



International Perspectives in Local Government Sustainability Initiatives: Leading Practices and Priorities of Local Governments Worldwide

*Submitted on
August 15, 2014*

This research and analysis were intended to provide an initial point of discussion at the ICMA International Committee Meeting and Regional Summit in Yangzhou, China, May 11-15, 2014. Discussion stemming from this paper led to additional recommended steps to increase the ability of local governments worldwide to work together to improve their approaches to sustainable development.

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Executive Summary

In 2006, ICMA members defined sustainability as the “issue of our age” for the international community and prominent in debates on the future of our planet.¹ In 2008, the Center for Sustainable Communities (CSC) was established at ICMA to prioritize and address this issue. CSC conducts research, shares information on leading practices, and provides technical assistance to address local government sustainability issues in areas of key focus internationally, including climate change adaptation, brownfields redevelopment, renewable energy, and others.

Sustainable development in a quickly urbanizing and resource-constrained world is an increasingly highly prioritized effort worldwide at the international, national, and local scale. General consensus exists that government, specifically at the local level, plays a critical leadership role in planning for and implementing sustainable development measures; however, variation still exists in definitions of sustainability and sustainable development. Technology offers new opportunities to increase capacity at addressing issues; and local stakeholders are determining the best ways to use available technology. Initially, environment was and continues to be the focus of sustainable development discussions; but argument for equal or greater emphasis on social and economic factors exists as well. Defining sustainability and its priorities for local governments within different countries across the world may have implications for improving the capacity of these local governments to increase long-term viability and quality of life for citizens.

This paper seeks to answer the following key questions:

- How is sustainability viewed by local governments globally?
- What is the role of local governments in sustainable development for countries worldwide?
- What are the priorities in sustainable development for local government worldwide?
- What are leading practices of local governments worldwide, including types of programs, partnerships, and performance measures currently being developed and implemented by local governments worldwide to achieve greater sustainability?
- How are local government sustainability efforts linked internationally and do opportunities exist to enhance and leverage these linkages?

Local government association leadership in six selected countries were contacted for their perspectives about how sustainable development is defined, the role of local government in sustainable development, priorities in sustainable development, and how sustainability efforts in their country link to an international community of local government leaders. Countries that were included for analysis in this paper include Australia, Canada, China, Denmark, New Zealand, and the United States. Case studies of communities identified as leaders in sustainability in each country, preferably with international influence or connection, are included in this paper. Data was collected through interviews with stakeholders in the countries and communities of interest, as well as through secondary sources, including historical documents and census data. Analysis of data from key countries provide an understanding of the field of sustainable development leadership in local government worldwide and may inspire ideas and opportunities for leveraging the experience of local governments worldwide to learn from one another and

¹ Michael Willis, “Sustainability: The Issue of Our Age, and a Concern for Local Government.” *PM Magazine* 88 (August 2006): Cover Story.

increase capacity to address issues for other local governments. Key findings from this analysis are as follows:

1. The United Nations Brundtland Commission's definition of sustainable development – which includes consideration of the environment, economy, and society – continues to be the foundation for defining sustainability for local governments internationally;
2. Recurring priorities in sustainable development for local government exist across countries, presenting opportunities for collaboration and sharing information between local governments;
3. Demand for sharing leading practices and linking efforts in local government sustainability exists; however, it is necessary to sufficiently assess transferability of practices due to significant variation between communities;
4. Technology plays a large role in sustainability efforts, notably through the ability to communicate with stakeholders within a community and share information internationally;
5. There are local governments leading the way for the rest of the world in creating programs for sustainability that can be shared worldwide. Examples of this can be found in efforts of Dubuque in the United States and Townsville in Australia;
6. Since local government plays such a significant role in sustainable development, increasing the strength of local government executives' ability to move initiatives forward is critical to increasing sustainability.

Introduction: History of Global Sustainable Development

Since the 1987 publication of the United Nations Brundtland Report by the World Commission on Environment and Development, sustainability has become an international, institutionalized concept.² The basic and most popular definition of sustainability from this report, "meeting the needs of the present without compromising the ability of future generations to meet their needs," was officially established at the United Nation's summit on sustainability in Rio de Janeiro, Brazil in 1992. The summit also resulted in development and adoption of Agenda 21, the global action plan for sustainable development that called on local authorities to achieve sustainability through environmental protection, economic development, social justice, and cultural diversity.³

Another influential effort that more specifically addresses the environmental component of sustainability is the Kyoto Protocol, an international agreement linked to the United Nations Framework Convention on Climate Change that commits 35 industrialized countries to reduce greenhouse gas (GHG) emissions by an average of five percent against 1990 levels. The measure was adopted in Kyoto, Japan on December 11, 1997, entered into force in February of 2005, and was amended in Doha in 2012 to achieve 18 percent of 1990 levels by 2020.⁴

The Brundtland Commission definition of sustainability is still the most frequently cited definition for local governments across the world. Local government officials interviewed in Australia, Canada, and New

² Matt Slavin, *Sustainability in America's Cities: Creating the Green Metropolis*. Island Press, April 14, 2011: 6.

³ United Nations, "Our Common Future: Report of the World Commission on Environment and Development," 1987. http://conspect.nl/pdf/Our_Common_Future-Brundtland_Report_1987.pdf.

⁴ "Kyoto Protocol." United Nations Framework Convention on Climate Change. Accessed on April 24, 2014. https://unfccc.int/kyoto_protocol/items/2830.php

Zealand all draw on this definition, as do many US local governments. The Chinese definition given by officials in the City of Changsha also resembles the definition from the Brundtland Report, though it offers a slight variation in its explanation. All local governments interviewed acknowledged a three-component approach to sustainability that included environmental, economic, and social considerations. The integration of these linked components, as is necessary to comprehensively increase sustainability, is commonly referred to as the “triple bottom-line.”

Membership in ICLEI was also mentioned by many local governments represented internationally for this investigation. ICLEI Local Governments for Sustainability (formerly, the International Council for Local Environmental Initiatives) is an association of over 1,200 local governments internationally whose members are committed to sustainable development.⁵ ICLEI members became part of the Cities for Climate Protection (CCP) campaign by passing a resolution to reduce greenhouse gas (GHG) emissions from their local government operations and throughout their communities by undertaking specific, planned actions. In 2007, the triple bottom line approach to sustainability that included public sector consideration of societal, economic, and ecological costs and benefits of sustainable development was established as standard by the United Nations and ICLEI.

Sustainable Development Priorities

In addition to taking inventory of perspectives and prioritizing overarching components in sustainability, a number of more specific priorities were identified by local government leaders internationally. Examples include reducing waste in landfills, recycling and harvesting water, renewable energy options, increasing amenity of public spaces, climate change impacts, social isolation, community health and well-being, and habitat conservation.

