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Janet A. Choi

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CULTIVATING URBAN FORESTS POLICIES IN DEVELOPING COUNTRIES

by Janet A. Choi*

Urban forests offer benefits for the inhabitants of urban and peri-urban¹ environments, but cannot flourish without cultivation and management. The successful practice of urban forestry involves managing trees within the urban environment to contribute to the physiological, sociological, and economic well-being of urban populations.² The sustainability goals of the Rio Declaration on Environment and Development (“Rio Declaration”)³ and subsequent Forest Principles⁴ are inadequate to foster urban forests in developing countries, because they fail to empower decision-makers and citizens to implement such policies. Instead, expanded efforts of the United Nations Food and Agriculture Organization (“FAO”) to enable community and state actors by raising awareness and sharing resources, in addition to movements to localize sustainability, will foster more urban forestry.

Experts predict unprecedented urban growth in developing nations.⁵ This rapid rate has raised concerns of increased environmental, social, and economic problems. In Brazil, where the population is currently eighty percent urban, the city of São Paulo demonstrates a failure to plan for urban growth.⁶ Allowing tree removal to clear space for housing has increased the likelihood of flooding and landslides, and impaired the natural areas and watersheds that existed in peri-urban areas.⁷

In addition, negative environmental effects of urbanization—such as deterioration of air quality, higher temperatures, and increased noise pollution—lead to greater psychological and physical stress, resulting in decreased quality of life and increased health problems.⁸ The urban poor suffer disproportionate harm by negative environmental effects,⁹ which come at a particular cost to children and women. Children’s bodies are extremely susceptible to polluting toxins.¹⁰ Women often suffer the “feminization” of poverty, or a general societal inequality posing challenging barriers to the control of economic resources, governance, and power.¹¹

Urban forests provide an array of protections against these harms.¹² Trees help moderate climate and reduce the demand for energy. They cool and filter the air, absorb noise, and protect soil and wildlife. They provide for basic needs such as food and fuel and for raw materials to generate income. Finally, trees add value to cities by delivering aesthetic appeal, while enhancing the quality of life and increasing property values. However, urban forestry programs must involve effective planning to avoid inadvertently causing other problems, such as displacement of important native species.

While urban forestry may promote sustainable development, a lack of awareness, combined with inadequate legislative and

institutional frameworks, has inhibited its full potential, especially in developing countries.¹³ Urban forestry does not fit neatly into the agendas of international agreements.¹⁴ The Convention on Biological Diversity, for example, may concern protection of trees, but it focuses more narrowly on a sovereign nation’s right to fair sharing of genetic resources.¹⁵ Moreover, the development of formal urban forestry is rooted in the United States and only more recently, in some parts of Europe.¹⁶ Thus, fostering urban forestry in developing countries requires facilitated information exchange and technological transfer.¹⁷ However, it will be important to consider context when employing those new resources. Different priorities may arise in urban areas in the developing world, such as alleviating poverty and addressing wastewater, rather than purely aesthetic or financial values.¹⁸

For the urban forestry movement to gain momentum, it is important to encourage inclusion through the full participation of citizens, civil society, and local and municipal government.¹⁹ The Rio Declaration²⁰ and its nonbinding Forest Principles²¹ attempt to promote such coordination in supporting public participation and information-sharing. Of particular relevance, Principle 10 of the Rio Declaration asserts that “[e]nvironmental issues are best handled with participation of all concerned citizens, at the relevant level,”²² and the Forest Principles calls for the international exchange of forest management research and development.²³ However, these provisions are unproductive in isolation, because they neither bind nor build capacity for what they advocate. Moreover, they conflict with the explicit declarations in both documents that states have the sovereign right to exploit their own resources.²⁴ Indeed, opposition by developing countries concerning this right’s intrusion precluded the Forest Principles’ possible binding effects.²⁵

The FAO has been a champion of urban forestry, raising awareness, performing assessments, disseminating information, increasing institutional capacities, and recommending policy strategies.²⁶ Yet, even with the FAO’s participation in the Collaborative Partnership on Forests²⁷ and the 2000 formation of the UN Forum on Forests,²⁸ international bodies have otherwise failed to focus on urban forests on their agenda.²⁹ International efforts would be far more effective in supporting the capacities of the FAO itself.

Implementing urban forest policies will require people to think and act locally, utilizing shared information and resources

* Janet A. Choi is a J.D. candidate, May 2011, at American University Washington College of Law.

in place-based, grassroots efforts.³⁰ One strategy that has shown some success is sister-city or country arrangements, such as Malaysia and Denmark's development of education programs, staff and student exchange, and international certification for

Malaysian tree care professionals.³¹ This way, best practices and relevant research are shared at lower costs to developing nations, without giving up local control or relying on the sluggish movement of international law.³²



Endnotes: Cultivating Urban Forests Policies in Developing Countries

¹ See Cecil C. Konijnendijk et al., *Urban and Peri-Urban Forestry in a Development Context—Strategy and Implementation*, 30 J. OF ARBORICULTURE 269, 271 (2004) (emphasizing that “tree resources outside—but close to—urban areas” contribute to urban societies).

