mechanization of agriculture, the decline of family farms, and the shift of population from rural to urban places. In China, the rapid evolution of rural agricultural areas to urban places also signals changes in population distribution, economic restructuring, and landscape transformation.

A. What are Transition Zones?

For the purpose of this essay, transition zones are landscapes that are in the process of changing from one productive use to another. For example, the conversion of agricultural land to housing illustrates an urban fringe type of transition zone. We can also find transition zones within cities, for example when old housing is demolished and the land redeveloped with either new housing or some other use.

To provide context for understanding and evaluating these transition zones, the following section looks briefly at urban and rural planning in China since the late 1970s, the importance of loosening migration restrictions, and the changing land tenure policies. The morphology of landscape, the changes that are taking place on the surface, the so-called common landscapes of a place can lead us to a better understanding of the processes—social, economic and cultural—taking place in a particular area. Landscape analyses and observations are utilized to evaluate transition zones within the framework of evolving land use policies in this transitioning economy. This technique and its use as a geographic method are discussed in Section 3. Section 4 looks at three different transition zones, incorporating background and observations of the changing landscapes in select portions of these areas. The final section offers concluding remarks.

II. Land Use Policy Change and Urban and Rural Planning

Landscape characteristics, the physical manifestations of societies, are intimately tied to and influenced by both the individual human actors that inhabit a particular space as well as their connection (or lack thereof) to broader local, national, and global processes and events. China's dramatic economic gains, entry into global markets, and general opening over the past 26 years are evident in such Western iconic signposts as McDonald's golden arches, Western clothing, and the proliferation of modern suburban housing designs. These macro global-scale factors stem primarily from sources external to China

and traditional Chinese custom. An additional layer of change factors comes from the national scale and is interpreted and mediated further at the local level. All three study areas reflect the competing influences of policies and actors at different scales and under different circumstances, albeit with very different outcomes. In order to set the context in which these areas have evolved, it is imperative to consider the historic changes in land use policy and urban planning strategies that influence current urban and rural form. Four national-scale processes inform our understanding of landscape change at the local level: (1) the shifting role of urban planning; (2) land tenure policy changes; (3) rural decollectivization and industrialization; and (4) the loosening of migration restrictions.

With the onset of socialism and the founding of the People's Republic of China (PRC) in 1949, China loosely adopted the Soviet planning model as a method of "controlling" urban development. Emphasis on this style of planning diminished substantially through the 1960s, although internal migration in China remained restricted, thereby severely limiting urbanization. At the end of the 1970s, urban planning activities began to increase and by 1984 City Planning Ordinances emerged in some cities and towns with formal legalization of planning practices established with the 1989 City Planning Act.¹ Prior to the economic reform period, beginning in the late 1970s, urban planning played a significant role in determining urban form and growth.² During the post-reform period, with the growth of private property rights and the increased influence of market forces, urban planning became less effective overall, although it still plays a strong role in redevelopment and residential development.³ Gaubatz suggests that China's cities have had three phases: the traditional Chinese city (pre-1949), the socialist city (1949 to the late 1970s), and the contemporary Chinese city (late 1970s to late 1990s).⁴ Each shift in urban form was preceded by major shifts in the social, economic, and political circumstances of China's population, and each left distinctive material evidence on the landscape. For example, in the discussion of Beijing's transition zones, orientation of the urban environment to meet global expectations of a "world" city produce an inherently different landscape than the self-sufficiency model reflected in the older urban neighborhoods (hutongs), a remnant of past state planning goals. The combination of urban redevelopment and expansion, as well as suburbanization, reflects a new development wave in Chinese cities.⁵

A second layer of intervening influences is China's evolving land tenure policy. As a transitional economy, China's land use regulation is influenced by a combination of market forces and residual central planning policies. Land use rights were officially separated from land ownership with the 1986 Land Administration Law.⁶ This essentially means that in rural areas, land is owned by the local township and can be redistributed to a different set of users. In urban areas, the result is much more complex. Shanghai urban planners, for example, embarked on the "flat-top to pitch-roof conversion" as a form of urban renewal. Urban residents in older "flat-roofed" apartment buildings were relocated so that newer, "pitched-roof" housing could be developed.⁷ During this period in the 1990s, millions of square meters of slums and dilapidated housing were redeveloped.⁸ Again, in looking at the evolution of the landscapes in the study-area transition zones, these policy changes are subtly reflected in the current landscape.