Although controversial in some areas of the world, climate change has frequently been cited as an area of sustainable development that many countries seek to address. Climate change issues have been magnified by engineered systems designed using implicit assumptions and impacted by cold, heat, water, humidity, wind, sea level, and extreme events. Risk varies significantly by geography and function of different systems. Municipal infrastructure is the first line of defense towards climate change and a priority issue area to be addressed by local government.

Urbanization is a phenomenon affecting many cities across the world. Every week, one million people move from rural areas into urban areas driven by the economic opportunities that cities of the world offer. Four of the seven billion people worldwide live in cities and that number continues to grow. Additionally, economies are growing. Historically, there has been a positive correlation between economic growth and greenhouse gas emissions, presenting challenges for rapidly urbanizing areas, like many cities in China.⁶ Professional managers and their community partners need a strategic approach to managing this growth that ensures long-term viability of a community’s resources and livability for its members.

⁵ For more information about ICLEI, visit <http://www.iclei.org/>.

⁶ Copenhagen Clean Tech Cluster. *Danish Smart Cities: Sustainable Living in an Urban World*. http://www.cphcleantech.com/media/2021654/smart%20city%20rapport_indhold_final_low.pdf.

Smarter Cities: Using Technology to Improve Sustainability

Technology has introduced many new opportunities for increasing sustainability by integrating technological advances – in computational power and understanding of advanced analytics – into systems and processes to make them “smarter.” The Smart Cities Council defines a “smart city” as one that uses information and communications technology (ICT) to enhance livability, workability, and sustainability through data collection from existing systems, communicating, and “crunching,” or analyzing, to understand what is likely to happen next.⁷ These capacities allow preventive planning for increased resiliency and effective knowledge management to optimize finite resources.

Local governments have many technologies available to them to increase sustainability. New technologies exist to generate clean energy for municipal buildings, or other community buildings, and smartphone applications for reporting incidents and sharing information. Smart meters monitor the use of gas, water, and utilities. Cities internationally use data to make predictions, for example, the Singapore Land Transport uses historical traffic data and real-time traffic input to predict congestion and a city command center in Rio de Janeiro anticipates where flooding will occur from a particular storm to be able to direct emergency crews and evacuation teams.^{8,9}

Local government plays a significant role in integrating smart technologies data, social media networks, and behavior changes to better plan and act for future sustainable development. Being able to understand and effectively use these data-driven techniques can increase the capacity of local government operations across the world.

There is significant support for using data and technology to increase the sustainability of cities from both public and private sectors. Multi-national technology and consulting giant IBM’s largest philanthropic initiative is the Smarter Cities Challenge, which has contributed over \$50 million in grant funding over the past three years to help 100 cities across the world invest more strategically, bridge silos in information and operations, inform and engage citizens to collect data and partner for positive change, and invest in infrastructure.¹⁰

Capitalizing on Collaborative Opportunities for Local Government Sustainability Internationally

It’s clear that there are limits to what can be accomplished by local governments seeking to address sustainability issues in isolation. National and international guidelines and legislation are necessary to make sustainable change. Local governments have been engaged in information sharing and collaboration on sustainable development. Combined efforts at a regional level can be influential at encouraging progress, learning from one another, and making measurable environmental, social, and economic gains.

⁷ The Smart Cities Council is an industry coalition of leading technology companies formed to accelerate the move to smart, sustainable cities. For more information, visit smartcitiescouncil.com/.

⁸ “IBM and Singapore’s Land Transport Authority Pilot Innovative Traffic Prediction Tool.” 01 Aug 2007. <http://www-03.ibm.com/press/us/en/pressrelease/21971.wss>.

⁹ IBM100. “Deep Thunder.” <http://www-03.ibm.com/ibm/history/ibm100/us/en/icons/deepthunder/>.

¹⁰ For more information about the IBM Smarter Cities Challenge, visit <http://smartercitieschallenge.org/>.

Examples include the following:

- The European Union has promoted sustainable development of member countries through its binding climate targets and new standards for industry. A number of directives from the European Union have been implemented in member countries to facilitate large environmental gains.
- The 2012 Local Government Managers Australia (LGMA) Management Challenge provided an opportunity for cities in Australia and in New Zealand to come together on “transitioning to a low carbon future,” a priority for management and sustainability in this geographic area. One hundred and ten reports were completed by local government teams on current low carbon action and ideas for future activities.¹¹

Local governments internationally have been doing a significant amount to learn from each other to further sustainability. Activities taking place in Seattle, Washington since 1990, “Sustainable Seattle,” were mentioned as a model for sustainable development. Model approaches and actionable steps that produce measurable outcomes toward greater sustainability and can be transferred from country to country are in demand.

“The local community’s exchange of experiences and their mutual inspiration is important,” explain Lars Wilms, executive director of the Danish Association of Local Government Executives (KOMDIR), “The challenge is to understand the specific conditions that are very different from one country to another. Like their companies, each country has its preferences for solutions, which they may wish to be taken into consideration. It is important to identify challenges and solutions so that they match each other in the best possible way.”

Challenges in sharing best practices and engaging collaboratively in sustainability efforts internationally certainly exist. The Brundtland definition of sustainability is the most frequently quoted, and many definitions of sustainability given by representatives from countries examined for this research generally resonate similar themes, though potential variations have arisen. One local perspective acknowledged challenges faced by competing ideologies in areas like climate change in discussions, coming to agreements, and moving forward with discussions to address sustainability issues.

¹¹ The LGMA Australasian Management Challenge is Australia and New Zealand’s annual development program. During the 2012 Challenge’s Pre-Challenge Task required participating local government leaders to answer the question, “How can your council work with others to transition and transform your community and local economy towards a low carbon future?” See the full report here <http://www.lgma.org.au/downloads/Files/PCT%20Report%20-%20Monique%20Howard.pdf>.

COUNTRY PERSPECTIVES AND CASE STUDIES

Australia

Local governments in Australia use the Brundtland Commission definition, which includes considerations of environmental, economic, and social aspects of sustainability development. There is a focus on future impact. Inter-relationships of the triple-bottom line factors are acknowledged. There is general understanding of these concepts in local governments across Australia; however divergent views exist among members. Leadership was the most heavily cited role of local government in sustainable development in three primary ways -- leader by example, change agent of attitudes and behaviors, and regulatory, policy-making entity.

“If economic gain comes at an irreversible cost to the environment, then sustainability is not achieved,” says Cale Dendle, Director of Corporate and Community Services of the Gladstone Regional Council in Queensland, Australia, “Conversely, universal environmental conservation that unduly inhibits economic activity and employment will have poor social outcomes.”

