

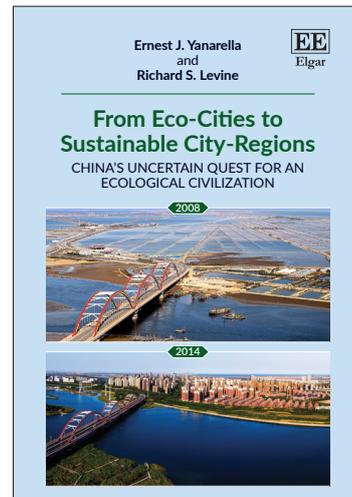
From Eco-Cities to Sustainable City-Regions: China's Uncertain Quest for an Ecological Civilization

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Book Review / SUSTAINABILITY

***From Eco-Cities to Sustainable City-Regions:
China's Uncertain Quest for
an Ecological Civilization***

By Ernest J. Yanarella and Richard S. Levine
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As noted by the authors:

...this book is not for the philosophically faint of heart or for those who are satisfied with easy formulas, attractive techno-fixes, simple measuring rods, or linear pathways to local-global sustainability. It demands instead a willingness to suspend allegiance to these shortcuts, to substitute hard thinking, show a readiness to cultivate a subtle appreciation of comparative historical analysis, and most of all demonstrate an openness to experimentation beyond a conventional, routine, and even best practice [approaches to] the policy issue of our times...

The book meets that challenging statement by providing sweeping overviews of the ambitious China party-state initiative to construct over 285 eco-cities countrywide. That effort is contextualized in the book by:

- (1) examining the history of China's religious, cultural, and political transformations, and
- (2) using five case study settlement patterns which range from expansion of existing to the construction of new urban densities, each with a differing history of social, economic, and environmental transitions unique to their regional locations.

Moreover, the book examines the origination and development of the sustainability movement, addresses the spectrum of weak to strong sustainability definition and understanding, and singularly isolates sustainability as an iterative (rather than linear) balance-seeking process (rather than pathway) of stakeholder participation as it introduces the conceptual elements of that process in support of a new vision for urban settlement. It does this by adopting metaphoric imaging of the "City-as-a-Hill"; to be used as a basis for creating Sustainable Urban Implantations. To amplify the import of this thinking, a selection of such implantations is provided in the Appendix. Delving into that wide-ranging content yields numerous moorings by which to challenge the fast pace and linearity of the China party-state quest. It does so by revealing the value and impact of an informed, alternative vision: the City-as-a-Hill model and the role of the Sustainability Game™, Sustainability Engine™, Sustainable Urban Implantation, Sustainable Area Budget, and Rural Partner-Land in the design and building of the sustainable city-region. From eco-cities to sustainable city-regions, the book presents its wide-ranging content in seven chapters and a provocative appendix.

The first chapter provides the theoretical foundations of the sustainable city-region approach, built upon the concept of the Sustainable Area Budget (SAB) as a parallel model to the pioneering work of William Rees and Mathis Wackernagel, captured in their "Ecological Footprint" and "Fair Earthshare" apportionment of the human impact on nature. These foundations are extended into descriptions of the Sustainable City Game™ by which the iterative trial-and-error functionality of the design process is activated with the full breadth of stakeholders involved in the development of the criteria for, and the implementation of, design-for-sustainability. The foundational expansion of the city-region logic is then built upon the concept of the SAB as an alternative encoding of the metrics of Ecological Footprint and Fair Earth Share. This chapter also references the Sustainability Engine™, which is conceived as "...a form generating utility and feedback tool for iterative discovery during the process of activating the sustainable city region game." [This then supports] "...the multiple scenario building process where alternatives are negotiated, modeled and stored providing feedback to stakeholders as to the character and quality

of competing urban scenarios and related metabolic balances within the boundaries of the sustainable area budget.”