Urban planning strategies and land use policies are two important factors guiding the development process in China, and specifically in shaping urban form. China's transition experience has been significantly different from that of other transitioning economies because the state has kept much greater control of housing market privatization and urban development. Logan points out that China urbanized rapidly after 1950 and many of the characteristics of urban areas in China reflect those of other pre-transition socialist states, including low levels of urbanization and a preference for investing in high density, peripherally located housing areas as opposed to older neighborhoods. The Chinese experience is also quite different from other transition states since China's economy has grown rapidly, attracting worldwide investment. From this economic investment and growth, a middle class is emerging and embracing many of the forms of development common in other urban places, most specifically suburban development on the urban-rural fringe. Suburbanization occurs on the edges of cities where land is cheap and the urban core still accessible. This process is particularly evident in Shanghai and Beijing as inner-ring suburban development exceeds core central city growth.⁹ The combination of suburbanization, evolving land use, and housing markets have led to the emergence of particular patterns of urban development in Shanghai in the 1990s, including a commercialized central city with high rent residential buildings, "gentrified" central city neighborhoods, housing developments for high-income households on the urban fringe, development of housing for low- and middle-income classes near indus-

trial development, and areas for migrants in the urban-rural transition zones.¹⁰

Rural areas have also undergone profound change since 1949. During the first five-year plan (1952–1957) a system of communal farming and living (collectivization) was established, followed by the “Great Leap Forward” (late 1950s–early 1960s), during which private property rights were largely abolished. The “Cultural Revolution” further reduced rural residents to subsistence-level farming.¹¹ By the late 1970s, a new strategy, rural decollectivization and the Household Responsibility System (*hukou* system), coupled with economic reform, again reorganized rural livelihoods and land tenure policies. This time, the *hukou* system reinstated limited individual land rights, albeit within the dual land tenure system in which land use rights (LURs) were separate from land ownership.¹² Under the revised land tenure system, local-level officials allocated LURs to households or individuals, who were allowed a particular piece of land for up to 30 years under the 1998 Land Management Law. Although there was significant regional variation in the implementation of this system, it broadly included incentives for farmers and an increase in agricultural production followed.¹³

Paralleling these changes, rural industrialization (late 1970s to the mid-1980s) expanded, increasing economic opportunities and per capita income.¹⁴ This industrialization inherently formed a new rural development strategy, one that fostered the development of non-agriculture-related industry, with the purpose of increasing job opportunities for surplus farm labor while simultaneously encouraging rural peasants to remain in the countryside instead of migrating to urban places.¹⁵ Unfortunately, gains were short-lived and by the mid-1990s increasing urban-rural and inter-regional (particularly coastal versus interior) economic disparities were evident.¹⁶

In addition to changes in land use policy, urban planning, and rural development strategies, the loosening of restrictions on internal migration also plays an important role in altering both urban and rural landscapes. Prior to the reform period, internal migration was strictly controlled, with all citizens required to gain approval before migrating. As the transition years progressed, the policy has been increasingly loosely enforced. Non-*hukou* migrants, referred to as the “floating population,” are those that migrate without the required permission. These migrants, who primarily move in search of better economic opportuni-

ties, are estimated to be about 100–200 million strong, and now form a large contingent of the urban underclass.¹⁷

These land use policies and their evolution through time, plus the additional factor of increasing internal migration, play key roles in determining the physical changes in land use and landscape in China's many transition zones. They also provide context for understanding the different dimensions of landscape change. The following sections utilize this framework as a basis for discussing landscape observations made in three distinctly different transition zones: the internal urban transition zone, the urban-rural fringe zone, and the rural transition zone along the Yangtze River.

A. Reading Landscapes

One of the essential tenets of geography is that patterns observed on the landscape are intimately linked with underlying processes and each component is necessary for understanding the other. Landscape analysis is one of the tools employed by geographers to better record these patterns so that the underlying processes can also be better understood. This type of analysis involves observing and noting the everyday or common landscapes, in-depth descriptions of place and features as they reflect current and historic manifestations of use and utility. The built environment reflects human adaptation to a place through time, incorporating social, cultural, historic, and economic changes that have occurred along the way. The mere description of place, however, is not enough; rather, the geographer's role is to fit the pattern evident in the landscape with a more systematic understanding of the processes that created the pattern. Therefore, landscape analysis is more than pure description but is also a method for understanding the multitude of processes, transformations, and information exchanges that created the current built environment.¹⁸ "No matter how interesting patterns of cultural traits may be in their own right, their real value is as evidence of these processes—the movement of people and ideas, the modification of environments, or the rise or reinforcement of distinctive societies."¹⁹ Cultural and economic processes leave a footprint, or a text, to be read and understood and incorporated into our understanding of how places evolve.²⁰ According to Lewis' *Corollary of Historic Lumpiness*, "most major cultural change does not occur gradually, but instead in great sudden historic leaps, commonly provoked by such great events as wars, depressions, and major inven-