Communities across the country have targeted sustainability programs in many areas, including climate action planning, local food systems, green energy systems, transportation, social equity, and biodiversity enhancement and protection. In early 2013, the Local Government Management Association (LGMA) conducted an analysis focused on activities to reduce carbon use.¹² One hundred and ten local governments from New Zealand and Australia participated by submitting reports on their activities to reduce carbon. LGMA’s summary report documenting the diversity of activities taken by local councils found that the majority of councils (79%) that participated had plans, policies or action plans in place and carried out a multitude of activities to reduce council energy use. The report found that there appears to be a general lack of measurement of impact; councils have set targets but not yet revisited them. Reviews of reports also revealed that local councils are:

- Reducing greenhouse gas emissions across diverse sectors of local government activity;
- Identifying that more could be done to reduce council’s carbon footprint, as well as engaging in corporate programs to reduce emissions
- Beginning to see an expanding role in leading, collaborating on, and facilitating mobilization of local action for a low carbon future.

Different local governments throughout Australia take different approaches to sustainability that generally reflect the attitudes, beliefs, and social norms of their communities. Priorities differ across the country; however some mentioned include: climate change in coastal local government, reducing industrial emissions through opportunities in the carbon trading space, and introducing sustainability measures in codes.

¹² For more information, visit <http://localgovernmentmanager.lgma.org.au/?iid=82857#folio=27>.

Case Study: Townsville, Queensland, Australia

An Integrated, Networked, and Strategic Approach to Sustainability

Located on the northeastern coast of Queensland, Australia, near the Great Barrier Reef, is the tropical city of Townsville, which was established as a municipality in 1866. Townsville is the largest city in the province and has historically experienced faster growth than the rest of Queensland. Significant industries that comprise Townsville's economy include retail trade, health and education services, government administration and defense, construction, mining, manufacturing, and property and business services.¹³ The city's annual growth rate has historically been higher than the rest of Queensland.

Townsville has become a leader in partnering across sectors and geographic regions to improve sustainability on all three triple bottom line aspects – environmental, economic, and social. The city has participated in several international programs and showcases success in a number of programs to increase sustainability, including the ICMA-administered Sustainable Communities Fellowship Program funded by the U.S. Department of State and the IBM Smarter Cities Challenge. Through partnership with the city of Dubuque, Iowa, Townsville was inspired to implement an award-winning water conservation project in partnership with IBM Watson Research Centers Global “Smarter Planet” Initiative along with other key partners, based on Dubuque's replicable model.

Townsville continues to capitalize on this momentum, to develop an additional model that further integrates community engagement and technology. In response to findings from an Australian Government Ernst and Young Report on Financing Local Government Infrastructure (June 2012) that challenges would arise in funding large scale infrastructure projects, local officials in Townsville sought a “transformative” approach to sustainability, specifically addressing climate change adaptation and fostering city-wide resilience, that community members and businesses could buy into and engage in. The “bottom up” approach developed was based on frameworks and projects that were collaborative, used smart technology and demonstrated project synergy; and the Council endorsed it as the Smart Infrastructure and Sustainable Energy Framework in 2013. Outcomes of this effort included achievement of a 30 megawatt (MW) demand

Townsville, Australia

AT-A-GLANCE

POPULATION: 180,114 (2011 Queensland Government Statistician's Office):

LAND AREA: 3,733 km²

SUSTAINABILITY INITIATIVES:

- International partnership with ICMA through the Sustainable Communities Fellowship Program.
- IBM Smarter Cities Challenge water conservation
- Smart Infrastructure and Sustainable Energy Framework that engages community organizations and businesses in clean energy, energy efficiency, and other climate change adaptation activities.

¹³ “City Profile and Statistics.” Townsville City Council website. <http://www.townsville.qld.gov.au/townsville/cityprofile/pages/default.aspx>

reduction and highest number of solar photovoltaic systems installed on roofs in regional Queensland, with nearly 12,600 residential customers (17% of total customers of local energy provider and partner, Ergon Energy) with solar installation by December 2013. The greatest achievement was the identified “action-based” unit for Townsville to measure sustainability which provides a return on investment over multiple dimensions, including residential and commercial/government levels.

Acknowledgements: Research for this profile and case study was conducted through interviews with Greg Bruce, executive manager of the Integrated Sustainability Services Department in the City of Townsville, Australia; Cale Dendle, director corporate & community services of the Gladstone Regional Council (Queensland, Australia); Michelle Tucker, coordinator -Urban Planning and Development of the City of Salisbury; with support from John Ravlic, former Chief Executive of LGMA National and Lauren Oakey, acting Chief Executive of LGMA National.

Canada

From a community development perspective, Canadian local government managers refer to the Brundtland definition of sustainable development and apply it at the municipal level. Local governments make considerations of the three aspects of sustainable development, striving to balance their priorities between the environmental, economic, and social aspects of sustainability.

The role of local government in sustainable development is viewed as fundamental, as municipal managers provide on-the-ground impact through their decisions enacting legislation around land use and development and organizing local government activities. Local government leaders utilize membership organizations, such as the Canadian Association of Municipal Administrators (CAMA) and the Federation of Canadian Municipalities (FCM), as a resource for addressing specific issues in management and sustainable development. FCM’s Partners for Climate Protection (PCP) program is a network of 240 Canadian municipal governments (governing over 80% of the country’s population) that have committed to reducing greenhouse gases and act on climate change. The PCP was created in 1994 as a component of ICLEI’s Cities for Climate Protection network.¹⁴

Climate change and infrastructure are high priorities for Canadian municipalities. Local governments have developed plans and established partnerships to adapt to new weather extremes and prevent flooding. In 2013, the Insurance Bureau of Canada launched a multi-million dollar technology in partnership with the cities called the Municipal Risk Assessment Tool (MRAT). MRAT uses data to help city engineers identify infrastructure vulnerabilities. FCM describes the “infrastructure deficit,” as a backlog of delayed repairs and construction of bridges, roads, transportation options, and drinking water systems resulting from unsustainable municipal budgets. According to FCM, “municipalities own 53% of infrastructure, but only collect eight cents for every tax dollar paid in Canada.”¹⁵

¹⁴ FCM is a membership organization of over 2,000 cities, communities, and provincial and territorial municipal associations that was established in 1901.

¹⁵ “About the Issue.” Federation of Canadian Municipalities website. <http://www.fcm.ca/home/issues/infrastructure/about-the-issue.htm>.

Case Study: City of Fredericton, New Brunswick

Strengthening Financial Sustainability for Infrastructure

Located in the west-central area of the Canadian province New Brunswick is its capital city, Fredericton. Fredericton is strategically located on the Saint John River and has been recognized as a center for information technology, engineering and environment industries, and education, as it is home to two universities.

Local officials in the City of Fredericton have worked hard to increase understanding of sustainability among its residents by building on the Brundtland definition.

“Land use has been forward thinking, but we have moved from that in a number of directions,” explained Michael Baldwin, the City of Fredericton’s Manager of Information Services and a member of the Canadian Association of Municipal Administrators (CAMA). The City has had a sustainable development plan for decades. In 2000, the City joined the Federation of Canadian Municipalities’ Partners for Climate Protection program.

