

Urban Sustainability in an Age of Global Environmental Change

Course Outline:

Global environmental change (e.g. climate change) is driven by both biophysical and human activities and processes. In this course, we focus on the human dimensions of global environmental change, especially as it relates to questions of urban sustainability. While sustainability has often narrowly been viewed in environmental terms, we will analyze social and environmental justice as integral components of urban sustainability.

Cities are centers of innovation, economic growth, social mobility, and allow for economies of scale in the provision of infrastructure and social services; however, cities are also sites of growing socio-economic inequalities and environmental problems. According to the United Nations, 900 million urban residents in developing countries live in poverty, with many lacking access to basic necessities such as clean water, adequate sanitation and housing. Additionally, rapid urbanization has resulted in environmental problems such as air and water pollution. In developed countries, suburban sprawl and high consumption patterns have generated a different set of environmental problems.

Human activities, especially increased fossil fuel use and carbon emissions, and growing exploitation of natural resources, are contributing to changes in our atmosphere and climate. The outcome has been more frequent climate related heat waves and flooding in urban areas across the world. If rapid urbanization, social inequalities, and environmental problems create challenges for more sustainable cities, climate related environmental change has spurred the need for more sustainable urban practices and governance.

In this course, we will explore the socio-economic and environmental dimensions of sustainability in cities. In particular, we will analyze the contemporary urban environmental crisis in the context of global climate change, critically evaluate government policies and programs that try to address the challenges of sustainability in both developed and developing country cities, and assess struggles for social and environmental justice. Among the cases explored will be the vulnerability of cities to climate hazards (e.g. New Orleans and Hurricane Katrina), the implementation of a sustainable urban development plan in Curitiba, Brazil, and the development of a municipal adaptation plan for climate change in Cape Town, South Africa.

The objective of this course is to enhance our understanding of:

- The theoretical considerations behind global environmental change and urban sustainability;
- Urban environmental problems in both developed and developing country cities;
- Innovative urban governance around sustainable urban planning, energy, and transportation;
- The implications of climate change for cities and efforts at mitigation and adaptation; and,
- Struggles and proposals for environmental justice and urban sustainability.

Required Course Books:

UN-Habitat. 2008. *State of the World's Cities 2008/2009: Harmonious Cities*. London, Earthscan.

J. Agyeman, R. Bullard, and B. Evans (eds.). 2003. *Just sustainabilities: Development in an unequal world*. Sterling, VA: Earthscan.

Week 1: Introduction

Week 2: Global Environmental Change

Sanchez-Rodriguez, R. 2008. Urban Sustainability and Global Environmental Change: Reflections for an Urban Agenda. In *The New Global Frontier: Urbanization, Poverty and Environment in the 21st Century*, eds. Martine et al. Sterling, Va: Earthscan.

Buttel, F. and P. Taylor. 1994. Environmental Sociology and Global Environmental Change: A Critical Assessment. In *Social Theory and the Global Environment*, eds. M. Redclift and T. Benton, 228-255. London: Routledge.

Grimmond, S. 2007. Urbanization and Global Environmental Change: Local Effects of Urban Warming. *The Geographical Journal* 173(1): 83-88.

Dietz, T. and E. Rosa. 2002. Human Dimensions of Global Change. In *Handbook of Environmental Sociology*, eds. R Dunlap and T. Michelson, 370-406. Greenwood Press.

Wackernagel, M., and W. Rees. 2004. What is an Ecological Footprint? In *The Sustainable Urban Development Reader*, eds. S. Wheeler and T. Beatley. London: Routledge.

Rosenzweig, C. and W. Solecki. 2001. Global Environmental Change and Global City: Lessons for New York. *Environment* 43(3): 8-18.

Optional Reading:

O'Brien, Karen. 2006. Are we missing the point? Global environmental change as an issue of human security. *Global Environment Change* 16(1): 1-3.

Risbey, J.S. 2008. The New Climate Discourse: Alarmist or Alarming? *Global Environment Change* 18(1): 26-37.

Carswell, G. and S. Jones. 2004. Causes of Environmental Change. In *The Earthscan Reader in Environment, Development and Rural Livelihoods*, eds. G. Carswell and S. Jones. Sterling, Va: Earthscan.

Week 3: Theoretical Perspectives on Sustainability

W. M. Adams. 2008. *Green Development: Environment and Sustainability in a Developing World* (3rd ed). London: Routledge.

Chapter 1: The Challenge of Sustainability: 1-19.

