

JUST SUSTAINABILITY: THE ROLE OF LOCAL GOVERNMENTS

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ABSTRACT

The primary objective of this research is to identify the factors influencing adoption of just sustainability at the local level. The analysis identified non-profit organizations as the key predictors of just sustainability, which suggests that grassroots and social movements influence the process of local community change. This further supports the argument that successful implementation of sustainability programs, policies and initiatives requires meaningful inclusion of the voices of local community level stakeholders. Thus, local leaders seeking JSP change would be best positioned with engagement and inclusion of community non-profits in the dialogue of change.

KEYWORDS: Sustainable Development, Just Sustainability, Local Stakeholders, Dialogue of Change,

INTRODUCTION

The United Nations World Commission on Environment and Development issued Our Common Future, also known as the Brundtland Report, in 1987. This report provided a definition of sustainable development which has become a conceptual framework for understanding the complex nature of environmental, economic and social issues that must be addressed to achieve sustainability (Berg, 2010). The commonly cited definition of sustainable development attributed to the Brundtland Report states, "Development that meets the needs of the present without compromising the ability of future generations to meet their own needs," (Blackburn, 2007, p.3). Unfortunately, this definition fails to capture the full essence of the Brundtland Report's definition of sustainable development. This definition provides a foundation for resource conservation, but fails to adequately emphasize the role of social equality in sustainable development. The Brundtland Report further states, "sustainable development requires meeting the basic needs of all and extending to all the opportunity to fulfill their aspirations for a better life," (<http://www.un-documents.net/ocf-ov.htm#I>). By incorporating this additional statement, an argument can be made that social equality becomes a central component of sustainable development. Julian Agyeman, Professor and Chair of Urban and Environmental Policy and Planning at Tufts University, seeks to reorient our conceptualization of sustainable development in a way that captures the full essence of the Brundtland Report. Agyeman argues for movement fusion and goal alignment between eco-centric environmentalism focused mainly on natural resource conservation and environmental protection, and environmental justice, which primarily concerns itself with social equality and distributive justice with regards to environmental resources and toxic hazards. Agyeman offers an alternative definition of sustainability, "The need to ensure a better quality of life for all, now and into the future, in a just and equitable manner, whilst living within in the limits of supporting ecosystems," (Agyeman, 2005, p.6.). This definition provides

equal consideration to the environment and social equality, or what Agyeman has termed Just Sustainability.

Agyeman's Just Sustainability Paradigm (JSP) offers an alternative approach to sustainable development. The JSP requires attention beyond the eco-centric aspects of environmental stewardship and conservation often associated with sustainable development. The JSP requires social justice and equality to be factored into sustainable development planning. This can be achieved by adopting the principles of environmental justice. Environmental justice has roots in social movements opposing the disproportionate allocation of negative environmental externalities in minority and poor communities. Traditional sources of the environmental justice movement include tenant's associations, religious groups, civil rights groups, farm workers, non-profit groups, university centers and academics, as well as labor unions (Agyeman & Evans, 2004). The term environment in environmental justice refers to more than the ecological sense of the word; it also includes aspects of social justice ranging from environmental health, economic opportunity, distributional equality of goods and services, and community infrastructure (Sicotte, 2008). At its core, environmental justice seeks to ensure environmental equity in the distribution of resources and hazards by eliminating environmental discrimination based on race, religion, gender, or socioeconomic status. A significant event acknowledging the seriousness of these issues in public policy occurred on February 11, 1994 when President Bill Clinton signed Executive Order 12898. This order established a directive for federal agencies to define, identify and protect environmental justice communities (Bowen et al., 1995). Since this order was signed, other environmental justice policies have emerged. For example, the Commonwealth of Massachusetts established the following definition:

“Environmental Justice is based on the principle that all people have a right to be protected from environmental pollution and to live in and enjoy a clean and healthful environment. Environmental Justice is the equal protection and meaningful involvement of all people with respect to the development, implementation and enforcement of environmental laws, regulations and policies and the equitable distribution of environmental benefits (Agyeman & Evans, 2004).”

The emergence of environmental justice in public policy, combined with the growing discourse on sustainable development, presents an opportunity to advance just sustainability as the framework used by local governments seeking to design and implement sustainable development policies in their communities. Local government action towards implementing just sustainability is critical, because citizens have the greatest access and participatory opportunity at the local level (Agyeman & Warner, 2002).

This paper focuses on the role of local government in sustainable development. In order to create a sustainable community, local governments must adopt a holistic JSP aligned approach that includes environmental, social and economic considerations, and engages a range of community stakeholders. The JSP is utilized as the framework for understanding the processes by which local governments

define and implement sustainable development policies. Furthermore, the JSP is utilized to evaluate the types of programs, policies and initiatives that local governments authorize as part of their community's sustainable development plan. The primary research objective of this paper is to identify key factors that influence local governments as they develop and implement programs, policies and initiatives which are JSP aligned.

SUSTAINABLE DEVELOPMENT.

Environmental justice movements emerged at the local level in the United States as local activists from minority and low socioeconomic communities reacted to unwanted land use and disproportionate distribution of environmental hazards and unequal protection by the Environmental Protection Agency. In contrast, the concept of sustainability started as part of global discussions in the 1970s beginning with the limits on growth debates at the UN Stockholm Conference (Agyeman & Warner, 2002). By 1980 the concept of sustainable development was introduced by the International Union for the Conservation of Nature and Natural Resources, but it was the Brundtland Report that advanced this concept to prominence (Cole, 1999). The 1990s were marked with increasing focus on sustainable development from the global organizational level to the local government and community level (Leuenberger, 2007). However, as sustainable development becomes a growing issue of global and local significance, agreement upon what constitutes sustainability becomes more challenging. Sustainability is difficult to define due to the vast and differing conceptualizations assigned to this term. A key argument made by opponents of sustainable development lies in its nebulous nature, stating that the broad defining terms fail to provide operational guidance and value (Cole, 1999).