In 2011, Fredericton’s City Council passed a municipal initiative called “Sustainability by Design,” which is a framework to guide the municipality at all levels of urban planning and service delivery while engaging citizens in efforts to increase social equity. Fredericton has become a leader in climate change adaptation. Through their Green Matters public education program, the city has been inching close to its goal of being the first Canadian city in compliance with targets from the Kyoto Protocol.

Financial sustainability was an important priority mentioned, as assets are crucial to address long-term general sustainability and environmental and social issues. Fredericton has been proactive in infrastructure renewal, developing plans for the general fund, water, and sewer funds to establish sufficient infrastructure.

Given the focus on Canada’s need for infrastructure renewal in 2008, the city’s engineering and public works department inventoried and evaluated tangible capital assets to create a long-range financial plan, identified and quantified infrastructure deficit, and established the importance of funding infrastructure renewal through transitioning to compliance with Public Sector Accounting Board standards. They tied their plans resulting from this initiative into the city’s Green Matters overall sustainability initiative, which enabled development of the Water and Sewer Long Term Financial Plan, whose goal is to protect the

Fredericton, New Brunswick, Canada

AT-A-GLANCE

POPULATION: 56,225 (2011 Census)

LAND AREA: 131.67 mi²

SUSTAINABILITY INITIATIVES:

- “Sustainability By Design” guiding framework to help Fredericton balance future growth and prosperity adopted on June 6, 2011.
- Fredericton’s Green Matters public education program for residents and businesses to clean up the community and reduce GHG emissions. For more information about this initiative visit www.greenmattersfredericton.com.

investment in infrastructure of today to achieve sustainability for future generations.¹⁶ The total infrastructure deficit was \$183 million at the end of 2012, with \$130 million relating to water and sewer infrastructure. This 20-year plan strategically lays out how infrastructure should be upgraded to provide safe, equitable services while minimizing the tax and fee burdens on residents for 2014 onward.

While many of the benefits of this plan have yet to be realized, local government staff are confident with having a strategic approach to ensuring financial sustainability in completing critical infrastructure upgrades. "When you look at taking control of infrastructure, it is related to climate change and creating financial flexibility in the future," explained Baldwin, "The financial sustainability gives greater ability to deal with social and environmental issues and creates flexibility for the future."

Acknowledgements: This case study was conducted through interviews with Michael Baldwin, manager of information services for the City of Fredericton and research from secondary data sources with support from Jennifer Goodine, executive director of the Canadian Association of Municipal Administrators (CAMA).

China

China has surprised the world with its high-speed economic development during the last three decades. According to the keynote report during the opening ceremony of the 18th Communist Party of China (CPC) National Congress of the pre-president Hu Jintao, taking economic development as the Government's central task is vital to national renewal and addressing key problems that China faces. The report emphasized that the country must achieve lasting and sustainable development by giving high priority to ensuring ecological sustainability and incorporating it into the entire process of advancing economic, political, cultural, and social progress; hard work is, therefore, needed to build a beautiful country.¹⁷ The transition to this policy-making principle reflects social changes that are affecting the country. China expects an extraordinary population growth of an estimated 60% by 2030. Furthermore, the average per-capita income in 1980 will have tripled by the year 2020. Such economic growth has implications for causing severe social issues, such as increasing inequality and environmental issues.¹⁸ Additionally, this industrial and economic transition has created energy security problems and regional disparity between rural and urban China has catalyzed action and attention for the Government to consider sustainable development in addressing these issues.¹⁹ Since most growth has taken place in urban areas, the Chinese government has focused on developing a new model of urbanization that protects the environmental and social conditions for residents.

China was one of the countries that was present for and signed onto Agenda 21. Since 1992, the Chinese Government has taken a host of major actions in bolstering implementation of Agenda 21. In March of 1994, the Chinese State Council approved its own National Agenda 21, a White Paper on China's Population, Environment, and Development in the 21st Century, and issued a directive calling on government

¹⁶ City of Fredericton. Water and Sewer Long Term Financial Plan. August 19, 2013.

http://www.fredericton.ca/en/environment/resources/WS_LTFP_Final2_Aug-19-13.pdf

¹⁷ Key quotes from Hu Jintao's Report to CPC national congress, http://english.gov.cn/2012-11/08/content_2260404.htm

¹⁸ The World Bank. "Urban China." 2014. <http://www.worldbank.org/content/dam/Worldbank/document/EAP/China/WEB-Urban-China.pdf>

¹⁹ Andreas Oberheitmann, 2005. Approaches towards Sustainable Development in China. http://www.giga-hamburg.de/sites/default/files/openaccess/chinaaktuell/2005_4/giga_cha_2005_4_oberheitmann.pdf

institutions at all levels to consider it as an overarching strategic guideline for the formulation of economic and social development plans and day-to-day management.²⁰ In 1996, sustainable development was officially fixed as one of the basic development strategies. In the year 2000, the Chinese Government passed the “10th Five-Year Plan” to the goals of sustainable development in all areas for 5 years.²¹

In 2012, the government of China released a report titled, “The People’s Republic of China National Report on Sustainable Development,” putting forward future strategic initiatives. The second to fifth chapters elaborated on the effects and progress China has made in promoting the integration of the three pillars of sustainable development—economic growth, social development and environmental protection. These chapters especially emphasize transforming the mode of development, human development, social progress, sustainable use of resources, as well as taking action for ecological and environmental protection and addressing climate change.²² In summary, sustainable development is considered to be a vital way to improve people’s wellbeing and construct a better China.

China has also done a considerable amount to increase sustainability nationally and locally. In recent decades, China has continued to increase investment in infrastructure to support environmental management and has made considerable progress in addressing environmental issues.²³ Local governments in China view the environmental, economic, and social aspects of sustainability as important and inclusive. The Director of Changsha Bureau of Urban and Rural Planning, Feng Yigang, defines a sustainable community as follows: “Firstly, the sustainable community advocates harmonious co-existence between human and nature; secondly, it emphasizes community attachment and a sense of place, and thirdly, it meets all kinds of needs of current and future citizens.”

“Influenced by Chinese traditional culture and philosophy, government officials have a common understanding for sustainable development in our country,” the director added.

The Chinese view the role of local government in sustainable development as one of leadership and governance. Local government should make city policy and develop the actionable plan of sustainable development. Technical activities include developing an index of sustainable development and outreach to and engaging with citizens to adopt more low-carbon, greener lifestyles.