Agyeman, J., R. Bullard, and B. Evans. 2003. Introduction: Joined-up Thinking: Bringing Together Sustainability, Environmental Justice and Equity. In *Just sustainabilities: Development in an unequal world*, eds. J. Agyeman, R. Bullard, and B. Evans. Sterling, VA: Earthscan.

Dalal-Clayton, B. 2003. The MDGs and sustainable development: the need for a strategic approach. In *The Millennium Development Goals and Local Processes: Hitting the Target or Missing the Point*, ed. D. Satterthwaite, 73-9. London: IIED.

Campbell, S. 1996. Green Cities, Growing Cities, Just Cities? Planning and the Contradictions of Sustainable Development, *Journal of the American Planning Association* 62(3): 296–312.

Marcuse, Peter. 1998. Sustainability is not Enough. *Environment and Urbanization* 10(2): 103-111.

Simon, D. 1999. Rethinking Cities, Sustainability and Development in Africa. In *Sacred Spaces and Public Quarrels: African economic and cultural landscapes*, eds. E. Kalipeni and P.T. Zeleza, 17-41. Trenton NJ, Asmara: Africa World Press.

Bachram, H. 2004. Climate Fraud and Carbon Colonialism: The New Trade in Greenhouse Gases. *Capitalism Nature Socialism* 15(4): 5-20.

Optional Reading:

W. M. Adams. 2008. *Green Development: Environment and Sustainability in a Developing World* (3rd ed.). London: Routledge.

Chapter 2: The Origins of Sustainable Development: 26-57.

Chapter 7: Countercurrents in Sustainable Development: 171-201.

Satterthwaite, D. 1997. Sustainable cities or cities that contribute to sustainable development? *Urban Studies* 34(10): 1667-1997.

Portney, K. 2003. *Taking Sustainable Cities Seriously: Economic Development, the Environment, and Quality of Life in American Cities*. Cambridge, Mass.: MIT Press.

Chapter 6: Is a sustainable city a more egalitarian place? Sustainable Communities, Environmental Equity, and Social Justice.

Week 4: Urbanization, Poverty, Environment

Satterthwaite, D. 2003. The Links between Poverty and the Environment in Urban Areas of Africa, Asia, and Latin America. *Annals of the American Academy of Political and Social Science* 590: 73-92.

Solecki, W. and R. Leichenko. 2006. Urbanization and the Metropolitan Environment: Lessons from New York and Shanghai. *Environment* 48(4): 8-23.

Jimenez Diaz, V. 1992. Landslides in the squatter settlements of Caracas: towards a better understanding of causative factors, *Environment and Urbanization* 4(2): 80-89.

Davis, M. 2006. *Planet of Slums*. New York: Verso.
Chapter 6: Slum Ecology: 121-150.

Davis, M. 2004. Planet of slums: urban involution and the informal proletariat. *New Left Review* 26: 5-34.

Aguilar, A. 2008. Peri-urbanization, illegal settlements and environmental impact in Mexico City. *Cities* 25(3): 133-145.

Neuwirth, R. 2005. *Shadow Cities: A Billion Squatters, A New Urban World*. New York: Routledge. Chapter 2: Nairobi: The Squatter Control: 67-99.

Stephens, C. 1995. The urban environment, poverty and health in developing countries. *Health Policy Plan* 10(2): 109-121.

UN-Habitat. 2008. *State of the World's Cities 2008/2009: Harmonious Cities*. London, Earthscan. Chapter 3.1 Urban Environmental Risks and Burdens.

Optional Reading:

Hollander, J. 2003. *The Real Environmental Crisis*. Berkeley: University of California Press. Introduction

Chang, S. 1998. Beijing: Perspectives on preservation, environment, and development. *Cities* 15(1): 13-25.

Davis, M. 2006. *Planet of Slums*. New York: Verso.
Chapter 1: The urban climacteric: 1-19.

Week 5: Urbanization and Sustainable Transportation

Tunali, O. 1996. A Billion Cars: The Road Ahead. *World Watch*, Jan/Feb: 24-35.

Rabinovitch, J. and J. Leitman. 1996. Urban planning in Curitiba. *Scientific American*

274(3): 46-53.

Bulkeley, H and M. Betsill. 2003. *Cities and Climate Change: Urban Sustainability and Global Environmental Governance*. London: Routledge.

Chapter 8: Denver: Climate Protection, Energy Management and the Transport Sector

Kenworthy, J. 2006. The eco-city: ten key transport and planning dimensions for sustainable city development. *Environment and Urbanization* 18(1): 67-85.