tions. After these leaps, a landscape is likely to look very different than it did before. Inevitably, however, a lot of “pre-leap” landscape will be left lying around, even though its reason for being has disappeared.”²¹ In observing the landscapes across China, urban, rural and those zones of rapid transition, the keen observer is left feeling unsettled. The pace of change is rapid and the contrasts between old China and new China confront the observer on almost every city block. The following section describes landscape changes taking place in specific locales across China and seeks to tie these changes to the previous discussion of land use and urban planning policies as one context for understanding these patterns. Neither the observations nor the discussion is exhaustive, but rather a snapshot of China at this particular time as it continues through its transition.

III. Urban-Rural Fringe Areas: Suburbanization and the Emergence of the Middle Class

A. Shanghai

With a population of more than 14 million, Shanghai is one of the most populous and fastest growing cities in China. Geographically it lies within the Yangtze Delta Economic Region, an area that is both “the most productive agricultural area in China and...one of the country’s most industrialized regions.”²² Transition zones abound in Shanghai. One can barely walk more than a block without encountering an area of new construction, destruction, renovation, or renewal. A transition zone of particular interest in Shanghai is the development along new extensions of the southbound metro, particularly those reflecting changes in housing.

Along the metro, two sites were evaluated. Each was at the end of a particular metro line (Line 1 and Line 5). The first, at the Xinzhuang metro stop, was an unmistakably new development. The area immediately adjacent to this stop comprised high-end, gated apartment or condominium communities. At mid-day, mid-week, the four-lane roads were completely empty and few people were on the street. At one intersection, construction of yet another housing complex was ongoing. Other areas of urban Shanghai were largely characterized by commercial and service businesses at street level, with housing occupying the second through fourth or higher floors. Yet these nine- to sixteen-story apartment buildings had garages on the first floor, and the main



Figure 1: Suburban Housing on the Outskirts of Yichang.

entrance, oriented toward entry via vehicle, were gated with guards. The only businesses located in the area included a small open-air market, a few real-estate offices, and restaurants. Many empty storefronts undoubtedly awaited new occupants.

The process of suburbanization and edge-city housing development, as was evident at this first metro stop, was also common in other cities in the Yangtze River delta, such as Nanjing and Yichang. In these two cities, the dense urban center would rapidly give way to large tracts of both newly constructed apartment buildings and large, multi-story single-family homes (See Figure 1). Whether these developments were taking place on the edge of the city or were more integrated into existing settlements, such as in Wuhan (see below), there is clear indication of the importance of the private housing market, the stratification of incomes, and the emergence of a large middle class.

The second metro stop destination was a special economic development zone, Shanghai Minhang Economic and Technological Development Zone, at the most distant end of the metro. This area, established in 1983, attracts foreign firms through tax, resource, and investment incentives.²³ Two land uses dominate this area: industrial parks, walled and gated; and old block-style housing units lined up and decaying. This area was obviously developed at an earlier period. The types of businesses, offering only very basic, low cost goods, were oriented toward a lower income customer. Other streets were comprised primarily of small businesses servicing the industrial occupants of this business park. The area's lower income residents occupied the dilapidated buildings, which were surrounded by debris and discolored by

pollution. This contrasted sharply with the pristine, manicured exterior of the industrial park's walled environment.

These two areas plainly illustrated Yan's description of the patterns that have emerged from recent urban planning decisions in Shanghai.²⁴ The special economic zone, established in the 1980s, is surrounded by lower income housing and low-end shopping districts. In contrast, the current state of the first location, Xinzhuang, suggests that this area was completely cleared of its former structures and rebuilt to service a rising middle class with incomes sufficient for private car ownership and gated communities, although not single-family homes. These two landscapes reflect the complex integration of both private and state investment, land use demand and control (mediated by changing perceptions of status), and increasing stratification of incomes.

B. Wuhan

Wuhan, situated downriver (See Map 1) from the Three Gorges Dam, is one of the largest cities in the middle reaches of the Yangtze River. In 2000, the population of Hubei province was 60.2 million, with Wuhan at about eight million. Cheng and Masser (2003) identify urban road infrastructure and areas of already dense development as primary growth nodes in Wuhan.²⁵ Post-1993, Wuhan's urban development was dominated by urban-fringe development and interior-city redevelopment characterized by multi-functional (entertainment, services, housing) zones, rather than strictly industrial development.²⁶ Most development is occurring in response to infrastructure development, such as a new airport, railway, passenger harbor station, and several new bridges across the Yangtze River.