²⁰ United Nations. “Institutional Aspects of Sustainable Development in China.”
<http://www.un.org/esa/agenda21/natlinfo/countr/china/inst.htm>

²¹ WANG Yi, SUN Honglie and ZHAO Jingzhu, *Policy Review and Outlook on China’s Sustainable Development since 1992*, in Chin. Geogra. Sci 2012 Vol.22 No.4, Page 381-389

²² See *The People’s Republic of China National Report on Sustainable Development*, 2012

²³The World Bank. “Urban China.” 2014. <http://www.worldbank.org/content/dam/Worldbank/document/EAP/China/WEB-Urban-China.pdf>

Case Study: Yangzhou, Jiangsu Province, China

Low-carbon Community Project in the Nanhexia Historic Zone

With thousands of years' history, Yangzhou is an ancient city in southern China that was awarded the United Nations Habitat Scroll of Honor Award for its ecology, livability and exquisiteness. The Grand Canal of China, also known as the Jinghang Canal, crosses the city from the north to the south, bringing the city long-term economic prosperity, especially through tourism. In 2007, in order to implement the national sustainable development strategies, protect the cultural heritage and speed up urbanization, the Yangzhou Government started to carry out old-city reconstruction plans, enacting a series of regulations, including "Yangzhou Cultural Heritage Protection and Management,"²⁴ "Smart City Action Plan,"²⁵ and "Yangzhou Greening Management."²⁶

Covering an area of 3980 m², the Nanhexia Historical Zone, which was the downtown during ancient times, is the largest and best-protected historical area in Yangzhou. The low-carbon rebuilding of this community is an important part of the municipal sustainable plan.²⁷ The reconstruction principle is to keep the original building character and improve the living conditions for local residents. The whole project can be divided into a short-term plan, from 2010 to 2015, and a long-term one, from 2015 to 2020. According to the blueprint, some old buildings would be converted into antique hotels to preserve the local landscape architecture and promote economic activity. Other initiatives, such as building up the green environment by planting more trees and making infrastructure upgrades to public toilets, fire facilities, and transportation system, were also undertaken by the Chinese Government.

In 2011, another great step was taken by the cooperation between Yangzhou Government and the U.S.-based Institute of Sustainable Community (ISC). From June 2012 to the end of 2013, the parties made joint efforts to rebuild this area into a low-carbon community under the framework of China-US Climate Action Partnership (PCA). This project aimed at exploring ways and methods to protect, renovate, and update the existing buildings in the ancient area of the city while extending and maintaining the traditional features of the ancient city. The Yangzhou Government was responsible for the project approval, land application, and

Yangzhou, Jiangsu Province, China

AT-A-GLANCE

POPULATION: 4,470,000 (2012)

LAND AREA: 6,678 km²

SUSTAINABILITY INITIATIVES:

- Response to the national sustainable development strategy;
- Preservation of local historic culture to promote economic development;
- Partnership with international sustainability organizations

²⁴Yangzhou Government, "Yangzhou Wenhua Yichan Baohu Guanli Banfa", 2012, http://www.yangzhou.gov.cn/xxgkdesc/xxgk_descxxs.jsp?manuscriptid=7dd6a87cb34646e381beb854409dfc69&zt=

²⁵Yangzhou Governmrnt, "Zhihui Chengshi Xingdong Jihua", 2011, http://www.yangzhou.gov.cn/xxgkdesc/xxgk_desc.jsp?manuscriptid=907e67d0c77b4a76b23366ae7a3237ae

²⁶Yangzhou Government, "Yangzhou Chengshi Lvhu Guanli Banfa", 2008 <http://www.chinalawedu.com/news/1200/22598/22623/22940/2008/3/li98521516414380022865-0.htm>

²⁷Yangzhou Planning Bureau, "The conservation planning of nanhexia Historic zone", 2013, <http://ghj.yangzhou.gov.cn/qita/201310/48bb966ab5d04e709f5693f60579d22d.shtml>

post-construction. ISC organized US experts to investigate with a local research team and trained residents. Additionally, ISC provided strong financial support by covering costs associated with the project, such as travel expenses.

The project included 11 buildings with traditional housing characteristics. With a floorage of 2900m², there are three structural forms—frame structure, modern wood structure, and traditional wood structure. By applying new technologies, including waste heat recovery, a fresh air system, energy management system, rainwater collection system, solar energy hot water system, pipe solar lighting technology, and a ground-source heat pump, the community put into practice the low-carbon and energy-saving ideology. Additionally, thermal insulation structures were installed on roofs and walls; and adiabatic aluminum alloy highly photo-permeable glass windows enhanced building insulation. These high-tech facilities not only improve the living quality, they also reduce carbon emissions.

So far, the project has had fruitful outcomes. For example, building temperatures have remained stable over the spring and summer months without an air conditioner; the sunlight can be converted into electricity so that the free streetlight and rainwater can be directly purified and used daily. Furthermore, this project has won technological demonstration project awards in the construction field of Jiangsu Province in 2012 and the LEED-Homes platinum award by the US Green Building Council (USGBC).

After the 2014 ICMA Regional Summit in Yangzhou, ICMA President Simon Farbrother spoke highly about Yangzhou. “Yangzhou keeps a good balance between economic development and environmental protection.” He added, “What’s more important, with increased urbanization, Yangzhou does not lose its valuable cultural tradition. The sustainability principle is strictly adhered to in the developing process. Yangzhou should be the model to other cities.”²⁸

This sustainable project demonstrates a model for rebuilding an ancient area for the city and possibly for other areas of the country. Compared with the other similar Chinese cities, Yangzhou has taken a careful but scientific and efficient rebuilding strategy, instead of simple demolition and destruction. After the reconstruction, other activities have been attracting visitors to the city, such as putting this area into the suggested tourist routes and telling the stories from history recalled by local residents. The Nanhxia Historic Zone has experienced new vitality on its road to sustainable development. Its success in preserving its environmental quality and historic features has put Yangzhou on its way to becoming a world-famous city.

Acknowledgements: This case study was researched and written by Chen Qiongyan, ICMA International Intern. Acknowledgements: Perspectives on local government activities in sustainable development were provided by Feng Yigang, Director of Changsha Bureau of Urban and Rural Planning, and translated by Linda Wang of ICMA China.

²⁸ <http://www.yznews.com.cn/>

Denmark

After ratification of the Kyoto Protocol in 1997, the Danish government was the first in the EU to introduce a tax on CO₂. The Brundtland Report's definition of sustainable development is still used and understood for national and local governments. The national strategy for sustainable development included an ambitious plan that most municipalities in Denmark shall develop a local strategy and set of indicators within a year. In 2002, about 70% of Danish municipalities were working on a Local Agenda 21 or similar initiatives, including collaborative regional issues, like public transport, water supply, and waste management.²⁹

While theoretically all three aspects of sustainability may have equal weight; in practice, environmental sustainability action items are at the forefront of Denmark's local government thinking. Lars Wilms of the Danish Association of Local Government Executives (KOMDIR) described two paradoxical logical frameworks that explain the environmentally-focused lenses that for viewing sustainability in Denmark:³⁰

- (1) New developments and technological solutions in environmental sustainability can only be achieved when supported both financially and socially.
- (2) Conversely, both economic and social sustainability are deeply dependent on sustainable development in the environmental sense – you can't achieve social or economic goals without regarding the environment.