Basiago, A. 1998. Economic, social, and environmental sustainability in development theory and urban planning practice. *The Environmentalist* 19(2): 145-161.

Cain, A., G. Darido, M. Baltes, P. Rodriguez, and J. Barrios. 2007. Applicability of TransMilenio Bus Rapid Transit System of Bogotá, Colombia, to the United States. *Transportation Research Record: Journal of the Transportation Research Board* 2034: 45-54.

Optional Reading:

Skinner, R. 2004. City profile: Bogota´. *Cities* 21(1): 73–81.

Macedo, J. 2004. City profile: Curitiba. *Cities* 21(6): 537-549.

Rabinovitch, J. 1992. Curitiba: towards sustainable urban development. *Environment and Urbanization* 4(2): 62-77.

Urry, J. 2008. Governance, flows, and the end of the car system? *Global Environmental Change* 18(3): 343– 349.

Week 6: Sustainable Energy

UN-Habitat. 2008. *State of the World's Cities 2008/2009: Harmonious Cities*. London: Earthscan. Chapter: 3.4 Energy Consumption in Cities

Portney, K. 2003. *Taking Sustainable Cities Seriously: Economic Development, the Environment, and Quality of Life in American Cities*. Cambridge, Mass.: MIT Press. Chapter 3: The Environment, Energy, and Sustainable Cities.

Staley, B. and R. Bradley. 2008. Plants at the Pump: Reviewing Biofuels' Impacts and Policy Recommendations. *Climate and Energy Policy Series*. World Resources Institute, July: 1-6.

Bond, P. 2008. The State of the Global Carbon Trade Debate. *Capitalism Nature Socialism* 19(4): 89-106.

Qing, D. and L Sullivan. 1999. The Three Gorges Dam and China's Energy Dilemma. *Journal of International Affairs* 53(1): 53-71.

Optional Reading:

UN-Habitat. 2008. *State of the World's Cities 2008/2009: Harmonious Cities*. London: Earthscan. Chapter: 3.5 Energy Consumption at the Household Level

Yardley, J. 2007. Chinese Dam Projects Criticized for Their Human Costs. *New York Times*, November 19. <http://www.nytimes.com/2007/11/19/world/asia/19dam.html>

Week 7: Urbanization, Cities, and Global climate change

Betsill, M. and H. Bulkeley. 2007. Looking Back and Thinking Ahead: A Decade of Cities and Climate Change Research. *Local Environment* 12(5): 447-456.

UN-Habitat. 2008. *State of the World's Cities 2008/2009: Harmonious Cities*. London, Earthscan. Chapters: 3.2 Cities and Climate Change

de Sherbinin, A., A. Schiller, and A Pulsipher. 2007. The vulnerability of global cities to climate hazards. *Environment and Urbanization* 19(1): 39-64.

Simon, D. 2007. Cities and Environmental Change: Exploring the links. *The Geographical Journal* 173(1): 75-79.

Kraas, F. 2007. Megacities and Global Change: Key priorities. *The Geographical Journal* 173(1): 79-82.

Romero-Lankao, P. 2007. Are we missing the point? Particularities of urbanization, sustainability and carbon emissions in Latin American cities. *Environment and Urbanization* 19(1): 157-175.

Week 7: Urban Environmental 'Disasters': Hurricane Katrina and New Orleans

Pelling, M. 2006. Measuring vulnerability to urban natural disaster risk: benchmarks for sustainability. *Open House International* 31(1): 125-132.

Hartmann, C. and G. Squires. 2006. Pre-Katrina, Post-Katrina. In *There is No Such Thing as a Natural Disaster: Race, Class, and Hurricane Katrina*, eds. C. Hartmann and G. Squires. New York: Routledge.

Dyson, M. 2006. *Come Hell or High Water: Hurricane Katrina and the Color of Disaster*. New York: Basic Books.
Chapter 1: Unnatural Disasters: Race and Poverty

Leichenko, R. and K. O'Brien. 2008. *Environmental Change and Globalization: Double Exposures*. Oxford: Oxford University Press.

Chapter 6: Changing Contexts and Emerging Vulnerabilities (especially, Signatures of Urban Disaster: New Orleans and Hurricane Katrina): 74-90.

Fischetti, M. 2001. Drowning New Orleans. *Scientific American* October: 77-85.

Cutter, S. *et al.* 2006. The Long Road Home: Race, Class and Recovery from Hurricane Katrina. *Environment* 48(2): 8-20.