The ability to define sustainable development is complicated by a multitude of social movements seeking to advance their specific agendas. Like sustainability, environmental justice also lacks a definitive definition. The meaning conferred upon the term is shaped by the context in which it is used and by whom- including place, time, political, and institutional use (Sicotte, 2008). The presence of these movements within a community can influence city officials and shape local government sustainability initiatives. This is supported by research which suggests that sustainability is not a uniformly defined agenda across cities; how local government officials conceptualize sustainability will have an effect on the sustainable development programs, policies and initiatives advanced in their communities. City officials will adopt policies that address issues they perceive as pressing and present-oriented (Novinson, 2009). Different aspects of sustainability will gain greater salience in one community, as compared to another, based on the presence of influencing factors (Zeemering, 2009).

Social movements including the environmental movement and women's movement, as well as interest areas ranging from population growth concerns, modern urban development and social progress have shaped the definition and meaning of sustainable development (Gamble & Weil, 1997). Each of these social movements has a unique motivation. Even within movements there are competing goals that exert influence on our understanding of sustainable development. For example,

two environmental movements are the nineteenth-century community beautification and hygiene movement and the natural resource conservation and preservation movement. Each provides a conceptual framework for approaching sustainable development, although they value and place emphasis on quite different sources for addressing environmental problems (Jamieson, 2007). The community beautification and hygiene movement emphasizes local public health and ecology. This movement is often associated with grassroots groups, and often disputes the idea that the scientific community and management will effectively solve local environmental crises. On the other hand, the global conservation and preservation movement highly values the scientific community and supports the idea that science based solutions should be pursued in addressing environmental issues (Jamieson, 2007). It can then be assumed that the presence of one of these environmental movements in a community could result in disparate approaches to sustainable development. For example, one might expect that the community beautification and hygiene movement would look for bottom-up solutions; whereas, the global conservation and preservationist would seek to design top-down solutions to local environmental issues.

The JSP advances the notion that these groups can benefit from partnership by seeking to capitalize on their common goals in order to promote the principles of sustainable development (Agyeman, 2005, p. 39-78). Sustainable development should be viewed as an integrating development concept that unifies issues of social equality in the pursuit of environmental well-being (Gamble & Weil, 1997). The sustainable development and environmental justice movements are complimentary; where one has traditionally focused on local justice, the other has looked to global conservation solutions. A more comprehensive approach to public policy emerges through their alignment (Agyeman & Warner, 2002). While these social movements have grown from differing motivations, they share common themes focused on environmental degradation, economic inequalities, population explosion, equal rights, political freedom, and global policies (Gamble & Weil, 1997). Seven fundamental concepts of sustainability include the unity of humanity and life on earth, minimization of violence, the maintenance of environmental quality, the satisfaction of minimum work welfare standards, the primacy of human dignity, the retention of diversity and pluralism and finally universal participation (Gamble & Weil, 1997). Utilizing a social justice framework, these groups can use their common opposition as a basis for unity (Jamieson, 2007). As local governments seek to partner with community groups, the coalescence of these movements further supports the JSP, which offers a more balanced approach to sustainable development that incorporates equity, justice and the environment (Agyeman & Evans, 2004).

LOCAL GOVERNMENT SUSTAINABLE DEVELOPMENT

Local governments play a vital role in advancing the goals of sustainable development. The U.S. is seeing a general shift from environmental sustainability towards just sustainability. In spite of the differing conceptualizations of this issue, city governments recognize that in order to be sustainable, they must address social issues in addition to environmental issues (Agyeman & Evans, 2004). The links between economic, environmental and social disenfranchisement are clear, and form a self-

perpetuating cycle. Comprehensive community planning can be leveraged to ensure that the cycle does not start by ensuring that development and land use does not compromise economic, environmental or social quality (Carter, 2006). Core features of sustainable development that local governments should incorporate in community planning include the promotion of responsible economic progress and development, a provision of social justice and distributional equity, protection of the environment, effective management of resources, promotion of both intra-generational and inter-generational equity, promotion of integrated and interdisciplinary approaches to global concerns and planning for the future (Roberts, 2004). Additional considerations include the scale of the community, the extent of community involvement, and the extent in which local governments seek to institutionalize community driven initiatives (Satterthwaite, 2010).

Considerable research has been conducted to identify the various programs, policies and initiatives that local governments are designating as sustainability related. However, the vast conceptualizations of sustainable development result in considerable variability in these activities. Additionally, the dialogical relationship between the environmental, social, and economic components of sustainable development should not be overlooked as a substantial factor in the myriad of initiatives that fall within the umbrella of sustainable development. Local governments will not achieve just sustainability through linear problem solving approaches; instead, city officials must seek transformative changes, and recognize the complexity of interrelated systems impacting environmental issues and the ever changing dynamics of those systems (Leuenberger, 2007).

Local governments often apply a triple bottom line (environment, community and economy) approach to sustainable development. This requires significant coalition building (Zeemering, 2009). For example, engaging the business sector in community planning is important for ensuring the long-term viability of sustainable development initiatives, as this can supplement the funding necessary to maintain development (Carter, 2006). Casting a wide net of participation improves the success of projects by bringing together varied knowledge bases resulting in more comprehensive action plans (New Reports Published on EJ and Brownfields, 2001). This approach to sustainable development is congruent with the JSP. The triple bottom line (TBL) considers aspects of environmental, social and economic domains (Scerri & James, 2009). The TBL does not specify a hierarchy of domains; therefore, it is possible for local governments to design TBL solutions that align with the JSP. This would be achieved by ensuring that city initiatives look beyond economic concerns, and include social justice and environmental benefits in their policies.

How sustainability is implemented at the local level is challenging (Zeemering, 2009). Local government approaches to sustainability must be considered within the physical, social and political context of a community, this implies contextual differences will result in variations among communities. Urban, suburban and rural communities will have different issues that must be addressed within a sustainable development plan. For example, in suburban communities where land is readily available, community gardens make less sense (Zeemering, 2009). The challenge before local governments is how to define the areas of concern that are relevant within the context of their

community. In this process local governments must seek to define their vision and strategy for addressing sustainable development. This process involves a thorough evaluation of environmental issues, biodiversity, local culture, economic issues, governance, and citizen participation. The sustainable development plan should be reflective of the concerns identified during this assessment (Amado et al., 2010). Furthermore, a key factor in achieving just sustainability is the development and implementation of indicators, metrics and reporting tools. According to Agyeman and Warner, this allows just sustainability to move from concept to action (2002).