The second chapter addresses more specifically the field-based research on China's quest to establish an “ecological civilization” through the construction of some 285 new eco-cities, which are also to be differentiated by urban type and governmental scale. Each is structured as a product of “top-down and bottom-up dynamics” wherein the controlling interests of the Beijing party-state leaders and administrators are undertaken independent of the many lower scale governmental entities, mechanisms, and patterns which are expected to inform and drive the ultimate processes of urbanization – as an interactive field of politics, economics, and environmental assessment. The co-authors then choose five eco-cities for case analysis that are representative of five different typologies developed by Martin de Jong and his team. They are:

- Type #1: those with strong national government support, paired with structured foreign involvement (the Sino-Singapore Tianjin Eco-city);
- Type #2: those with limited national government support, paired with occasional foreign involvement (formerly the Sino-Swedish Wuxi Taihu New Town or Eco-city);
- Type #3: those with nominal support from national government (the Suzhou New District (SND) and Suzhou Eco-Town);
- Type #4: those without national government support (the Kunming-Chenggong Low-carbon Eco-city);
- Type #5: new and emerging eco-city designs still at the developmental stage (the Shantou Coastal, Metropolitan Garden City). As the authors explain, these eco-settlements are authorized, managed, and assessed by three central government agencies; the Ministry of Housing and Urban-Rural Development (MoHURD), the Ministry of Ecology and Environment (MEE), and the National Development and Reform Commission (NDRC).

The next five chapters explore, through theoretically grounded case studies, those representative Chinese eco-city projects mentioned above. Chapter Three examines the SND and the Wuxi New District (WND) and Taihu Eco-city as an evolutionary development of the earlier, somewhat ill-fated Sino-Singapore Suzhou Industrial Project (SIP). The WND evolved from an agricultural center to a textile industry, to a light and then heavy manufacturing center in the Jiangsu province. A key factor in these eco-hybrid ventures is the role played by the urban planning exhibition hall and/or exhibition museum in which citizens can survey the intended eco-city development. These settlements bridge from, and connect back to, “the four modernizations” stemming from Maoist communist ideology:

- “agricultural” modernization through mechanization;
- expanded “industrial” production of consumer goods;
- upgraded “military” defense prioritizing research over production;
- advanced scientific and “technological” R&D across the board.

Linked to each of the five case study settlements is the imperative of communication and outreach to the public – both domestic and international – taking the form of physical model displays and supporting graphics in a local urban exhibition hall or museum to both promote these eco-city initiatives and elicit public support for the goals of these central-state projects.

The fourth chapter examines the new Kunming/Chenggong eco-district, which “seeks to build upon a legacy of mega sports and other city sponsorships” in this case the 1999 World Horticulture Exhibition. The chapter also describes the role of external investment through government partnerships. Unfortunately, this eco-city development was marred by government and land developer economic corruption involving “... community economic development as a growth machine ... which hinged on the ‘green dispossession’ and forced uprooting of rural villagers.” Branded as a “green leap forward,” this eco-economic strategy led to “a displacement of 100,000 peasants and destruction of 30 villages to free up land for development and economic lease.” Ironically, for a time, this ‘model’ of an eco-district “devolved into one of China’s reputed ‘ghost cities.’”

The focus of Chapter Five is the Shantou Metropolitan Coastal Garden City located in southern China. This existing community project is attempting to “reinvent itself and its identity.” The authors develop a framework for evaluating the city’s policies and programs using “assemblage theory.” The community is seeking to achieve “economic revival and ecological restructuring” through the assembly of the Shantou Rural and Urban Planning Bureau, the Shantou Institute of Urban Planning and Design, the Nanjing Urban Design Institute, and various international consultancies, while leaving out other potential stakeholders – including Shantou University, the Li Ka Shing Foundation, and the MoHURD. This chapter makes clear how Shantou fits within an eco-city type excluded from the de Jong fourfold typology. This fifth type represented by Shantou demonstrates the importance of cooperative policies and programs in the development region’s responses to economic decline and it highlights “the value of assemblage theory for diagnosing ... prevailing circumstances and driving forces for evaluating ... prospects for success.”

