



**Cities of the Future:
Korea and United Arab Emirates' Urban Agenda**

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I. Introduction

More than 50% of the world's population lives in cities today. By 2050, an estimated 70% of the world population will live in cities. China alone is expected to have 15 super-cities with an average population of 25 million by 2025 (Europe will have none). Even Africa's urbanization rate is approaching China's – the continent has as many cities with a population of 1 million or more.¹ These developments are testament to the shift in new regional centers from traditionally western cities, such as New York and London, to those beyond the Atlantic sphere. Cities, now and then, have always mirrored the happenings of global change as a microcosm, a laboratory of human and social interaction. They fluidly transform with the people and have always been ahead in innovation, unafraid of change, outliving countries and empires.

Now in the 21st Century, cities have been given the task to grow bigger, smarter and sustainably with our new technology, connected global economy, and massive service industry and culture. These cities have been coined as, 'Smart', 'Ubiquitous', 'Knowledge' or 'Intelligent'; their definitions not all too much different from one another. They are, however, all a vision in practice of our present and future. Thus, by nature, cities draw new lines in our rapidly changing global society, most recently exploring how Information Communications and Technology (ICT) can be physically and socially engineered into urban living, i.e. Smart Cities. Our technology has also allowed us to make decisions and change our urban landscape so fast that even the city residents themselves cannot catch up to the innovations. These innovations, such as Smart Cities, carry more weight as political and economic tools and are implemented to keep up with the global market and maintain competitiveness as a city.

In this paper I have chosen to look at two leading producers of smart cities, South Korea and United Arab Emirates (hereinafter referred to as, UAE), focusing more on Korea, as unique examples of how Smart Cities in emerging markets are being used and defined. These two countries are far from the only countries or necessarily even the pioneers of this urban development, yet, they present a pertinent case study of our urbanizing world since most of the world's dramatic, future urbanization will be in developing or middle-power countries. Yet as aspiring leaders of the field, I found that much of their recent urban initiatives, including Korea's Knowledge Sharing Program, had diverging intentions beyond making a comfortable, efficient and democratic city of the future. This paper asks: are these two countries' cities truly capable of becoming the model for other emerging market cities and for whom are these cities being developed?

I first examine South Korea and UAE's past and present, collaborating and converging, urban development practices, and explain Smart Cities to understand and foresee the near future.

¹ Khanna, Farag, "Beyond City Limits." Foreign Policy. Sept.-Oct. 2010, accessed 13 Apr. 2012, <http://www.foreignpolicy.com/articles/2010/08/16/beyond_city_limits>.

Basic political and economic concepts and histories are brought up but only those relevant to the western urban theories this paper focuses on and will therefore omit other relevant explanations. In Sections 4 and 5, I introduce the Korean Knowledge Sharing Program as it pertains to UAE and Korea's cooperation in urban initiatives and evaluate the outcomes of the two countries' urban agenda in ICT as well as this partnership. I then conclude with further exploratory questions addressing how this unfinished project will carry itself out and prescribe a great responsibility to South Korea and UAE to set precedent in their developments.

II. Korea and UAE's Past Urban Developments

Korea is widely known for its economic "miracle" and its successful transformation from an aid recipient to an emerging donor in just about fifty years. Its successful economic and political development has drawn admiration and strong interest from developing countries. Yet, the most unique aspect of Korea's growth has been the rapid urban development, at times far surpassing the economic capacity of the country. Korea, a presidential democracy, has a strong national government and weak local, provincial governments. Seoul, the capital city, is an exception and exercises great power and influences even in national politics. Seoul and its metropolitan area alone houses 24.5 million people, 48 percent of the nation's population, in just 12% of the country's land. The metropolitan area continues to grow to this day with overseas and domestic migration. Korea, specifically Seoul's urban growth agenda has always paralleled its economic growth plans since its war-ruined state in the 1950s. Korea was not alone in thinking so, as Parag Khanna explains, cities, dating back to the medieval ages, have always been the "magnets of economies, the innovators of politics and drivers of diplomacy."² So how did Seoul and Korea get to be what they are now? Of course there are multiple factors that boosted the economy and urban landscape but for this paper's purpose, I attribute domestic and international construction business as one of the main influences.