² See Cecil Konijnendijk & Michelle Gauthier, *Urban Forestry for Multi-functional Urban Land Use*, in CITIES FARMING FOR THE FUTURE: AGRICULTURE FOR GREEN AND PRODUCTIVE CITIES, 414-16 (René van Veenhuizen ed., 2006) (discussing further urban green's economic and livelihood values, environmental and ecological values, and social and cultural values); E. Jane Carter, *The Potential of Urban Forestry in Developing Countries: A Concept Paper*, Food and Agriculture Organization of the UN (1994), <http://www.fao.org/docrep/005/t1680e/T1680E04.htm#ch4> (last visited October 17, 2010).

³ United Nations Conference on Environment and Development, Rio de Janeiro, Braz., June 3-14, 1992, *Rio Declaration on Environment and Development*, UN Doc. A/CONF.151/26/Rev. 1 (Vol. I), Annex I (Aug. 12, 1992) [hereinafter Rio Declaration].

⁴ United Nations Conference on Environment and Development, Rio de Janeiro, Braz., June 3-14, 1992, *Non-Legally Binding Authoritative Statement of Principles for a Global Consensus on the Management, Conservation and Sustainable Development of All Types of Forests*, U.N. Doc. A/CONF.151/26 (Vol. III), Annex III (Aug. 14, 1992) [hereinafter Forest Principles], reprinted in 31 I.L.M. 881.

⁵ *CIA World Fact Book*, CTR. INTELLIGENCE AGENCY, <https://www.cia.gov/library/publications/the-world-factbook/geos/xx.html> (last visited October 17, 2010) (urbanization section). Indeed, some of the largest urban populations include cities in developing countries, such as New Delhi, Mumbai, and Kolkata in India, Dhaka in Bangladesh; Karachi in Pakistan; São Paulo in Brazil; and Mexico City in Mexico. See also U.N. Population Fund, *State of World Population 2007: Unleashing the Potential of Urban Growth*, U.N. Doc. E/31,000/2007, U.N. Sales No. E.07.III.H.1 (2007), http://www.unfpa.org/swp/2007/presskit/pdf/sowp2007_eng.pdf (reporting that many of the people moving to cities will be poor and recommending pre-emptive approaches to environmental problems in urban areas).

⁶ See GEORGE MARTINE & GORDON MCGRANAHAN, INT'L INST. FOR ENV'T & DEV. & THE UN POPULATION FUND, *BRAZIL'S EARLY URBAN TRANSITION: WHAT CAN IT TEACH URBANIZING COUNTRIES?* (2010), <http://www.iied.org/pubs/pdfs/10585IIED.pdf> (reporting how the rate of urban growth has outpaced land use planning efforts and describing deforestation effects).

⁷ See *id.*; U.N. Expert Group Meeting on Population Distribution, Urbanization, Internal Migration and Development, *Social and Environmental Aspects of Peri-Urban Growth in Latin American Megacities*, at 10, UN. Doc. UN/POP/EGM-URB/2008/10 (Dec. 19, 2007) (by Haroldo da Gama Torres), http://www.un.org/esa/population/meetings/EGM_PopDist/P10_Torres.pdf (connecting peri-urban expansion in Sao Paulo, Brazil to further deforestation).

⁸ Guida Kuchelmeister & Susan Braatz, *Urban Forestry Revisited*, 44 UNASYLVA 173, available at <http://www.fao.org/docrep/u9300e/u9300e03.htm> (last visited October 17, 2010).

⁹ See generally David Satterthwaite, *The Links between Poverty and the Environment in Urban Areas of Africa, Asia and Latin America*, 590 ANNALS OF THE AM. ACAD. OF POL. AND SOC. SCI. 73-92 (2003) (arguing that good governance in implementing effective environmental policies can reduce poverty and increase environmental health needs).

¹⁰ Susan L. Cutter, *The Forgotten Casualties: Women, Children, and Environmental Change*, 5 GLOBAL ENV'T CHANGE 181, 186-91 (1995).

¹¹ *Id.* at 186-87, 189-93.

¹² See Konijnendijk & Gauthier, *supra* note 2 (noting that urban forests reduce polluted air, heat, water runoff, and impacts health); Carter, *supra* note 2 (discussing benefits and arguing that environmental problems in urban areas in developing countries are not trivia); see also Irus Braverman, “Everybody Loves Trees”: Policing American Cities Through Street Trees, 19 DUKE ENVTL. L. & POL'Y F. 81, 84-87 (2008) (explaining environmental and social benefits and describing “tree projects” in North American cities).

