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Urbanism and Sustainable Development:
Useful Frameworks for Combating Climate Change

The Environmental Future(s) Initiatives

Sophie Faaborg-Andersen

Spring 2017

As our globe undergoes extraordinary surges in urban growth, the concept that saving the environment must come at the cost of slowed social and economic development becomes increasingly convincing. While sustainability and urbanization are not mutually exclusive, creating a framework for development that fulfills the needs of a progressively urbanized world without undermining the ability of future generations to satisfy their needs is modeled by a variety of theoretical approaches. Faced with the challenge of a growing population limited by natural resources, realizing sustainable development will require a unique style of leadership that capitalizes on new opportunities through innovation at the regional and national levels. This paper seeks to outline the demands of two major sustainable urban design theories, free market environmentalism (FME) and the eco-city movement, and to address their social justice implications.

A frequently cited definition of sustainable development comes from the Brundtland Report by the United Nations World Commission on Environment Development (WCED) – “sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs”. The definition implies two essential components that create unique sets of best practices for urban development. The first half of the definition addresses the needs of the collective and the individual respectively by suggesting the importance of meeting standards for an equitable and comfortable lifestyle. The later part of the Brundtland definition concerns itself with the idea of limitations imposed by social organization in the context of a finite set of resources. Densely populated urban areas focus on efficiency in providing services to inhabitants, but the best practices for achieving sustainability are widely debated. Free market environmentalism finds its roots mostly in the first part of the Brundtland definition and focuses on economic implications of urban design. On the other hand,

the eco-city approach stresses the “ability of future generations to meet their own needs” by considering functional planning and social implications of urban development.

Proponents of a first approach to urban design, free market environmentalism (FME), view urban sustainability as the prerogative of the individual and marketplace, maintaining that economic growth is a prerequisite for promoting environmental sustainability. As part of a larger neoliberal approach, free market sustainability prioritizes individual freedoms and innovation in the capitalist marketplace and views economic incentives as the driving mechanism for urban development. Thus, sustainability and green consumption are parts of the individual consumer’s freedom and citizenship in a self-regulated marketplace. The free market is the engine of growth and innovation that powers an economically preferable green lifestyle. Free market environmentalists believe that since property rights allow for legitimate exchanges and gains from trade, the marketplace makes the environment an asset rather than a liability. By putting a price value on environmental assets like land and natural resources, the market incentivizes stewardship. Defaulting to political and regulatory processes presents several challenges in water management, city planning, and regulatory regimes.

The state of California has been plagued by severe drought for decades, exacerbated by inflexible water laws and a regulatory environment that discourages conservation. More than 24 million people have been impacted by the most recent period of drought, which State Governor Jerry Brown declared a state of emergency in January of 2014. Free market environmentalists point to the \$900 million loss in crop revenues in 2015 alone to stress the severity of the situation. As California’s population is projected to rise by 6 million by 2030, water allocation and conservation is a major component of urban sustainability across the state³. Government ordered reallocation of

water creates inefficient outcomes with clear winners and losers in which voluntary, socially beneficial trades are discouraged.

The free market approach to urban sustainability emphasizes adopting market prices that reflect the scarcity and value of goods. Until December of 2011, residents of Folsom, California were charged a constant monthly rate of \$35 for water services, rather than a price relative to the volume of water consumed. Daily consumption averaged an incredible 429 gallons per person in 2014. Residents of Sacramento, where water services are priced according to use, consumed an averaged 150 gallons less per day, at 279 gallons per day in 2014.

Government-led urban sustainability further leads to contradictions across and between states and regions. The Endangered Species Act (ESA) includes a stipulation that water from certain river systems that are home to protected species like the Delta smelt, endemic to the Sacramento-San Joaquin Estuary of California, may not be compromised by commercial and recreational use of the water source. At the same time, the U.S Bureau of Reclamation, U.S Army Corp of Engineers, and federally funded Central Valley Project provide water subsidies for farming, hydropower generation, and other purposes. The Wildlife & Marine Resource Section (WMRS) of the U.S Department of Justice represents these federal action agencies in litigations seeking to balance the contentious junction between water use for farming and the biological demands of endangered species. The U.S Fish and Wildlife Service and National Marine Fisheries Services, who defend the biological needs of ESA-protected resources and species, are often the defendants in such litigations. Conflicting regulation creates tensions between state entities, farming communities, and commercial users of the water sources. The conflicting regulation is worsened by a culturally entrenched “use it or lose it” conceptualization of water in California.