Korea's construction industry developed in skill and size with war-ruin rehabilitation projects to build city infrastructure and apartment houses. Starting in 1974, Korea began construction projects overseas in the Middle East and accelerated throughout the early 1980s. By 1980, Korea had become the second largest exporter of construction services in the world according to the number of orders received. In 1981, over 92% of the \$13,681 million was from the Middle East.³ Korea's success in construction industry overseas has been attributed to the fact that they brought their own construction workers on site. This temporary settlement/immigration did not disturb the host country and the construction service was superior – more efficient and effective, compared to others where domestic or local migrant workers were hired. Yet, to obtain the economic benefits of migration, Korean workers were required to work in more demanding conditions than at home – 60 hours a week, which was seven more hours than the normal non-migrant workers in the construction sector.⁴ This marked the beginning of Korea's close business partnership with countries in the Middle East, including UAE.

² Khana, Farag. 2010

³ Kim, Sooyong. "The Korean Construction Industry as an Exporter of Services." *The World Bank Economic Review* 2.2 (1988). Pg. 227

⁴ Gunatilleke, Godfrey. "Republic of Korea." *Migration of Asian Workers to the Arab World*. Tokyo, Japan: United Nations University, 1986. Pg.226

The United Arab Emirates is a federation of seven states, with a little more than 7.5 million people, formed in 1971 after independence from Britain. Each state - Abu Dhabi, Dubai, Ajman, Fujairah, Ras al Khaimah, Sharjah and Umm al Qaiwain - maintains a large degree of independence ruled by an Emir. The authoritarian Supreme Council of Rulers made up of the seven emirs governs the UAE and appoints the prime minister and cabinet. The appointed president of UAE, Sheikh Khalifa, is also the emir of Abu Dhabi. The UAE is one of the most liberal countries in the Gulf, with other cultures and beliefs generally tolerated. Abu Dhabi Region, which is the capital city of UAE and in Abu Dhabi emirate, is the second largest city with a population of about 1.2 million or 60.8% of the total population for the Emirate as of 2010.⁵ The city is on a 26 square miles large island.

Once Middle Eastern construction market began to decline starting 1986, Korea had to seek other opportunities. Its competitive advantage in a strong labor-force, as evidenced in the Middle East, was not enough to win the projects in other, more developed countries, such as the US. These declining and unstable opportunities in manual and low-tech construction overseas allowed Korea to consider developing more technical skills in and out of the construction industry to compete within the industry's market.⁶ So, Korea used its domestic market to develop an expertise in urban development (a transition from urban construction), reconstruction and establishment of industrial complexes.⁷ The result of this transition was an announced a five-year plan to construct 2 million housing units and five new towns within commuting distance of Seoul. Five sites within the 25km distance boundary from the center of Seoul were located as the 'first generation' new town development sites. Starting planning and construction as early as 1989, they were all completed by mid 1990s.⁸ The successful occupancy rate of these new towns and continuous migration into Seoul called for a 'second generation' of these new town developments to be developed throughout the 2000 and 10s.

Dongtan Ubiquitous City, one of the six 'second generation' new towns, became a pilot project that would use a Ubiquitous Computing strategy, where automated systems also help protect the safety and make the city more efficient. Essentially a move from manual urban management to a virtual web system – just as banking went online and communication was digitalized. As Michael Katz quotes Manuel Castells, "the late 20th Century 'informational city' replaces the early 20th Century 'industrial city', which minimizes the role of territorial contiguity and maximizes the communication networks and flows of exchange are at the core of the American edge city."⁹ Seoul and Dongtan have fully embodied Castells's statement and have focused their urban agenda to developing the beginning of Smart Cities since.

III. Korea and UAE's Smart City

Through the years of strategic development, Seoul has become one of the best examples of a smart city in which knowledge and services are available to residents through the use of ubiquitous computing, with sensing and communication resources embedded in urban elements

⁵ Statistics Centre – Abu Dhabi.

⁶ Kim, Sooyong . 1988, pg. 229

⁷ Park, Yong-Gyu. "Exporting Korea's Urban Development Expertise." *SERI Quarterly* 5.1 (2012)

⁸ Lee, C., and K. Ahn. "Five New Towns in the Seoul Metropolitan Area and Their Attractions in Non-working Trips: Implications on Self-containment of New Towns." *Habitat International* 29.4 (2005)

⁹Katz, Michael B. "What Is an American City?" *Dissent* 56.3 (2009). Pg. 24

such as residences, building infrastructure, and open spaces. For example, residents can control every electronic device in the house using either a central keypad or a hand-held device; city services are available online, showing traffic and health hazards, enabling citizens to participate in the governance process anytime, anywhere.¹⁰ Small, tangible effects of technology's efficiency is said to produce tremendous results in making urban living overall more pleasant.