¹³ Ulrika Åkerlund et al., Food and Agriculture Organization of the UN, *Urban and Peri-urban Forestry and Greening in West and Central Asia*, LSP Working Paper 36, 7-8, 11-15 (2006), www.fao.org/es/esw/lsp/cd/img/docs/LSPWP36.pdf.

¹⁴ Lidija Knuth, Food and Agriculture Organization of the UN, *Legal and Institutional Aspects of Urban and Peri-Urban Forestry and Greening* 6-15 (2005), <http://www.fao.org/legal/legstud/ls88/ls88e.pdf>.

¹⁵ United Nations Conference on Environment and Development, Rio de Janeiro, Braz., June 3-5, 1992, *Convention on Biological Diversity*, art. 1, 15(1), June 5, 1992, 1760 U.N.T.S. 79, available at <http://www.cbd.int/convention/convention.shtml>.

¹⁶ Konijnendijk et al., *supra* note 1, at 271-73 (relating how urban forestry study started in the US in the 1970s); Konijnendijk, *supra* note 2, at 421, 423 (reporting that the U.S. Department of Agriculture (“USDA”) Forest Service generates new research through special urban forestry research centers and describing the institutionalization of urban forestry policies in the U.S. existing and funded at federal, state, and local levels).

¹⁷ See Konijnendijk & Gauthier, *supra* note 2, at 420-22 & Gauthier (calling for technology transfer and information sharing, education, and training, within and between countries).

¹⁸ Konijnendijk et al., *supra* note 1, at 272 (differentiating priorities in the developing world versus the “Western world,” where emphasis lies on green areas’ economic values).

¹⁹ See Åkerlund et al., *supra* note 13, at 14.

²⁰ Rio Declaration, *supra* note 3, at princ. 10. (“Environmental issues are best handled with participation of all concerned citizens, at the relevant level. At the national level, each individual shall have appropriate access to information concerning the environment that is held by public authorities, including information on hazardous materials and activities in their communities, and the opportunity to participate in decision-making processes. States shall facilitate and encourage public awareness and participation by making information widely available. Effective access to judicial and administrative proceedings, including redress and remedy, shall be provided.”)

²¹ See Forest Principles, *supra* note 4, at 2(c)-(d) (listing information sharing and broad participation).

²² Rio Declaration, *supra* note 3.

²³ Forest Principles, *supra* note 4, at 12 (c) (recognizing the importance of international exchange of information, research and development of forest management, including resources of education and training institutions and the private sector).

²⁴ Rio Declaration, *supra* note 3, at princ. 2; Forest Principles, *supra* note 4, at 2(a).

²⁵ JOHN LEMONS & DONALD A. BROWN, *SUSTAINABLE DEVELOPMENT: SCIENCE, ETHICS, AND PUBLIC POLICY* 3 (1995). The same concerns and lack of means for implementation reappear in the more recent Non-legally Binding Instrument on All Types of Forests. U.N. Forum on Forests, Feb. 24, 2006, & Apr. 16-27, 2007, Report of the Seventh Session, U.N. Doc E/CN.18/2007/8, E/2007/42, <http://daccess-dds-ny.un.org/doc/UNDOC/GEN/N07/469/65/PDF/N0746965.pdf?OpenElement>.

²⁶ See Konijnendijk et al., *supra* note 1, at 272, Table 1 (summarizing FAO’s comprehensive mid-term plan for urban and peri-urban forestry program); Åkerlund et al., *supra* note 13, at 5.

²⁷ *About CPF*, COLLABORATIVE P’SHIP ON FORESTS, <http://www.fao.org/forestry/cpf/44935/en/> (last visited Oct. 23, 2010).

²⁸ *About UNFF, Multi-Year Programme of Work 2007-2015*, UN FORUM ON FORESTS, <http://www.un.org/esa/forests/multi-year-work.html> (last visited Oct. 23, 2010) (mentioning urban forestry only once for a plan in 2013).

²⁹ See Claire R. Kelley, *Institutional Alliances and Derivative Legitimacy*, 29 MICH. J. INT’L L. 605, 631-33 (2008) (summarizing critiques on the ineffectiveness of CPF and UNFF, including project delays, lack of transparency and real dialogue, and insufficient data).

³⁰ Timothy Beatley & Richard Collins, *Americanizing Sustainability: Place-Based Approaches to the Global Challenge*, 27 WM. & MARY ENVTL. L. & POL’Y REV. 193, 194-96, 208-10 (2002) (criticizing the effectiveness of the Rio de Janeiro conference but finding solutions in local strategies, although here, the author discusses an American context).

³¹ See Konijnendijk & Gauthier, *supra* note 2, at 424.

³² *Id.* at 416.