A second approach to urban sustainable development recognizes the interconnected nature of environment and equity, supporting governmental reform and new policy ideas for smart growth. Designing urban environments is becoming an increasingly cross-cutting discipline, including everything from green mass transit to sustainable architecture like New Urbanism and European Urban Renaissance. At 6.5 billion urban residents, more than two thirds of the world's population is projected to live in urban areas by 2050. The ethos of the eco-city approach is rooted in a synergistic integration of economic productivity and healthy living, pioneered by theorist and author Richard Register in the mid 1970s. Register, who founded the California based nonprofit Ecocity Builders, spearheaded the eco-city movement which harmonizes citizenship, regional differences, and existing policies to develop functionally integrated yet green urban centers.

Eco-city design includes functional/operational and social dimensions that must both be considered to holistically understand and execute urban development. Functionally, urban planning deals with use of shared space and mobility within the city. A challenge in urban design is making use of multi-purpose green spaces that can translate to greater urban vitality and a healthier lifestyle. The social dimension concerns itself with how the physical environment impacts social groups and individuals. Eco-city design views urban space as an extension of public life and a platform for ecological citizenship and social interaction. Striking the right balance between collective sustainability and individual wellbeing within a shared urban environment is a concern of the eco-city movement.

Most urban design theories highlight the importance of compact and high density development in making a city functional and green. Functional zoning, or the sectioning of urban centers into areas of similar purpose or tract of activity, is often cited as a roadblock to effective urban planning. Zoning inhibits socially diverse communities, as racial and economic gaps

separate the haves from the have-nots. Integrated, multitrack city centers are necessary and desirable to minimize commute time and thus car dependency, provide more opportunities for social engagement, and greater choice in lifestyle, location, and access to facilities. This conventional understanding has broadened the policy initiatives and support for city farming movements; city governments have crafted policies permitting small-scale livestock and revisited building codes to authorize rooftop gardens, while both state and municipal governments promote commercial urban farming with tax incentives.

The disproportionate focus and reliance on traffic engineering has led to city layouts that prioritize transport by car and make travel by bike or foot impractical if not hazardous. Functional urban design must focus on reducing dependency on cars by creating more integrated green spaces within city centers. Disproportionate reliance on finite resources like oil and natural gas result in high transportation costs and serious environmental externalities. As finite resources are increasingly unable to satisfy growing demand for an energy-intensive way of life, existing land use patterns of separating residential and commercial use areas will no longer suit urban needs. Functionally zoned areas will be replaced by multi-functional, dense, green urban hubs.

Interpersonal relationships are influenced by the layout of urban spaces which seek to balance collective sustainability with individual freedoms. While urban design in isolation may not be enough to bring about social change, the ability of an environment to provide accessible public spaces for improving quality of life is an important component of sustainability. The Slow Food Movement, founded by Carlo Petrini in 1986, promotes consuming locally by promoting small businesses and opposing industrialized food production. The movement expanded to include branches in Switzerland, Germany, France, Japan, the UK, and Chile among others. Slow Food's political agenda includes educating citizens about the disadvantages of commercial agribusiness

and mass farming, and lobbying against the use of pesticides and genetic engineering. The shift towards less polluted, congested urban centers is a cornerstone of the social dimension of eco-city urban development.

A growing literature on urban sustainability casts cities in a new light, characterizing urban hubs less as epicenters of consumption and rather as the drivers of urban sustainable development and environmental citizenship. Both free market environmentalism and the eco-city movement address hard questions about land use and access to green space, urban transportation, urban ecology, and utilities. In an increasingly globalized and networked world, the connections between environmental issues and social justice are demanding greater attention. Advocates of urban design often view city farming and creation of green space, whether through government regulation or free-market balancing, as a way to mitigate deep-seated social justice issues. Both proponents of FME and eco-cities often frame urban agriculture and green spaces in a positive light, but a thorough analysis of sustainable development must consider the social justice implications of new city designs. Even though urban farming has historically been a means for low-income residents of densely populated city spaces to survive and feed their families, some parts of sustainable design theory focus heavily on design elements that benefit a predominantly middle-class, white population of city farmers.

A second social justice challenge for modern sustainable design will be striking a balance between promoting eco-friendly urban spaces and exacerbating gentrification, the process by which low-income residents are displaced due to rising property values and investments. This reality is seen throughout many neighborhoods of New York City, including the Lower East Side and Harlem, where the proliferation of locally managed green spaces has encouraged the

development of middle-class housing. Gentrification poses a major social roadblock to successful sustainable design because residents often reject the ecofriendly amendments.

As the world experiences growing urbanization and stresses on finite resources, the need to develop in a sustainable manner is more important than ever. Urban planning increasingly invokes the idea of sustainability to design, analyze, and critique city developments. Integration of environmental, economic, and social facets of sustainability will be a demand of the coming decades. The two major sustainable urban design theories addressed, free market environmentalism (FME) and the eco-city movement, offer unique and important considerations for realizing sustainable development. Addressing the social justice implications of both streams of thought should not be ignored, and will inevitably be a decisive factor in the success of sustainable development in the modern age.

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