Agyeman and Warner provide an outline for measuring just sustainability. This includes evaluation of the following areas: managing urban environments, guiding development, managing infrastructure, and building community capacity. Additionally, they list six types of interventions: analysis and design, law making, institutional intervention, strategic intervention, and restorative intervention (2002). Metrics and reporting increases transparency, and provides governments with the opportunity to measure progress and pinpoint the results of specific interventions.

Communities benefit when local governments seek to incorporate sustainability in their development plans. Important sustainable development initiatives promote improvements in poor communities in which poverty reduction and access to infrastructure on a local scale are primary objectives; this includes access to schools, healthcare, clean water, land, safety, and the political process (Satterthwaite, 2010). Common fundamental features include: effective and efficient use of natural resources, a hierarchy of waste solutions with waste avoidance at the top and traditional disposal at the bottom, life cycle analysis aimed at reducing waste, high standards of environmental management in business activities, and collaborative institutional structures that support environmental management (Roberts, 2004). Additionally, benefits associated with these initiatives include increased local control of the economy, increased access to resources for low-income citizens, greater control of energy resources, improved environmental quality, reduced waste streams and stronger local business networks. Local governments can leverage economic benefits from these initiatives as reinvestment capital to further improve their communities (Hess & Winner, 2007). The Sierra Club's "Stop Sprawl" campaign supports the idea that local policy is directly linked to the achievement of just sustainability. This campaign argues that local policies promoting urban sprawl negatively impact the ability of local governments to fund schools, provide police protection and maintain roads (Agyeman & Warner, 2002).

Local government sustainable development traditionally includes projects aimed at enhancing the local environment, or in programs aimed at reducing toxic burdens in low income communities, while providing increased economic opportunities to low income citizens (Hess & Winner, 2007). A contributing factor to the cycle of poverty in environmental justice communities is the lack of economic investment in these communities. There is little in the way of job opportunities, where previously "walk-to-work" communities are faced with no access to jobs, or goods and services (Carter, 2006).

Fundamental to the success of local government sustainability planning is the process by which new policies, programs or initiatives are developed and maintained. Sustainable development offers public policy administrators the opportunity to engage the community in the process of addressing environmental problems (Leuenberger, 2007). This highlights the importance of citizen involvement in planning and decisions in order to successfully address environmental issues, with a specific focus on social justice beyond equitable distribution of resources; there must also be an equitable distribution of involvement (Leuenberger, 2007). Community engagement provides transparency, encourages collaborative decision making, and promotes awareness of local community issues, all of which can garner support for local government sustainable development policies (Zeemering, 2009). Additionally, transparency results in greater accountability for agreed upon work (Fleming, 2004). Cory Fleming found in Spartanburg County, South Carolina that the local government's increased communication with community members improved both group's understanding of the role and responsibility of local government, as well as the wants and needs of the community (2004). Scerri and James highlight the role of participatory governance as it relates to identifying community social values that may contribute to, or detract from, successful sustainable development plans. They stress the importance of evaluating citizen knowledge of sustainability, what it means, what interests are served, and the community values tied to sustainability. Specifically, they call for social mapping in which communities define the specific indicators of sustainable development that apply within their community, and how best to implement education and action towards these community defined measures (2009).

Local governments must seek citizen knowledge in addition to traditional top-down methods of expert knowledge and market-based solutions (Leuenberger, 2007). Participatory governance is paramount to successful implementation, and represents a fundamental concept within the JSP. Citizen engagement results in shared responsibilities, promotes community ownership, helps to ensure the development process and order of priorities are specific to public needs, and provides government officials with the opportunity to receive feedback and reevaluate initiatives as needed (Amado et. al., 2010). Civic engagement varies from city to city based on the institutions and social processes within a community. Areas of focus many include volunteerism, increased election participation and enhancing cultural life (Zeemering, 2009). While participatory governance is fundamental for success, city governments should be prepared for citizen opposition and challenges stemming from the often complex and technical nature of environmental issues that require expert knowledge (Zeemering, 2009). Ultimately, successful partnerships between local governments and community groups occur when these groups focus on advancing solutions and not problems (Satterthwaite, 2010).

In addition to citizen involvement, cities striving to implement sustainability policies must engage multiple government departments, the business sector, and non-profit organizations (Zeemering, 2009). This calls for a multi-dimensional approach that includes urban planning, economic development, civic engagement and environmental initiatives (Zeemering, 2009). Local governments

may not have the financial and human resources necessary to fully implement and control sustainability projects; however, through partnerships with community organizations, businesses, non-profit agencies, churches, and universities, management responsibilities can be shared (Hess & Winner, 2007). Traditionally, cities have been tied to economic development leading to a focus on relationships with businesses and developers, but growing local government awareness of sustainable development has opened the door for relationships with NGOs, environmental groups and community organizations concerned with social and environmental issues (Novinson, 2010). In addition to shared management responsibilities, these partnerships act as community liaisons that can facilitate communication with citizens and assist local officials to overcome potential language and cultural barriers (Hess & Winner, 2007). The formation of collaborative partnerships with other organizations also allows for resource pooling and cost sharing, which can provide the basis for a more comprehensive environmental management policy (Roberts, 2004). Local governments must be focused on quality of life issues, as quality of life increases, so too does the attractiveness of the community which can spur market forces to invest (Carter, 2006). Economic aspects of sustainable development that require lifestyle changes can become politically involved, which represents one of the greatest challenges cities face in designing and implementing sustainability initiatives aligned with the principles of the JSP (Agyeman & Evans, 2004). Roberts states that sustainable economic development is:

“A desire to promote and establish new types of economic activity and to introduce new methods of production and service provision, a more integrated approach to the use of both primary and secondary raw materials; and of other resources that are associated with the provision of goods and services, a more coordinated approach to the management of waste, including the maximizations of the reuse of the materials contained in waste or the transfer of waste for reprocessing elsewhere; the promotion of alternative models for the organization of economic activities; including the establishment of cross-sectoral collaborative ventures and community businesses, the encouragement of research and development in the environmental industry sector and the provision of support for bringing innovation to market (Roberts, 2004).”