As a result, Seoul has become the world's most wired city and named the world's most "advanced and efficient e-government" by the 2012 UN e-government ranking¹¹. Its citizens, reciprocally, are the most technologically connected. Everything is designed for working and living in a futuristic smart metropolis of tomorrow. This is part of Korea's plan to commercialize a city model – the smart city as cities of the future, where all city services and infrastructure will be more accessible and managed through personal and public ICT.

Abu Dhabi, like Seoul, has been committing significant efforts and resources to improving its city. Its *Abu Dhabi Economic Vision 2030* is an extensive report with strategic economic, social and urban plans. Yet, unlike Korea, the United Arab Emirates are not confined by limited capital because it is so rich in natural resources, especially its oil. Therefore, it has the benefit and advantage of importing attractive programs for a successful urban development. In 2010, UAE reached out to Korea's Knowledge Sharing Program hoping to improve Abu Dhabi's Information and Communications Technology sector in particular. This allegiance was a continuation of a Memorandum of Understanding (MOU) signed on December 27th, 2009 during Korean President Lee Myung-Bak's second visit to the UAE. KSP's work in UAE was confirmation of the continuation of this established mutual cooperation and exchange of expertise amongst the two countries.

The 2000s and 2010s marked the second wave of construction boom in the Middle East. Korea jumped on the construction opportunities with its new polished skills. The highlight of this period was when Samsung C&T became the main contractor for the world's tallest tower in Dubai, The Burj Khalifa. Excavation began in 2004 and by 2010 more than 160 stories were completed. A year after Burj Khalifa's completion, Seoul's city government and private developers announced the groundbreaking ceremony of an estimated \$30 billion development project transforming 566,800 m² of land in the center of Seoul. Yongsan International Business District (YIBD) will be Seoul's new commercial hub that includes the city's new 150 stories high landmark tower. The uncanny timing and resemblance of these two mega projects is further paralleled with two other projects: Songdo, in Korea, and Masdar City, in Abu Dhabi, UAE. Both are two square miles in area, completely man-made laboratory-cities and considered model cities of green and smart urban developments.

Korea's Songdo project promises to stand in a class of its own upon completion in 2016. Songdo is more than a new business district or economic zone; it will be the world's first sentient ubiquitous city, using advanced communications technologies to make life seamlessly interactive, from homes to schools to hospitals.¹² Songdo is also about recycling and greening. It is built on reclaimed land and deploys all the latest green technologies. Abu Dhabi's zero-carbon footprint, solar-powered, car-free Masdar City, continues the legacy of UAE's urban ambition to manifest

¹⁰ Stock, Wolfgang G. "Informational Cities: Analysis and Construction of Cities in the Knowledge Society." *Journal of the American Society for Information Science and Technology* 62.5 (2011). Pg. 964.

¹¹ "The United Nations E-Government Survey 2012," last modified June 10, 2012, http://www2.unpan.org/egovkb/global_reports/12report.htm

¹² Khanna, Farag. 2010

in iconic new districts and towers. Started in 2006, two decades will be invested to build a green city that will take into account land use, sanitation, efficient transport, and community building, in hopes of making it a destination where Westerners will flock for a better quality of life.¹³ Designed to be carbon free, it is both more scientific yet, in many ways, less “intelligent” than Songdo without the ubiquitous infrastructure.¹⁴

Korea and UAE’s long history of cooperation and continuation of paralleled urban developments is counter-intuitive in that each country initiates a project to stand out in the global market, yet they continue to mutually benefit despite being competitors in the global market. Now with Korea’s Knowledge Sharing Program presenting its ICT experience to the UAE, they are once again converging. Diffusion of planning has become easier and less spatially bound with globalization and telecommunication. Successful city plans are sought out to win or retain highly mobile international capital since cities are exposed to the full rigors of global market forces. Powerful affluent countries defer to mutually agreed models for environmental management and planning that transcend the nation state, as is the case for Korea and UAE.¹⁵

According to Savitch and Kantor, globalization standardizes commodities and, ultimately, governments and political behavior so “Best Practices” are often adopted across cultures and policy can be transferred across governments. Some scholars suggest that as cities become engaged in an internationalized marketplace, governments act in similar ways to remain competitive.¹⁶ These theories support the idea that UAE and Korea are adopting each other’s “best practices” to remain competitive. Yet, differences in urban communities also allow for ‘bargaining’ and trading different resources, which naturally enables them to chart divergent development strategies. UAE and Korea’s case exemplifies this “bargaining” and due to the different resources, “probably reach different outcomes, which means that cities will stress different kinds of comparative advantage, and this is likely to lead to different development strategies.”¹⁷ Korea will continue to brew more knowledge and technical expertise while UAE remains a resource-rich country.