Following one major road to the southeast edge of Wuhan reveals the changing nature of Wuhan's fringes. Here at the edge of the city is a dynamic zone of residential housing, small agricultural plots, small factories and industries, and a landscape littered equally with buildings in various stages of destruction and construction. Exploring this area reveals a complex pattern of new and old land use. Old decrepit residential housing contrasts with new, not-yet-complete multi-story single-family homes. Active agricultural plots of corn and other vegetables are mixed in between an established housing area and a previously agricultural area recently cleared for a new shopping mall and housing development. Integrated into the agricultural plots and housing are small brick-making businesses, with bricks and cement slabs



Map 1

being formed and sun-dried along a back alley. Out on the main street front, the stretch of road leading from the village into Wuhan is full of contradictions: crumbling socialist, block-style apartment buildings juxtaposed against new and modern apartments.

This area exemplifies the shifting land uses and priorities in transition zones. In contrast to the homes being torn down, newly constructed homes are designed with more decorative windows, balconies, and much more attention to architectural detail. This suggests that incomes of at least a few households in this area have increased enough to warrant significant housing investment. An informal conversation with a local resident revealed that the land cleared for the mall development

was previously dedicated to small agricultural plots but the mall was determined to be a better economic use of the space. Clearly there was a lot of demand for this particular land with landowners (local administrators) favoring the mall development over agricultural use while simultaneously local residents were working to redevelop within the neighborhood.

IV. Transition Zones within Cities: Reorienting Place to Appeal to a Global Audience

A. Beijing

In contrast to other areas discussed in this essay, Beijing is located outside of the Yangtze River area in northeastern China. As the current capital and center of government, Beijing's transition zones are quite different from those of Shanghai, Yichang, or Wuhan. While Beijing is also being transformed into a global city via the processes of development, suburbanization, and urban growth, it is also uniquely being redeveloped to appeal to a broader global audience. As Beijing's leaders look towards hosting the 2008 Olympics and set their sights on becoming a world-class city, rapid and widespread urban renewal is occurring. Along major roads such as Qianmen Dajie, south of Tiananmen Square, street-level shopping areas of entire city blocks have been gutted and are covered with plywood and temporary structures, many sporting attractive advertisements to hide the renewal. A quick investigation of the areas behind the barriers revealed empty store-fronts slated for either complete destruction and rebuilding, or complete renovation.

Beijing is a city of "extraordinary landscapes" with Tiananmen Square, the Forbidden City, the Temple of Heaven, and the official government buildings dominating the built environment. Extraordinary landscapes are "coded to express messages of status, power, legitimacy, and authority and are intended to be read and responded to by other people."²⁷ The addition of the Olympic stadiums and arenas adds to this theme, reiterating through urban planning and design the sense of status, power, and authority held by the Chinese government and promoted as much to China as to the outside world.

V. Rural Transition Zones

One of the most stunning landscapes in rural China is the Three Gorges, located along the middle reaches of the Yangtze River. Since it was first approved in 1992, the Three Gorges Dam project, creating the largest hydroelectric dam in the world, has brought China to the forefront of international controversy.²⁸ The dam was completed in 2006, three years ahead of schedule. As the 385-mile reservoir continues to fill, an estimated 1.2 to 1.4 million people will be relocated because their towns, cities, and thousands of acres of prime agricultural land (where nearly half of China's food is grown), will eventually fall below the high water mark.²⁹

A. Three Gorges Dam Reservoir: Chongqing to Yichang

Traveling down the Yangtze by boat in June of 2006, we see that the reservoir is filling and in places nearer the dam, has reached almost 135 meters. Observing the landscape from the vantage point of both the river and occasional trips to shore reveals three dominant trends in landscape evolution oriented around the conditions of agricultural land loss, population resettlement, and tourism.

The intensity of cultivation is staggering; even on very steep slopes, the land is fully settled or cultivated—only the peaks of hills or mountains remain wild (See Figure 2). The banks of many towns are alive with activity. Construction crews work late into the night trying to beat the rising water. Despite rising water levels, in many places corn and other crops grow right up to the water's edge. By the time the reservoir is full, an estimated 27,900 hectares of fertile agricultural land and orange groves will be underwater, as well as the livelihoods of nearly 1.4 million people.³⁰

In numerous places along the river, evidence of the resettlement program lingers. In Ghosttown, the homes and businesses closest to the water have been torn down and the primary road through the town's skeleton is being rebuilt on higher ground. Meanwhile a few former residents have built shacks and continue to operate small businesses out of make-shift shelters built of plywood, tarps, and bricks gathered from the foundations of former structures. The stairs that once led from the river into town remain an eerie sign of a formerly populated and productive space. The process of resettlement and reallocation of land reflects the state-directed and controlled organization



Figure 2: Cultivation along the Yangtze with the Three River Gorges reservoir.

and land control while the small businesses emerging amidst the ruins and the perpetuation of raising crops are indicative of local scale resistance to these changes.