Economic development focused on equality may include microcredit and living wage programs, as well as programs that facilitate access to capital for neighborhood businesses (Zeemering, 2009). The initiatives of urban and suburban communities may differ. For example, urban settings may focus on job creation and affordable housing, where as suburban communities may focus of job development that reduces commuting (Zeemering, 2009). Environmentally sound economic activities associated with sustainable development are often linked with social justice, in that these activities often create local employment opportunities in declining or socially excluded communities (Roberts, 2004). The creation of “green collar” jobs promotes economic, environmental and social benefits for the community (Carter, 2006).

Local government initiatives aligning with the JSP focus on areas including access to food, improved air quality, reduced waste streams, improved energy efficiency, and greening of local businesses

(Hess & Winner, 2007). Win-win solutions should be sought, for example, instead of creating another storm water treatment facility in a minority community, promoting green roofs that greatly reduce runoff, can eliminate the need for additional storm water treatment capacity (Carter, 2006). Representative programs include community garden networks, improved public transit systems, community recycle/reuse centers, sustainable/green business networks, and the promotion of alternative energy (Hess & Winner, 2007). Other programs with demonstrated JSP alignment include smart growth/urban planning and industrial ecology. The scope of these programs extends from organizational to citizen action in the areas of energy efficiency, waste management and consumption reduction (Leuenberger, 2007). The goals of such programs range from decreasing green house gas emissions through reduced vehicle usage, promotion of mass transit, water resource management, and urban gardening (Zeemering, 2009). As previously discussed, the types of initiatives implemented can vary considerably; the examples above represent some of the mainstream initiatives cited in current literature on local community sustainable development practices. Local governments must be aware of social equality issues, because failure to do so can lead to solutions in which local policies are exacerbating, not improving, inequalities between the “haves” and “have-nots” (Agyeman & Warner, 2002).

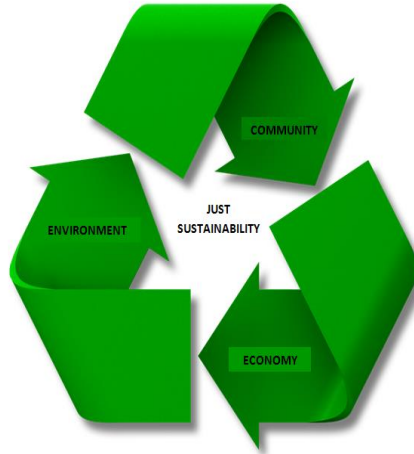
A closer examination of these initiatives reveals their JSP orientation. For example, three goals of community garden networks include providing food to local residents, neighborhood development and providing a source of recreation. Community garden networks also provide an opportunity to engage local schools, teachers and students on environmental issues (Hess & Winner, 2007). Public transit provides mobility to residents in communities with low car ownership (Agyeman & Evans, 2004). Strategic placement of parking garages encourages public use of mass transit systems, as can green taxes and toll fees (Hess & Winner, 2007). Increasing public transit reduces green house gas emission which can improve air quality. In the South Bronx in New York City, increased community pride and lower crime rates were tied to investment in public transit, improved walkways and bike paths (Carter, 2006). Community operated reuse and recycle centers can divert waste, create jobs and provide a recycling stream which increases access to low cost building materials. Cities can promote reuse and recycling through local policy and incentives (Hess & Winner, 2007). Sustainable/Green Business Networks provide a forum for local businesses to network and learn about socially and environmentally responsible practices. City governments can promote buy-local programs and publish green pages (Hess & Winner, 2007). In cities with public utilities, local governments can invest in alternative energy which can improve local environmental quality, and encourage green business developments (Hess & Winner, 2007). Industrial eco-parks increase the exchange of wastes and products around industries within a locality in order to promote waste reduction and improve environmental systems (Roberts, 2004).

In addition to the programs above, other programs employed by local governments that focus on broader long-term community development such as smart growth and urban planning can address environmental justice issues by ensuring that zoning and enforcement are appropriately applied

(Carter, 2006). Smart Growth has two objectives, to promote denser development, and to protect agricultural and wild land from development (O'Connell, 2009). There are eight common policies of smart growth, five focused on land preservations such as the establishment of urban growth boundaries, programs for the purchase of development rights, programs for the transfer of development rights, zoning policies designed to encourage smaller lot size, and polices designed to encourage transit oriented development; and three aimed at inner-city redevelopment such as polices to encourage brownfield redevelopment, policies to encourage rehabilitation of existing buildings, and zoning polices to permit mixed use development (O'Connell, 2009). These changes may focus on decreasing environmental impact, creating self-reliant communities that are closely linked to natural ecosystems, development of more dense/compact cities oriented towards energy efficiency, reduced automobile use, or preserving green space (Zeemering, 2009). Smart growth policies tend to lean more toward inner-city redevelopment such as dense living, public transit and building on smaller lots. Furthermore, enacted smart growth policies focus on brownfield redevelopment, building rehab, and creation of mixed use communities (O'Connell, 2009). High density cities can produce economies of scale with potential advantages to reduce ecological footprint, lower green house gas emissions, reduced water consumption, reduce waste streams, provides businesses with concentrated consumer bases, lower household costs, and concentrate infrastructure (Satterthwaite 2010). Similarly, urban planning attempts to decrease land use, increase urban infrastructures to socialize the population, and decrease daily commuting; however, in the past failure to have effective planning processes has resulted in increased environmental degradation, social conflict, loss of green space, decreased quality of life, and increased illness (Amado et. al, 2010). Amado et. al. call for a new approach to urban planning that utilizes a multidisciplinary approach with environmental considerations and public participation. Areas of consideration in the planning process incorporates ethnical, cultural and natural diversity as potential values of urban life, promotes socio-cultural integration policies without local loss of identity, and promotes pluralism in community participation (2010).