Various formal agreements have in fact, paved the way for a new chapter in the bilateral relationship between the two countries – sharing of urban infrastructure development expertise while UAE remains Korea’s second biggest energy (oil) provider. Especially since 2009 when UAE granted Korea a \$20 billion contract to build four nuclear reactors, trade between the two countries alone has reached \$22 billion.¹⁸ Throughout their historic partnerships, UAE and Korea have bolstered each other’s urban initiatives by repeating each other’s projects for the international crowd to see and approve of their progress in modernization.¹⁹

¹³ Khanna, Farag. 2010

¹⁴ Sassen, Saskia. "Talking Back to Your Intelligent City." *What Matters*. McKinsey & Company, 1 Feb. 2011. Web. 10 Apr. 2012. <<http://whatmatters.mckinseydigital.com/cities/talking-back-to-your-intelligent-city>>.

¹⁵ Ward, Stephen V. "Re-examining the International Diffusion of Planning." *Urban Planning in a Changing World: The Twentieth Century Experience*. By Robert Freestone. London: E & FN Spon, (2000). Pg. 45

¹⁶ Savitch, H. V., and Paul Kantor. *Cities in the International Marketplace: The Political Economy of Urban Development in North America and Western Europe*. Princeton: Princeton UP, (2002). Pg. 269

¹⁷ Savitch and Kantor. 2002. pg.309

¹⁸ CNN, 22 June 2012. Web. 5 Aug. 2012. <<http://business.blogs.cnn.com/2012/06/22/south-korea-and-uae-beautiful-cooperation/>>.

¹⁹ Although not a clear indication, UAE and Korea have constantly sought out for foreign investment and design competitions for prominent western architects to design as a symbol of merit and legitimacy. Burj Khalifa was

Korea has expressed full interest in exploiting its expertise in urban development to find foreign opportunities, especially in growing markets, identified as those in Asia and Africa, “which are generating more than 80% of the world’s urban population growth and are expected to enjoy the fastest income growth.” (SERI, pg. 51) With the Knowledge Sharing Program, which will soon be explained, Korea has fully entered UAE’s urban development industry. Beyond the program, Abu Dhabi’s city officials have expressed great interest in Korea’s urban expertise. On June 13, 2012, Abu Dhabi Urban Planning Council signed a Memorandum of Understanding (MOU) with the Korean Ministry of Land, which oversees urban policy. The MOU was signed, “to gain and share firsthand experience on internationally recognized urban planning strategies, methods and best practices.”²⁰ The following section explains how such a lasting impression and result was made for UAE to want to continue their partnership with Korea.

IV: Korea’s Knowledge Sharing Program in UAE

Since the Asian financial crisis of 1997, Seoul’s ambition to shift from an industrial economy to one based on information technology and knowledge has become even greater. With the help and support of international organizations, such as the World Bank, Korea succeeded in making a strategic shift to become a knowledge-based and globally connected economy. The World Bank realized the possibility of utilizing knowledge, a resource as valuable as capital, to make progress in addressing global challenges. This belief validated Korea’s new strategy to use its competitive advantage in its human capital and recent successful development strategies to become a knowledgeable global power.

In an effort to promote both its knowledge-based economy and urban development models, Korea’s national government developed a “Knowledge Sharing Program” where ‘knowledge’ naturally becomes an exported non-profit commodity. According to Peterson, cities constantly seek to upgrade their economic standing by improving their market position, their attractiveness as a locale for economic activity. If so, Korea’s strategy is quite effective since the smart, ubiquitous city is by nature an attractive product. This advantageous economic position means the “production and distribution of desired commodities relative to their localities,” which in Korea’s context is its expertise in urban development. Therefore, “cities can export these goods and/or services to those outside the boundaries of the community.”²¹

Korea’s Knowledge Sharing Program (KSP) is a demand-driven and performance-oriented consultation project designed to assist self-selected countries in key policy areas by sharing specific Korean development knowledge and experience. Korea’s Ministry of Strategy and Finance (MOSF) and Korea Development Institute (KDI) instituted KSP in 2004, leveraging

designed by Skidmore Owings & Merrill (SOM); Yongsan IBD by Daniel Libeskind; Songdo by Kohn Pederson Fox (KPF); Masdar City by Foster and Partners.