Chapter Six details the Sino-Singapore Tianjin Eco-city (SSTEC) development as a global showcase for urban sustainability and a prototype for emulation across the Chinese landscape and possibly the globe. This case study is also used to launch an imagined (re)profiling of development using the co-authors’ uniquely visionary model and planning and design implementation tools advanced as both critique and aspiration – in short, the core message of this book. This new city (featured on the cover of the book) was designed and built in a six-year timeframe on a brownfield site; an economically unattractive and environmentally contaminated stretch of land. The completed project is cited for a number of shortcomings.

Its dependence on key performance indicators (KPIs) in its design and development which “never really present[ed] a meaningful representation of strong sustainability” and unfortunately replicated the “building-on-a-site” construct of Western development to support a “predominately upper middle-class and wealthier clientele” which undermines the intended social equity of sustainability. Finally, although the design was committed to public transport (walking, electric buses and taxis, light rail transit), its actual physical design paid far greater deference to the automobile via wide streets, “vitiat[ing] the promise of SSTECH.” As noted above, this chapter concludes with an imagined alternative scenario of a very different transformative development of SSTECH by invoking the balance-seeking process for achieving the “... redesign of the Tianjin Eco-city’s center city and urban planning exhibition hall” as “... a Sustainable Urban Implantation based on the author’s model of a City-as-a-Hill.”

The seventh chapter pulls together the numerous themes and ordering ideas in the book. There, the “Chinese eco-organization strategy” is characterized as less promising and fruitful than the “[more than] three-decade-long strategy of sustainable city regions advanced by the co-authors,” acknowledging that few exemplars currently exist. Nonetheless, the authors provide a hierarchy of closing observations. As a real-world example of a possible model for strong sustainability, the authors share a brief analysis of BedZED (the Beddington Zero Energy Development project) in London that was built upon eco-footprint foundations and is being emulated by many nations (other than China) “slouching toward eco-catastrophes in a hot and crowded, increasingly right-wing populist government and a violent world.” Moreover, based on extensive citations from a bibliography of some 338 publications, substantial field-based analyses, and incisive reflections, the authors provide a host of practical policy recommendations for China in the sustained hope that it can and will make the needed correctives to process and content if it is to achieve its quest of truly becoming an ecological civilization.

Finally, the authors recap their vision in an appendix, offering the backstory of the preceding case studies. This backstory presents a new theory of the sustainable city as a humane, three-dimensional city, inspired by the dense spaciousness of the human-scaled, Italian medieval hill town, but now reimagined instead as a City-as-a Hill. Illustrative images of the Sustainable Urban Implantation are applied in the varying urban contexts of Vienna, Austria; Whitesburg, Kentucky; and Milwaukee, Wisconsin. Each of these amplifies the “ingenuity and flexibility” of applying the City-as-a-Hill model as an integration of the respective social, economic, and environmental factors that will constitute the emergence of “strong sustainability.” These illustrations point to the next steps necessary to build from the urban-regional scale serving as the fulcrum of global sustainability – the theme of their prior book and arguably the last best chance to redirect the world from ecological catastrophe, one reanimated city at a time.

In sum, this remarkable book brings a bold new vision to urban architectural design as an opportunity for informed collective activism over time. Such awareness could lead to an understanding that can establish the ability to achieve highly integrative systemic performance at the scale of the City-as-a-Hill and its surrounding rural partner-land. In so doing, this encompassing vision clarifies the concepts and language of design-for-sustainability as a community and regional mission. Paralleling the Ecological Footprint and Fair Earthshare contributions of Rees and Wackernagel, its toolbox for building sustainable city-regions opens the way to launching the “city as the fulcrum of global sustainability” (the title of Yanarella and Levine’s previous book). No less, this interdisciplinary work provides the means for the ambitious sustainability interests of the Chinese party-state to achieve, one day, global recognition as a socially, economically, and environmentally integrated “ecological civilization.”

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