CONSIDERATIONS

The discourse on sustainable development has grown exponentially since the concept was first introduced. Today's lexicon is peppered with references to sustainability and sustainable development. While this demonstrates growing awareness of environmental issues and our responsibility to act, it also contributes to the sometimes overwhelming task before city officials as they try to uncover the meaning of sustainable development and its application in their communities. Just Sustainability can provide local governments with a roadmap for defining, designing and implementing sustainable development plans. Furthermore, by utilizing a just sustainability framework, local governments can ensure that environmental management policies promote the community's environmental, economic and social well-being.



METHODOLOGY

The current body of literature referencing just sustainability is limited; however, by expanding the scope of the literature review to include multidisciplinary publications on sustainable development, urban planning, and environmental justice, the postulate of just sustainability is supported. This study used an amalgamation of the various disciplinary analyses of these topics to create a framework for identifying actions, initiatives and measures of local government actions that support just sustainability at the local level; this became the basis for a survey deployed to mayors throughout the U.S.

The research methodology for this study provides a unique perspective of local level just sustainability practices. This study employed surveys distributed to over 700 cities throughout the U.S. to gather data; whereas, prior research has primarily utilized case studies, as well as discourse, content and interpretive analysis to gather data. It should be noted that Lenahan O’Connell utilized a similar approach; however, that research differed in both content and targeted population; O’Connell’s research focused on smart growth policies and was limited to 13 states. This research takes a national view focused on a broad spectrum of variables aimed at assessing the environmental, community, and economic aspects of just sustainability practices in local government. The previously stated the research objective is to identify key factors that influence local governments as they develop and implement programs, policies and initiatives which are JSP aligned.

The data collected for this research was obtained through targeted selection of cities that signed the U.S. Conference of Mayors Climate Protection Agreement (CPA) (<http://www.usmayors.org/climateprotection/list.asp>). These cities were selected based on the assumption that participation in the CPA indicated local government leaders had some level of awareness of, or concern for, environmental issues and local responsibility. At the time of this research, a total of 1,001 cities had signed the CPA.

MEASURABLE ELEMENTS

The measurable elements of the survey focused on achieving objectives one and three of this study. Referencing prior research on just sustainability, these questions focused on programs, policies and initiatives previously identified as JSP aligned. Each question was assigned to either the “Environment” or “Community” category. Each question was assigned a maximum point value; “Yes/No” questions were awarded 0 to 1 points, where “Yes” responses received 1 point. Rating scale questions were awarded points from 0 to 3 as follows: Disagree: 0; Agree slightly more than disagree: 1; Agree: 2; strongly agree: 3. The table below provides details on the survey questions and their assigned point values:

Using U.S. Census Bureau data for 2008 population estimates, the population of each city was determined

(http://factfinder.census.gov/servlet/DatasetMainPageServlet?_program=PEP&_submenuId=population_0&_lang=en&_ts=). Population size ranged from approximately 8.4 million residents in New York, NY to 118 in the Town of Cranberry Isles, ME. Initially, a subsample of cities with population sizes between 50K and 150K residents were selected for this study; however, this sample was later expanded to include the median 80% (based on population size) of CPA signing cities. The expanded population included 817 cities with populations ranging from approximately 2.5K to 200K residents.

The data collection method utilized in this study consisted of an electronic survey sent to the current mayor of each city. This current mayor and e-mail address of each mayor was obtained through each city’s website. Of the original 817 cities targeted for this study, contact information was obtained for 730 cities. Due to time constraints, those cities without websites or valid contact information were not included in this study.

The electronic survey was designed to illicit responses regarding the environmental, social and economic aspects of each city. The surveys were sent in three phases at approximately three week intervals. Each mayor received an introductory letter and link to the electronic survey (see Appendix 1 and Figures 1 and 2). In addition to the initial distribution, two follow-up requests were delivered at three weeks intervals. Follow-up requests were sent to non-respondents only, and included a copy of the initial request and survey link.

The survey employed a variety of question formats including multiple choice, rating scale, check-list, and short answer formats for a total of 36 questions across seven categories. The survey was designed to provide both measurable and contextual information for analysis.

Figure 1

Just Sustainability Survey Scoring Matrix			
Survey Category and Question Number	Environment	Community	Total Score
2.3 Does the city have a stated Mission or Vision Statement?	1	1	2
2.4 Has the city adopted an Environmentally Preferable Purchasing policy?	1	NA	1
2.5* Please rate the importance of the following factors in city planning decisions: cultural identity, distribution and access to goods and services, economy and environment.	3	6	9
2.6 Does the city have a stated goal to promote environmental justice?	NA	1	1
2.7 Does the city have a state goal to promote sustainable development?	1	NA	1
2.9 Are city ordinances available to the public on-line?	NA	1	1
2.10 Does the city have an active Citizens' Council or Citizens' Community Group that is engaged in planning and decisions regarding community development?	NA	1	1
2.11 Has the city established sustainability metrics and public sustainability performance reports?	1	1	2
3.1** Which of the following programs or initiatives are currently operational in this city. Select all that apply.	15	12	27
4.2 Is there a Green Business Network in the city?	1	NA	1
4.3 Has the city established a Green Business Pages?	1	NA	1
4.4 Does the city have an industrial ecology park?	1	NA	1
4.5 Does the city offer tax incentives to green/clean-tech businesses?	1	NA	1
4.6 Has the city established a Buy Local initiative for locally owned area businesses?	NA	1	1
6.1 The citizens and officials in this city are concerned with environmental issues.	3	NA	3
6.2*** Air quality is an environmental concern for this city.	3	←→ 3	6
6.3 Stormwater management is an environmental concern for the city.	3	NA	3
6.4 Public transportation is often used and available to the citizens in this city.	NA	3	3
Total Possible Score	35	30	65

Because points were not evenly distributed between “Environment” and “Community”, the raw score for each survey was adjusted to allow an even weighting of “Environment” and “Community” scores on a 100 point scale- the Just Sustainability Index (JSI). The weighted value of “Environment” responses was 1.43, and the weighted value of “Community” responses was 1.67.