Denmark's perspective is that the local governments' role is to encourage citizens and businesses in the community to change their behaviors to focus on environmental sustainability; lead by example by introducing energy management and reductions in energy consumptions by retrofitting their own buildings; and organize municipal operations and planning and implementation for urban development, construction, infrastructure, energy supply, wastewater treatment, and more. "This view is generally accepted by the administrative and political leadership in Danish municipalities," says Lars Wilms. Government has the unique opportunity to focus on sustainability in practice and enforcement, as the public bottom line differs from the profit-driven bottom-line of the private sector.

In Denmark, local government efforts have started with initiatives aimed at getting residents to act and change their behavior, largely through campaigns and initiatives that encourage saving electricity, water, and heat. Local governments also support and encourage implementation of energy management within the private sector and demonstrating leadership and increasing their own sustainability by introducing energy management and reductions in energy consumption through upgrades to their own buildings and among staff. Planning also offers an opportunity for local governments to take on a role in sustainable development through incorporating sustainability principles into planning and implementation in areas of urban development, construction, infrastructure, energy supply, wastewater treatment, and more. One priority mentioned was groundwater.

²⁹ Doris Tharan, 2004. *Denmark Case Study: Analysis of National Strategies for Sustainable Development*. http://www.iisd.org/pdf/2004/measure_sdsip_denmark.pdf

³⁰ KOMDIR is an association of approximately 180 top-level executives from all of the 98 Danish municipalities with the goal of promoting dialogue and the sharing of knowledge of strategic leadership across borders. For more information visit <http://www.komdir.dk>.

In prioritization of sustainability issues to local government managers in Denmark, establishing sustainable energy systems has become a major focus. “The climate issue, understood as a distinct focus on CO₂ has, in recent years, gained a slightly different meaning under recognition of the fact that the bulk of the carbon dioxide load comes from the consumption of fossil energy sources. Reductions in energy consumption and the establishment of renewable energy sources are both ways to reduce CO₂ emissions.” After the energy crisis of 1970s, the 1979 Heat Supply Act was passed enabling municipalities to designate certain areas for district heating and making it mandatory for households to connect. This successful initiative saved local consumers costs and reduced dependency on foreign oil for cities like Copenhagen.³¹

Case Study: Copenhagen, Denmark

Integrated, Regional Green Energy System

In Denmark, where more than 60% of all households have central heating, its capital city of Copenhagen recovers 80% of heat from electricity generating stations through its Combined Heat and Power (CHP) system, the largest in the world. Heat from CHP plants and waste incineration meets 98% of total heat demand in the city. The city has set the goal of becoming completely CO₂ neutral by 2025 as a part of the CHP 2025 Climate Plan, approved by the City Council in August of 2012.³²

The district heating system in Copenhagen was vastly expanded in the 1980s, after the passage of the national Heat Supply Act. Initially, addressing socioeconomic and heating security issues were the focus. Eventually, environmental protection and cost-savings became primary priorities. The central city and its fifteen surrounding municipalities’ district heating networks are interconnected in a coherent, regional allocation system. The systems supply district heated hot water through wide distribution to the individual households. Two heat transmission companies transport heat from ten CHP plants to the local distribution system.

The big gain achieved by Copenhagen’s system is the opportunity to use many different sources of energy for the heating of the water. Nearly three-quarters of the emissions reductions identified in the 2025 plan will result from transitioning the sustainable production of heat and electricity through clean energy sources – biomass, wind, geothermal, and solar.³³ Energy from the burning of household waste is supplemented with waste heat from industry, combustion of biomass in the form of scrap wood from sustainable forestry, biogas produced by farm waste, large thermal solar plants, and geothermal wells. The district heating system makes it possible to switch production centrally without affecting the local wiring and installations in dwellings. This flexibility offers the opportunity to continuously adapt to new

Copenhagen, Denmark

AT-A-GLANCE

POPULATION: 1,213,822 (2012)

LAND AREA: 34.1 mi²

SUSTAINABILITY INITIATIVES:

- Largest combined heat and power (CHP) system in the world.
- 2025 Climate Plan for total carbon neutrality by 2025.

³¹ New York City Global Partners. Best Practice: District Heating System. Report updated on May 25, 2011.

http://www.nyc.gov/html/unccp/gprb/downloads/pdf/Copenhagen_districtheating.pdf

³² For more information, view the plan at

http://subsite.kk.dk/sitecore/content/Subsites/CityOfCopenhagen/SubsiteFrontpage/Business/Growth_and_partnerships/~/_media/F5A7EC91E7AC4B0891F37331642555C4.ashx.

³³ William Brittlebank. “Climate Plan 2025 in Copenhagen, Denmark.” Climate Action. 12 April 2013.

http://www.climateactionprogramme.org/news/copenhagen_denmark_aims_to_be_carbon_neutral_by_2025/

technologies and incorporate the use of renewable energy to account for natural variability occurring in production from wind turbines and solar cells. Investment in developing and implementing these green energy technologies have significant economic benefits as well in an estimated \$475 million estimated generation from the city by 2025 and potentially \$4.78 billion in private funds and total investment within the same period.³⁴

This model has been shared across the world, and touted as well-suited for densely populated and urban areas such as Copenhagen by the New York City Global Partners Innovation Exchange.³⁵

Acknowledgements: Data for this country profile and case study was collected through an interview with Lars Wilms, Executive Director of KOMDIR and secondary sources.

New Zealand

As a signatory to the Kyoto Protocol since 1997, New Zealand has taken part in international efforts to reduce greenhouse gas emissions. The New Zealand Ministry of Social Development has defined sustainable development using the Brundtland definition in its 2003 Sustainable Development for New Zealand Programme of Action. The New Zealand Ministry for the Environment funded a community for climate protection program (CCP-NZ) up until the program ended in 2009; and afterwards local stakeholders looked to ICLEI as a sustainability resource.

The national Local Government Act 2002, which was passed by the New Zealand Parliament for the 78 local authorities in the country, shows the expectations and purpose of local government, including establishing its broad role in promoting community well-being by taking a sustainable development approach.³⁶ Specifically, this is defined as:

“Meeting current and future needs of communities for good-quality local infrastructure, local public services and performance of regulatory functions in a way that is most cost-effective for households and businesses.”³⁷

For local governments and their managers, this legislation makes clear that councils must balance environmental, social and economic needs when considering sustainability. Local governments in New Zealand use the Brundtland definition as well. From July 2004 until June 2009, the New Zealand Ministry for the Environment (MfE) ran a voluntary programme to empower local councils to reduce greenhouse gas emissions through their own initiatives called Communities for Climate Protection – New Zealand (CCP-NZ).³⁸ CCP-NZ promoted the five milestone process of measurement, commitment, planning, implementing, and monitoring promoted by ICLEI. While the program was being administered by MfE, 34 councils (comprising 83% of the New Zealand population) joined in utilizing the process to reduce emissions. Since

³⁴ Ibid.

³⁵ For more information, visit <http://www.nyc.gov/html/ia/gprb/html/bphome/home.shtml>.