While the Three Gorges has historically attracted large numbers of tourists, tourism has increased along the Yangtze as thousands of people heed the government's call to visit the gorges before they are fully flooded. The message from the state is mixed; on one hand, beckoning tourists before the gorges are filled, and on the other, touting the increased tourism opportunities generated by the reservoir's completion. Tourist-oriented street vendors peddle fruit, cooked corn-on-the-cob, dried and fresh fish, and other freshly cooked foods as well as a plethora of random trinkets. Leaving the tour boat, this is the first layer of entrepreneurship that meets the visitor. In other places, tourists are loaded on boats for rowing exercises, or driven inland to visit stunning, but rather remote, waterfalls or other natural features, or loaded on smaller boats heading up smaller rivers to visit "beautiful natural

places." Along one of the smaller rivers intersecting with the Yangtze, colonies of monkeys are strategically placed for the benefit of tourists. In all cases, the tours are led by young, enthusiastic tour guides who actively joke with and engage members of the tour group, routinely breaking into song, calling for participation by everyone. This model repeats itself in virtually all tourist stops.

Both the urban and rural landscapes along this stretch of the Yangtze River are changing rapidly. Agricultural land is being lost and populations are being relocated to steeper, less fertile areas. Tourism and its accompanying landscape indicators are taking hold in some communities. For those households relocated, the conditions of the new locations are inferior to the old, while other displaced rural residents were intended to shift to industrial jobs.³¹ Others have been relocated to urban areas where they face discrimination in finding jobs and many have been laid off after short periods of employment.³² Other residents along the river are adapting to the influx of tourists, opening small businesses that cater to them or selling the bricks, windows, and doors of recently demolished homes and buildings. In all these changes, the state plays a significant role in funding the massive amounts of construction and destruction taking place in preparation for the filled reservoir.

VI. Concluding Thoughts

As the new China of this century begins to emerge, tremendous change is occurring on the landscape. These changes are multidimensional and evolve out of multiple layers of influences introduced by actors operating at scales ranging from global multinational corporations to individual decision makers. The introduction of economic reforms, the continued revision of land tenure and land-use rights policies, and the competition to create global cities and engage in global commerce (be it via manufacturing or service-oriented corporations or through new strategies for attracting and entertaining international tourists) all conspire to create an ever-changing and evolving expression on the landscape. This essay gives a brief overview of conflicts and complications introduced on the local landscapes of three distinctly different geographic areas—the rural, the urban-rural fringe, and the internal city environs. It also provides an evaluation of these changes within the context of evolving local and national policies and within the broader picture of a country rapidly incorporating the global while still strug-

gling to maintain some semblance of state control. This essay describes just a few of the many landscape changes occurring in China, from a very selective perspective. There are few landscapes in China that are not changing. Contradictions are far more common than consistency, and the landscape and its underlying processes of change can only be described, at this point in history, as dynamic. ●

Notes

1. Tang 2000.
2. Zhang and Pearlman 2004.
3. Ibid.
4. Gaubatz 1999.
5. Cheng and Masser 2003.
6. Zhang and Pearlman 2004.
7. Summarized from the 2006 Shanghai Urban Planning Exhibition Hall display.
8. Wu and Li 2002.
9. Logan 2002.
10. Yan et al. 2002, summarized from p. 44.
11. Lapping 2006.
12. Liu et al. 1998.
13. Zhang and Pearlman 2006.
14. Oi 1999.
15. Ho 1995.
16. Oi 1999.
17. Lavelly 2001.
18. Wagner 1994.
19. Smith and Foote 1994, p. 27.
20. Smith and Foote 1994.
21. Lewis, *Corollary of Historic Lumpiness*, 1979, p. 23.
22. Ren 2004, p. 119.
23. SMUDC 2006.
24. Yan et al. 2002.
25. Cheng and Masser 2003.
26. Ibid.
27. Smith and Foote 1994, p. 32; Norton 1989.
28. Heming et al. 2001; Topping 1995.
29. Topping 1995.
30. Heming et al. 2001.
31. Ibid.
32. Ibid.

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