CONTEXT ELEMENTS

Understanding the context in which these programs and initiatives developed was important for achieving both objectives two and three of this study. These questions were not assigned point values, but were used in the analysis to pinpoint commonalities and differences among cities. These survey questions focused on which factors increased the city’s awareness of environmental issues, where support for environmental policies was generated, as well as the source of opposition to these policies. Additionally, these questions targeted other factors contributing to the city’s environmental agenda such as state and federal laws, impetus events and/or individuals or organizations that impacted the city’s environmental agenda. These questions included the following:

Just Sustainability Survey: Context Questions
2.1 How many years has the city been incorporated?
2.2 Which of the following best describes the community development: Urban, Suburban, Rural.
2.8 Please specify the order in which the following revenue sources represent overall city revenues: Business Taxes, Sales Taxes, Property Taxes, Permitting Fees, Other.
4.1 Which of the following best describes the business sector in the city: Academic/Research, Agricultural, Construction, Industrial, Mixed Use, Retail/Service, Technology.
5.1 Has the state government passed any laws or regulations which mandated cities/towns to create Comprehensive Community Development Plans?
5.2 Has the state government passed any laws or regulations that define environmental justice?
5.3 Has the state government passed any laws or regulations that set greenhouse gas emission standards?
6.5 Please rate the importance of each actor/factor below in the community’s awareness of environmental issues: Academic Institutions, Business Leaders, Citizens, City Officials, Non-profit Organizations, Other Municipalities, State and Federal Law.
6.6 Environmental issues are most often brought to the attention of the city government by (select one): Academic Community, Business Leaders, Citizens, City Officials, Non-profit Organizations, Other Municipalities.
6.7 The greatest resistance in the adoption and implementation of city government endorsed environmental initiatives is received from (select one): Academic Community, Business Leaders, Citizens, City Officials, Non-profit Organizations, Other Municipalities.
6.8 Can you pinpoint an event that could be identified as the key event in the city’s awareness and concern with environmental issues?
6.9 Can you identify an individual or organization that was key to the city’s adoption of an environmental agenda?
6.10 The city’s greatest support for environmental initiatives comes from (select one): Academic Community, Business Leaders, Citizens, City Officials, Non-profit Organizations, Other Municipalities.
6.11 The city’s greatest challenge in implementing environmental initiatives is (select one): Academic Community, Business Leaders, Citizens, City Officials, Non-profit Organizations, Other Municipalities.
6.12 Environmental issues became a part of the city government’s agenda ___years ago: 0-5, 6-10, 11-15, 16-20, 21-25, More than 25, Unknown.
6.13 In your opinion, what are the three most important issues that your city will face in the next five years?

ANALYSIS

The sample included 111 cities. The JSI score was used as the dependent variable for all data analysis. The data was analyzed using univariate, bivariate and multivariate regression models. The analysis was divided across three areas of context- geophysical, governance and psychosocial. The geophysical analysis evaluated the relationship between just sustainability and city size, type and region. The governance analysis evaluated the relationship between just sustainability and state and local laws and policies. Finally, the psychosocial analysis evaluated the relationship between just sustainability and perceived impact of various actors in the community including citizens, city officials, academic community, business leaders, non-profit organizations, other municipalities and state and federal law in a city's awareness of environmental issues.

Just sustainability, defined as a city's JSI score, was normally distributed with a mean score of 52.53 and a standard deviation of 14.332. The sample included city populations ranging from 2,535 to 189,515 with a mean population of 50,496.2. The distribution by city type was 10% rural, 50.9% suburban and 39.1% urban. The distribution by region of the country was 20.9% West, 33.6% Midwest, 23.6% South and 21.8% Northeast.

The cities included in this sample responded 97% of the time that they had been incorporated for 25 years or longer. These cities also indicated that property taxes were the greatest source of revenue 70% of the time, with only 19% reporting sales tax, 3% indicating business tax and 1% indicating permit fees were the greatest source of revenue for the city. Seventy percent of cities were located in states which mandated Comprehensive Community Development Plans, while 27% of cities were located in a state with greenhouse gas emissions standards or regulations. However, less than 5% of cities were in states that established laws or policies regarding environmental justice.

In regards to the perceived impact of social organization actors on a city's awareness of environmental issues, respondents rated citizens as very important 60% of time, city officials as very important 62% of the time, business leader as very important 26% of the time, academic community as very important 35% of the time, non-profit organizations as very important 34% of the time, other municipalities as very important 21% of the time, and state and federal law as very important 95% of the time.

Each variable above was included in a bivariate analysis using just sustainability as the dependent variable. The results indicated a positive, statistically significant relationship between just sustainability and city type, region, state GHG emissions standards/regulations, city officials, citizens and non-profit organizations. A negative statistically significant relationship was identified where state and federal law was rated as very important. The results are listed in Figure 3 below.

Figure 3: Just Sustainability Correlations*

*Figure 3 after works cited

Next, five multivariate linear regression models were designed, once again grouping geophysical, governance and psychosocial context variables. Applying multivariate linear analysis provided insight into the combined impact of multiple independent variables on just sustainability. Dummy variable construction was applied to independent nominal and categorical variables to meet necessary criteria for the application of regression. This allowed for the identification of the strength and predictive power of each independent variable.

In Model 1, regression was performed using geophysical variables. This model revealed that geophysical variables accounted for 15.7% of variation in just sustainability, where city type and region were significant predictors of just sustainability. In this model, city type was shown to be a stronger predictor of just sustainability than region.