³⁶ “Councils’ roles and functions.” New Zealand Department of Internal Affairs. <http://www.localcouncils.govt.nz/lqip.nsf/wpgurl/About-Local-Government-Local-Government-In-New-Zealand-Councils-roles-and-functions>

³⁷ Local Government Act 2002, section 10 (1). <http://www.legislation.govt.nz/act/public/2002/0084/latest/DLM170873.html>

³⁸ For more information about CCP-NZ, see <http://www.mfe.govt.nz/issues/climate/policies-initiatives/ccp-nz.html>.

the end of the CCP-NZ, municipalities in New Zealand continue to look to ICLEI as a resource. As of 2014, the four cities listed as members include Auckland Council, Dunedin, Kapiti Coast, and Palmerston North.

Case Study: Palmerston North

Promoting Green Energy Systems

Palmerston North is located in the Manawatu-Wanganui region of the North Island of New Zealand. In 2009, the Council developed a vision to be a sustainable city, leading to the Sustainable City Strategy that was approved in June of 2010. The strategy outlines how the Council can promote more sustainable practices in energy consumption, biodiversity, waste management, community development, public transport, economic development, and other areas, and gives tools for change to help the city make necessary planning changes. The interactive State of the City Performance Monitoring tool was developed in February of 2012 to analyze and communicate progress on sustainability.³⁹

“Sustainability goes across all activities and councils,” explained City Administrator, Sheryl Bryant, “It is part of everyone’s job. It is not siloed into one department.” Because sustainability is prioritized by the council, it’s important for staff to prioritize it; however staff is still in early stages of understanding it.

Within the Sustainable City Strategy is a Climate Change Action Plan that sets targets and milestones for work being done by the municipal energy department,⁴⁰ city officials are constantly weighing the costs of environmentally friendly innovations, and different tensions exist in order to make things happen. “If we want to do something that makes all electricity be 100% renewable by 2015 – which is one of the milestones in the plan – that comes at a cost,” explained John Debney, Health & Safety Energy Officer of the Palmerston North City Council, “[We] have to weigh that against the financial. If it costs too much, then it can’t be sustainable. If it was a small organization it would be easy; but because it is so large, there are many conversations to be had about what is the best path to go down. Are there other projects to be prioritized against? What are long-term costs and can we afford it? Will it be politically sound?”

In integrating renewable energy, Palmerston North took a gradual approach that built off of successes from subsequent projects. Their most recent projects in solar photovoltaic energy have helped to build momentum in implementing renewable energy initiatives in the city; however, the city began these efforts with the installation of solar water heaters for showers at municipal pools. Next, the department installed solar panels on the library, work depot, and public toilets with showers. Since then, larger scale renewable

Palmerston North, New Zealand

AT-A-GLANCE

POPULATION: 80,079(2013 Census)

LAND AREA: 125.8 mi²

SUSTAINABILITY INITIATIVES:

- Sustainable City Strategy approved in June 2010.
- Climate Change Action Plan from October 2011, which promotes planning and implementation for green energy projects.
- Education and outreach on sustainability measures to public using web-based, interactive tools.

³⁹ To view the tool, visit <http://pncc.govt.nz/yourcouncil/our-performance/state-of-the-city-monitoring-tool/>.

⁴⁰ The full Climate Change Action Plan (October 2011) can be accessed at http://www.pncc.govt.nz/media/1764693/climate_change_strategy_milestone_3_action_plan_action_plan_2011_mexico_city_pact_and_climate_cities_registry.pdf.

energy projects that have been successfully implemented include the following: a 1-MW landfill gas generator, a 750-KW biogas generator; and a 160-KW hydroelectric generator at the city's water treatment plant. These projects have kept the city on track to meet its energy and emissions goals listed in Climate Change Action Plan.

In order to combat one of the largest challenges in funding renewable energy projects, communicating success has become a critical component to emphasizing the cost-saving potential and importance of these projects and gain required support. The solar project has a live wind feed, and there has been discussion about placing the data on the web page to increase visibility and engagement in the community. Web-based communication has made it easier to communicate with and engage the public. Similarly, sharing data from other energy monitoring projects and installing displays around the building to show how much energy is being used and generated to help people to understand and bring more visibility as well. "The use of technology is vital," Debney explained.

Education helps show people what can be done. Palmerston North does not have large sunshine resources, but there are many sunny days. By sharing information and raising the visibility of solar initiatives, the city is changing the false assumption that a community needs to be in the sunniest part of the country to take advantage of solar energy. Through highlighting this project and energy efficiency and renewable projects, the city has gained traction in achieving more efficient and clean energy usage. In describing how attention to recent solar projects has helped elevate overall clean energy initiatives in Palmerston North, John Debney stated, "None of this conversation had begun prior to the solar projects, although 31% of the council's energy consumption had been from the other renewable and energy efficiency projects from landfill gas and bio-gas. It's important to keep things in context and not discount other projects."

Acknowledgements: Data for this case study was collected through secondary sources and interviews with John Debney, Health and Safety and Sheryl Bryant, General Manager.

United States

Although the definition of sustainable development in the United States stems from the Brundtland Report's triple bottom line, significant variations and prioritizations of the components exist in communities across the country. Federal programs, such as those from the Partnership for Sustainable Communities (an interagency partnership between the federal housing, transportation, and environmental protection agencies), the U.S. Department of Housing and Urban Development's (HUD) Sustainable Communities Regional Planning Grants' multijurisdictional efforts in regions across the US, and a number of other federal programs, invest millions of dollars to support local government initiatives for sustainable development.⁴¹

During the 1990s and 2000s, local governments began implementing smart growth strategies, such as redeveloping abandoned and contaminated properties, or "Brownfields", for new uses, in order to combat a prevalent issue of sprawl. Other local governments began to engage in sustainability practices such as establishing lower emissions, healthier, and more accessible options for transportation, and building

⁴¹ For more information about the Partnership for Sustainable Communities, visit the website at <http://www.sustainablecommunities.gov/>.

affordable houses that were more energy efficient and climate resistant. Data from ICMA's 2010 sustainability survey indicates that despite a growth in sustainability activities since the 1990s, local governments in the United States are still in the early stages of sustainability becoming an established and prevailing practice. Some jurisdictions; for example, Austin, Texas, Boulder, Colorado, and Seattle, Washington, have been doing a significant amount in sustainability and have offered models for other local governments across the nation and the world.

Priorities largely differ depending on region, politics, and other variations between communities. In local governments who have engaged in sustainability activities, emphasis may be placed on long-standing areas of commitment like recycling and the environment and new emphasis on energy conservation, but only a minority of governments have developed comprehensive sustainability programs and measures to promote social equity.⁴² U.S. local governments with leading practices in sustainability have (1) notably engaged with citizens and nongovernmental partnerships, and (2) developed indicators to measure progress in sustainability.