Smith, Neil. 2006. There's No Such Thing as a Natural Disaster. In: Social Science Research Council, *Understanding Katrina: Perspectives from the Social Sciences* <http://understandingkatrina.ssrc.org/Smith/>

Optional Reading:

Social Sciences Research Council, *Understanding Katrina: Perspectives from the Social Sciences* <http://understandingkatrina.ssrc.org>

Bullard, R. and B. Wright (eds). 2009. *Race, Place, and Environmental Justice after Hurricane Katrina*. Westview Press: Boulder. Introduction

Uitto, J. 1998. The geography of disaster vulnerability in megacities. *Applied Geography* 18(1): 7-16.

Week 8: Urban Sustainability and Consumption

Jha, R. and K. Bhanu Murthy. 2006. *Environmental Sustainability - A Consumption Approach*. New York: Routledge.

Chapter 2: Consumption and Sustainable Development: An Overview

Rees, W.E. and L. Westra. 2003. When Consumption Does Violence: Can there be Sustainability and Environmental Justice in a Resource-limited World? In *Just sustainabilities: Development in an unequal world*, eds. J. Agyeman, R. Bullard, and B. Evans. Sterling, VA: Earthscan.

Høyer, G. and P. Næss. 2001. The ecological traces of growth: economic growth, liberalization, increased consumption and sustainable urban development? *Journal of Environmental Policy and Planning* 3: 177-92.

Gleeson, B. and N. Low. 2000. Cities as Consumers of the World's Environment. In *Consuming Cities: The Urban Environment in the Global Economy after the Rio Declaration*, eds. Low, N. and I. Elander. New York: Routledge.

Slocum, R. 2004. Consumer Citizens and the Cities for Climate Protection Campaign. *Environment and Planning A* 36: 763-782.

Week 9: Gender and Environmental Change

Rocheleau, D., B. Thomas-Slayter, and E. Wangari. 1996. Gender and Environment. In: *Feminist Political Ecology: Global Issues and Local Experiences*, D. Rocheleau, B. Thomas-Slayter, & E. Wangari (eds), London: Routledge.

Skutch, M. 2002. Protocols, Treaties, and Action: “The Climate Change Process” Viewed through Gender Spectacles. *Gender and Development* 10(2): 30-39.

Denton F. 2002. Climate change vulnerability, impacts, and adaptation: why does gender matter? *Gender and Development* 10(2): 10-20.

Demetriades, J. and E. Esplen. 2008. The Gender Dimensions of Poverty and Climate Change Adaptation. *IDS Bulletin* 39(4): 24-31.

Week 10: Adapting to and Mitigating Global Environmental Change

Wamsler, C. 2008. Climate Change Impacts on Cities: Ignore, Mitigate or Adapt? *TRIALOG* 97(2): 4-10.

Betsill, M. 2001. Mitigating Climate Change in US Cities: Opportunities and Obstacles. *Local Environment* 6(4): 393–406.

UN-Habitat. 2008. *State of the World's Cities 2008/2009: Harmonious Cities*. London, Earthscan. Chapter 3.4 Cities at Risk from Rising Sea Levels

Mukheibir, P. and G. Ziervogel. 2007. Developing a Municipal Adaptation Plan (MAP) for climate change: the city of Cape Town. *Environment and Urbanization* 19(1): 143-158.

Holgate, C. 2007. Factors and Actors in Climate Change Mitigation: A Tale of Two South African Cities. *Local Environment* 12(5): 471-484.

Atash, F. 2007. The deterioration of urban environments in developing countries: Mitigating the air pollution crisis in Tehran, Iran. *Cities* 24(6): 399–409.

Tanner, T. and T. Mitchell. 2008. Entrenchment or Enhancement: Could Climate Change Adaptation Help to Reduce Chronic Poverty? *IDS Bulletin* 39(4): 6-15.

Lemos, C. and E. Tompkins. 2008. Creating Less Disastrous Disasters. *IDS Bulletin* 39(4): 60-66.

Week 11: Urban Environmental Governance

Dodman, D. and D. Satterthwaite. 2008. Institutional Capacity, Climate Change Adaptation and the Urban Poor. *IDS Bulletin* 39(4): 67-74.

Bullard, R. and G. Johnson. 2002. Environmentalism and Public Policy: Environmental Justice: Grassroots Activism and Its Impact on Public Policy Decision Making. *Journal of Social Issues* 56(3): 555-578.