Model 1: Just Sustainability and City Size, City Type, Region of the Country

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.427 ^a	.183	.157	12.18481

a. Predictors: (Constant), City Size, Region, City Type

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	42.820	2.548		16.805	.000
	Region	2.693	1.047	.239	2.572	.012
	City Type	4.478	1.327	.315	3.375	.001
	City Size	2.063	1.548	.124	1.333	.186

a. Dependent Variable: Just Sustainability

In model 2 the relationship of just sustainability and state GHG emission standards/regulations and state mandated comprehensive community development plans (governance variables) were analyzed. The regression analysis showed 13.2% of just sustainability variance was explained by these variables; however, only state GHG emissions standards/regulations were significant. The

unstandardized coefficient (Beta) reveals a strong positive correlation between just sustainability and state mandated GHG emissions standards/regulations.

Model 2: Just Sustainability and State Mandated Comprehensive Community Development Plans and State GHG Emissions Standards/Regulations

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.395 ^a	.156	.132	12.43619

a. Predictors: (Constant), State Mandated Comprehensive Community Development Plans, State GHG Emissions Standards/Regulations

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	48.510	2.780		17.450	.000
	State GHG Emissions Standards/Regulations	9.531	3.167	.344	3.009	.004
	State Mandated Comprehensive Community Development Plans	3.906	3.315	.135	1.178	.243

a. Dependent Variable: Just Sustainability

The regression analysis was next performed using the independent variables which measured the perceived importance of social organization units in a city’s environmental awareness. This regression model indicated that 29.6% of variability in just sustainability was linked to these independent variables. In the bivariate analysis a significant relationship was identified between just sustainability and city officials, citizens, non-profit organizations and state and federal law; however, when all variables were viewed together, only non-profit organizations remained significant. This model reflects a strong positive correlation between just sustainability and the perceived importance of non-profit organizations in shaping a city’s awareness of environmental issues. It should also be

noted that when controlling for just sustainability in this regression model, that while state and federal law was no longer a significant predictor of just sustainability, and the negative correlation between just sustainability and state and federal law reversed.

Model 3: Just Sustainability and Awareness Levels of Social Organization Units

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.587 ^a	.345	.296	10.84932

a. Predictors: (Constant), State and Federal Law, Business Leaders Awareness, Other Municipality Awareness, Academic Community Awareness, City Official Awareness, Non-profit Organization Awareness, Citizen Awareness

Coefficients ^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	26.689	5.087		5.246	.000
	City Official Awareness	2.694	2.067	.143	1.304	.196
	Citizen Awareness	-1.452	2.217	-.081	-.655	.514
	Non-profit Awareness	6.381	1.550	.431	4.116	.000
	Other Municipality Awareness	.016	.373	.004	.043	.966
	Business Leaders Awareness	1.239	1.137	.104	1.090	.279
	Academic Community Awareness	2.301	1.209	.176	1.903	.060
	State and Federal Law	1.721	1.353	.113	1.272	.207

a. Dependent Variable: Just Sustainability

In Model 4, the regression analysis performed combined the independent variables from Models 1 and 2. In this case, the independent variables accounted for 14.9% variance in just sustainability.

When geophysical and governance variables were analyzed together, state mandated GHG emissions standards/regulations and type city remained significant predictors of just sustainability. The impact of region was no longer significant predictors of just sustainability.

**Model 4: Just Sustainability, Geophysical, Governance
Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
4	.463 ^a	.215	.149	11.40368

a. Predictors: (Constant), City Size, City Type, Region, State GHG Emissions Standards/Regulations, State Mandated Comprehensive Community Development Plans

Coefficients a

Model4		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	43.411	3.656		11.874	.000
	Region	.378	1.337	.035	.283	.778
	City Type	3.142	1.548	.242	2.030	.047
	City Size	1.814	1.867	.115	.972	.335
	State GHG Standards/Regulations	7.269	3.192	.279	2.277	.026
	State Mandated Comprehensive Community Development Plans	3.512	3.268	.132	1.075	.287

a. Dependent Variable: Just Sustainability

The final regression model allowed the collective effects of all independent variables on just sustainability to be viewed. This model combined the geophysical, governance and psychosocial variables. The analysis revealed that when all variables are considered together, 34.5% of JSI

variation is explained by these independent variables, but only non-profit organizations’ influence on a city’s awareness of environmental issues remains significant.

Model 5: Just Sustainability and All Predictors
Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.690 ^a	.476	.345	9.45936

- a. Predictors: (Constant), City Size, Region, City Type, State Mandated Comprehensive Community Development Plans, State GHG Emissions Standards/Regulations, State and Federal Law, Business Leaders Awareness, Other Municipality Awareness, Academic Community Awareness, City Official Awareness, Non-profit Organization Awareness, Citizen Awareness

Coefficients a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	18.631	6.727		2.770	.008
	Region	1.709	1.199	.165	1.425	.161
	City Type	1.134	1.420	.094	.799	.428
	City Size	.769	1.805	.052	.426	.672
	City Official Awareness	.386	2.276	.023	.169	.866
	Citizen Awareness	1.278	2.600	.079	.492	.625
	Non-profit Organization Awareness	4.345	2.028	.303	2.143	.037
	Other Municipality Awareness	-.221	.513	-.050	-.430	.669
	Business Leaders Awareness	1.531	1.224	.159	1.250	.217
	Academic Awareness	2.451	1.600	.197	1.532	.132
	State and Federal Law	3.319	1.665	.246	1.994	.052

State Mandated Comprehensive Community Development Plans	3.961	3.112	.156	1.273	.209
State GHG Emissions Standards/Regulations	5.673	3.155	.227	1.798	.079

a. Dependent Variable: Just Sustainability

CONCLUSIONS

The primary objective of this research was to identify the influencing factors in the adoption of just sustainability at the local level. The analysis results identified non-profit organization influence as the key predictor of just sustainability. This seems to indicate that grassroots and social movements influence the process of adoption at the local level. This finding supports the argument of other researchers which have maintained that successful implementation of sustainability programs, policies and initiatives at the local level requires meaningful engagement of community stakeholders. The final regression analysis removed all other social organization units as significant indicators of just sustainability. One might argue that this implies that non-profit organizations are better positioned to successfully navigate and engage local leaders. Local leaders seeking JSP alignment might seek to leverage non-profit organizations in their community.