Case Study: Dubuque, Iowa

Developing a Model for Sustainability in Local Government

Located in the Midwest region of the United States, the town of Dubuque, Iowa is "creating the international model for sustainability."⁴³ As a community that had experienced severe economic decline beginning in the 1980s and unemployment reaching nearly 23% in 1982; local government leaders sought a long-term strategy to revitalize the community in a holistic way.⁴⁴ In 2006, the Dubuque City Council identified sustainability as a top priority and branded efforts to engage the community to become a leader in sustainability as "Sustainable Dubuque."

Citizen engagement was a critical component to the success of developing the Sustainable Dubuque plan and obtaining requisite buy-in for implementation and extraordinary success. Nearly 5,000 residents participated in the city's Vision 2000 community planning process to create the initial plan. The second iteration of the plan was led by a local foundation and the chamber of commerce and engaged the participation of nearly 13,000 residents who submitted

Dubuque, Iowa, United States

AT-A-GLANCE

Population (US Census 2012): 58,155

LAND AREA: 29.97 mi²

SUSTAINABILITY INITIATIVES:

- Sustainable City Strategy approved in June 2010.
- Climate Change Action Plan from October 2011, which promotes planning and implementation for green energy projects.
- Education and outreach on sustainability measures to public using web-based, interactive tools.

⁴² James Svava, Tanya Watt, and Katherine Takai. Local Governments, Social Equity, & Sustainable Communities: Advancing Social Equity to Achieve Sustainability. 2014.

⁴³ Sustainable Dubuque. October 2013. <http://www.cityofdubuque.org/DocumentCenter/Home/View/2702>

⁴⁴ The dramatic increase in unemployment in 1982 was due to the departure of the farming industry.

over 2,300 ideas for projects like major redevelopment efforts, integrating a bilingual education curriculum for K-12 students, and creating a community health center.⁴⁵

“Because of the engagement process that we undertook for creating the (Sustainable Dubuque) vision or brand, we now have our businesses with international presence, students going out into the community and talking about being a part of this. Because of the inclusive approach to developing our brand, we have created something that everyone, regardless of what sector is, talking about with a sustainability focus,” explained Cori Burbach, Dubuque’s Community Sustainability Coordinator in a recent ICMA webinar.⁴⁶

Extensive community engagement led to projects selected as a part of “Dubuque 2.0,” to be adopted by local organizations that have already made significant gains in decreasing greenhouse gas emissions, generating jobs, and redeveloping distressed neighborhoods. The success of sustainability initiatives in Dubuque have resulted in progress on goals and national and international recognition, including three All-America city designations through the National Civic League for the redevelopment of a formerly vacant mill district into a lively mix-used neighborhood.⁴⁷

Dubuque’s success has had international influence in advancing more sustainable communities. Through the Iowa Initiative for Sustainable Communities (IISC) launched in 2009, partners in enhancing the capacity of local governments in Iowa to advance sustainability have had results through analyzing program success, reviewing international best practices, and making local policy and implementation recommendations based on reviews. Dubuque is engaged in a unique public/private partnership with the IBM Watson Research Center’s Global “Smarter Planet” Initiative and other key partners to develop new “smarter” technology coupled with community outreach and implementation strategies to create a replicable, international model of sustainability for communities of 200,000 and under.

FINDINGS AND CONCLUSIONS

Based on data collected and analyzed from interviews, case study development, and reviews of secondary sources, the following recurring themes were identified:

- The Brundtland Commission’s definition of sustainable development continues to be the foundation for defining sustainability internationally. Most local governments use the triple-bottom-line consideration of sustainability that includes the environmental, economic, and social considers; however variations exist in the emphasis of the importance of one component over the other. More can be done to define sustainability to focus worldwide efforts; however variations will exist in approaches to addressing and prioritizing issues depending on unique community characteristics;
- Similar priorities exist across countries, presenting opportunities for collaboration and sharing information between local governments. Differences in priorities may be categorized by geographic characteristics, for example coastal cities. Challenges in sharing leading practices internationally

⁴⁵ ICMA Municipal Yearbook 2014. Chapter 6: Advancing Sustainable Community Efforts in the United States.

⁴⁶ This webinar, “Economic Development: Branding Your Community,” was presented live on May 2, 2013. To view this webinar streaming on-demand, visit <http://learning.icma.org/store/seminar/seminar.php?seminar=18243>.

⁴⁷ The National Civic League’s (NCL) All-America City Award is America’s oldest community recognition program that awards communities of all sizes that collaboratively tackle challenges and achieve results. For more information, visit NCL’s website at www.ncl.org.

may arise due to variations in understanding of sustainability and political feasibility among communities worldwide;

- Demand for sharing leading practices and linking efforts in local government sustainability exists. Local government leaders are interested in learning from one another transferrable models and technologies to effectively approach sustainability are needed. Case studies are insightful; however it is important to be able to determine applicability of practices across the world, given the variations between communities and the depth of their sustainability programs. Some international and many national partnerships and programs exist that provide resources to local governments for increasing their sustainability;
- Technology plays a large role in sustainability efforts, notably through the ability to communicate with stakeholders within a community and share information internationally;
- Communities leading the way for the rest of the world in ways that local governments can take the lead in creating programs for sustainability have their own programs that can be shared internationally and are applicable to many different communities. Examples of these can be found in efforts of Dubuque, Iowa in the United States and Townsville, Queensland in Australia.
- While there are many sustainable development examples and pilot projects, the challenge lies in making the leap from pilot to large scale, transferring relevant lessons learned, and increasing the replicability of initiatives.
- Since local government has such a significant role in sustainable development, increasing the strength of local government executive ability to move initiatives forward is critical to increasing sustainability.

RECOMMENDATIONS

After the International Committee Meeting in Yangzhou, the author of this examination came together with International Committee members who had attended the summit in Yangzhou in order to provide feedback and potential next steps. Based on the analysis and follow-up conversations with members, the following recommendations and/or suggested next steps are as follows:

- Develop a set of leading practices or a guidebook for local government managers on one or more of the following topics:
 - Considerations in moving sustainability forward – how to make the case for community sustainability and determine and highlight its return on investment;
 - Determining transferability and replicability in local government sustainability programs and initiatives across the range of internationally determinant factors; and
 - Performance measures and accountability
- Survey members internationally about their sustainable development activities and priorities.

- Establish a list of priority sustainable development areas, for example social equity, climate change adaptation, historic preservation and adaptive reuse, and sharing sustainable development practices internationally.
- Collaborate with the Sustainable Advisory Committee or Center for Sustainable Communities to do a quarterly blog post highlighting sustainable development examples that have been used to address critical issues.
- Network with other internationally-focused entities working on local government sustainability

This publication was developed for the ICMA International Committee. Thank you to all who contributed feedback, information on programs, and other support of this research.

Acknowledgements: Special thanks to ICMA International Committee Members, Robin Weaver, ICMA Range Rider and independent consultant, and Kelly McAdoo, Assistant City Manager, City of Hayward, California.