Betsill, M. and H. Bulkeley. 2006. Cities and the Multilevel Governance of Global Climate Change. *Global Governance* 12(2): 141–159.

Roberts, T.J. 2008. Commentary: Challenges and Opportunities for Global Environmental Governance in the 21st Century. *Global Environmental Change* 18: 375-379.

Fisher, D. and J. Green. 2004. Understanding Disenfranchisement: Civil Society and Developing Countries' Influence and Participation in Global Governance for Sustainable Development. *Global Environmental Politics* 4(3): 65-85.

Hochstetler, K. and M. Keck. 2007. *Greening Brazil: environmental activism in state and society*. Durham: Duke University Press. Chapter 1: Building Environmental Institutions: National Environmental Politics and Policy.

Optional Reading:

Bulkeley, H and M. Betsill. 2003. Introduction. In *Cities and Climate Change: Urban Sustainability and Global Environmental Governance*, eds. H. Bulkeley and M. Betsill. London: Routledge.

Week 12: Urban Sustainability and Environmental Justice I

Anoja Wickramasinghe. 2003. Women and Environmental Justice in South Asia. In *Just sustainabilities: Development in an unequal world*, eds. J. Agyeman, R. Bullard, and B. Evans. Sterling, VA: Earthscan.

Wackernage, M. and J. Yount 2000. Footprints for Sustainability: The Next Steps. *Environment, Development and Sustainability* 2(1): 23-44.

Agyeman, J. 2005. *Sustainable Communities and the Challenge of Environmental Justice*. New York: NYU Press. Chapter 1: Environmental Justice

Alberti, M. and L. Susskind. 1996. Managing Urban Sustainability. *Environmental Impact Assessment Review* 16(4&6): 213-221.

Pulido, L. 2000. Rethinking environmental racism: white privilege and urban development in Southern California. *Annals of the Association of American Geographers* 90(1): 12–40.

Bond, P. 2000. Economic growth, ecological modernization or environmental justice? Conflicting discourses in post-apartheid South Africa. *Capitalism Nature Socialism* 11(1): 33-61.

Week 13: Urban Sustainability and Environmental Justice II

Roberts, J.T. 2007. Globalizing Environmental Justice. In *Environmental Justice and Environmentalism: The Social Justice Challenge to the Environmental Movement*, eds. R. Sandler and P. Pezzullo. Cambridge, MA: MIT Press.

Beatley, T. 1995. Planning and sustainability: The elements of a new (improved?) paradigm. *Journal of Planning Literature* 9(4): 383-395.

Dahiya, B. and C. Pugh. 2000. The Localization of Agenda 21 and the Sustainable Cities Programme. In Pugh, C. (ed.) *Sustainable cities in developing countries: theory and practice at the millennium*. Sterling, VA: Earthscan.

Rees, W. E. 1995. Achieving Sustainability: Reform or Transformation? *Journal of Planning Literature* 9(4): 343-61.

Graham Haughton. 1999. Environmental Justice and the Sustainable City. *Journal of Planning Education and Research* 18(3): 233-243.

McGranahan G, J. Songsore, M. Kjellen. 1996. Sustainability, Poverty and Urban Environmental Transition. In *Sustainability, the environment and urbanization*, ed. C. Pugh, 103-33. Sterling, VA: Earthscan.

Week 14: Urban Sustainability: What Lessons for the Future?

Dobson, A. 2003. Social Justice and Sustainability: Ne'er the Twain Shall Meet? In *Just sustainabilities: Development in an unequal world*, eds. J. Agyeman, R. Bullard, and B. Evans. Sterling, VA: Earthscan.

Beatley, T. 2004. Planning for Sustainability in European Cities: A Review of Practice in Leading Cities. In *The Sustainable Urban Development Reader*, eds. S. Wheeler and T. Beatley. New York: Routledge.

Gunder, M. 2006. Sustainability: Planning's Saving Grace or Road to Perdition? *Journal of Planning Education and Research* 26(2): 208-221.

Perlman, J. 2007. Fighting Poverty and Environmental Injustice in Cities. In *State of the World 2007: Our Urban Future*, ed. World Watch, 172-239. Washington, DC: World Watch Institute.

Inoguchi, T., E. Newman, and G. Paoletto. 1999. Introduction: Cities and the Environment –Towards Eco-partnerships. In *Cities and the Environment: New Approaches for Eco-Societies*, eds. T. Inoguchi, E. Newman, and G. Paoletto. Tokyo: United Nations University Press.