The data analysis for this research was conducted using three contextual spheres- geophysical, governance and psychosocial. While the bivariate analysis identified significant correlations in all three spheres, when viewed collectively, the psychosocial context exerted the greatest strength for predicting just sustainability. One might argue that this highlights the just aspect of just sustainability. Further analysis is suggested to determine if other factors become more salient when controlling for the social versus environmental aspects of just sustainability.

Michael Bell suggests that to mobilize the “ecological society/community” it is critical that several elements occur (2001). One, a dialogue is established wherein decision makers hear the concerns of grassroots community members which can be voiced by social movements and non profits. Two, decision makers are willing to implement into policy, organizational form and action the voices of concern. Three, alliances and/or networks exist that can bring influence on these decision makers. Finally, these three elements must have stability over time and be grounded in what Giddens calls emancipatory politics (1990). This is a process that relies on the resilience of social processes that create an environmentally concerned citizenry where an ecological perspective prevails and efforts are made to establish an environment in which just and fair relationships and practices exit among all in the ecosystem. This seems to have occurred in some of the communities studied.

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Figure 3: Just Sustainability Correlations

		Just Sustainability	Region	City Type	City Size	State Mandated Comprehensive Community Development Plans	State GHG Emissions Standards/Regulations	City Official Awareness	Citizen Awareness	Non-profit Organization Awareness	Other Municipality Awareness	Business Leaders Awareness	Academic Community Awareness	State and Federal Law
Just Sustainability	Pearson Correlation	1	.278**	.312**	.106	.117	.375**	.302**	.317**	.541**	-.027	-.074	-.063	-.272**
	Sig. (2-tailed)		.003	.001	.293	.270	.000	.002	.001	.000	.781	.445	.514	.004
	N	111	110	110	100	90	83	105	106	105	108	110	110	110
Region	Pearson Correlation	.278**	1	.126	.049	.105	.332**	.035	-.057	.091	-.041	-.074	.034	-.054
	Sig. (2-tailed)	.003		.189	.628	.327	.002	.725	.561	.358	.673	.445	.726	.574
	N	110	110	110	100	90	83	105	106	105	108	110	110	110
City Type	Pearson Correlation	.312**	.126	1	-.093	-.044	.223*	.081	.016	.231*	-.083	.019	.161	-.011
	Sig. (2-tailed)	.001	.189		.356	.680	.043	.412	.871	.018	.395	.844	.094	.906
	N	110	110	110	100	90	83	105	106	105	108	110	110	110
City Size	Pearson Correlation	.106	.049	-.093	1	.000	-.045	.034	.057	.167	.293**	.182	.007	.018
	Sig. (2-tailed)	.293	.628	.356		1.000	.699	.745	.579	.104	.003	.070	.948	.862
	N	100	100	100	100	83	77	96	97	96	98	100	100	100

State Mandated Community Development Plans	Pearson Correlation Sig. (2- tailed) N	.117 .270 90	.105 .327 90	-.044 .680 90	.000 1.000 83	1 90	.219 .066 71	.037 .733 87	-.027 .803 88	.075 .492 87	.091 .398 88	.086 .422 90	-.100 .347 90	.079 .457 90
State GHG Emissions Standards/Regulations	Pearson Correlation Sig. (2- tailed) N	.375** .000 83	.332** .002 83	.223* .043 83	-.045 .699 77	.219 .066 71	1 .154 83	.160 .822 81	-.025 .560 82	.066 .590 81	.061 .823 81	-.025 .801 83	-.028 .967 83	-.005 .967 83
City Official Awareness	Pearson Correlation Sig. (2- tailed) N	.302** .002 105	.035 .725 105	.081 .412 105	.034 .745 96	.037 .733 87	.160 .154 81	1 .000 105	.613** .000 105	.336** .000 104	.219* .026 103	.287** .003 105	.080 .415 105	.125 .202 105
Citizens Awareness	Pearson Correlation Sig. (2- tailed) N	.317** .001 106	-.057 .561 106	.016 .871 106	.057 .579 97	-.027 .803 88	-.025 .822 82	.613** .000 105	1 .000 106	.489** .000 105	.183 .063 104	.438** .000 106	.050 .607 106	-.029 .770 106
Non-profit Organization Awareness	Pearson Correlation Sig. (2- tailed) N	.541** .000 105	.091 .358 105	.231* .018 105	.167 .104 96	.075 .492 87	.066 .560 81	.336** .000 104	.489** .000 105	1 .183 105	.132 .002 103	.293** .002 105	.299** .002 105	-.222* .023 105
Other Municipality Awareness	Pearson Correlation	-.027	-.041	-.083	.293**	.091	.061	.219*	.183	.132	1	.369**	.270**	.327**

	Sig. (2-tailed)	.781	.673	.395	.003	.398	.590	.026	.063	.183	.000	.005	.001	
	N	108	108	108	98	88	81	103	104	103	108	108	108	
Business Leader Awareness	Pearson Correlation	-.074	-.074	.019	.182	.086	-.025	.287**	.438**	.293**	.369**	1	.695**	.585**
	Sig. (2-tailed)	.445	.445	.844	.070	.422	.823	.003	.000	.002	.000		.000	.000
	N	110	110	110	100	90	83	105	106	105	108	110	110	110
Academic Community Awareness	Pearson Correlation	-.063	.034	.161	.007	-.100	-.028	.080	.050	.299**	.270**	.695**	1	.675**
	Sig. (2-tailed)	.514	.726	.094	.948	.347	.801	.415	.607	.002	.005	.000		.000
	N	110	110	110	100	90	83	105	106	105	108	110	110	110
State and Federal Law	Pearson Correlation	-.272**	-.054	-.011	.018	.079	-.005	.125	-.029	-.222*	.327**	.585**	.675**	1
	Sig. (2-tailed)	.004	.574	.906	.862	.457	.967	.202	.770	.023	.001	.000	.000	
	N	110	110	110	100	90	83	105	106	105	108	110	110	110

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).