²⁰ "Korean Ministry of Land, Transport and Maritime Affairs Partners with UPC." *Abu Dhabi Urban Planning Council*. N.p., 13 June 2012. Web. 25 July 2012. <<http://www.upc.gov.ae/media-center/press-releases/korean-ministry-of-land,-transport-and-maritime-affairs-partners-with-abu-dhabi-urban-planning-council.aspx?lang=en-US>>.

²¹ Peterson, Paul E. "The Interests of the Limited City." *American Urban Politics in a Global Age: The Reader*. (New York: Longman, 2010). Pg. 18.

Korea's unique position as a 'middle power'²² and its recent transformation as a post-colonial state, which most of its collaborating countries also are. KSP initially tended to focus on "knowledge transfer" of what Korea did in the past, but more recently, its emphasis has shifted to "knowledge sharing" which focuses more on tailored policy consultation and joint problem-solving with individual partner countries.

In less than a decade, KSP has been involved in research and consultations with approximately 20 countries and more than 200 topics. Key achievements of the KSP can be considered as the successful establishment of the Vietnam Development Bank, Kuwait Five-Year Economic Development Plan and the Navoi Free Economic Zone of Uzbekistan. Until 2007, the emphasis was on the past experience of economic and national development, but recent efforts focus on the government, infrastructure planning, business innovation and economic recovery from financial crises. KSP is clearly a focal point for Korean development cooperation and expanded vigorously for projecting the Korean voice to the rest of the world. Together with Green Growth initiative, knowledge sharing is regarded as Korea's strategic attempt to lead the global agenda and design the global rules.

The program has focused on (a) systematizing Korean development experiences and (b) policy consulting with developing partner countries. Policy consultations are normally conducted in a one-year project cycle consisting of demand identification, policy research, policy consultation, and monitoring and evaluation. **Diagram 1: KSP Project Cycle**

ICT Consultation in UAE²³

In the first stage of KSP, MOSF conducts a demand survey through Korean embassies of partner countries. Based on its results, visits are organized to hear details about their needs from the consulting countries. In 2010, a decision was made to initiate policy consultation with the United Arab Emirates regarding Information and Communications Technology (ICT) development. Following the MOU that led to the initiation of the Program, a seminar was hosted in Abu Dhabi on May 9th – 10th, 2010. Public and Private Sector experts from Korea and Abu Dhabi in the ICT Sector attended to discuss the following topics:

- (1) ICT Sector Evolution
- (2) ICT Human Capital Development
- (3) ICT Laws & Regulations
- (4) Innovation & Entrepreneurship
- (5) Role of ICT in Econ. Growth of Other Sectors
- (6) Use of ICT in Society
- (7) Green ICT
- (8) Cyber Security (ISMS)

Abu Dhabi Systems & Information Centre (ADSIC) has been initiating and leading Abu Dhabi's ICT system up until now. It was created as a Committee in late 2005 and established as a Center

²² Middle power countries are in the middle of the international hierarchy – neither a superpower but still have influence and international recognition. There is no one specific definition of middle power countries.

²³ Knowledge Sharing Program, <http://www.ksp.go.kr/>

in late 2008 to enable the modernization of government services through information technology. ADSIC's strategy and programs transcend all government departments, authorities, and administration in Abu Dhabi. Before they came to consult with Korea, Abu Dhabi's ICT Strategy and Roadmap consisted of:

1. 75 initiatives are grouped into 10 national ICT programs
2. The 10 national ICT programs are designed to support AD Economic Vision 2030
3. The implementation of the AD ICT strategy is spread over 6 years

Abu Dhabi's plan shown above is in fact quite similar to what Korea has achieved through its ICT development in its smart cities and e-Government. So after the first seminar and a pilot study of six ICT initiatives were completed, three major topics, including, Cyber Security, ICT R&D Center and Emirate-wide Wireless Broadband were selected as Abu Dhabi's final initiatives to develop with the remainder of the KSP program. According to KSP's predictions, Abu Dhabi's Emirate-wide wireless broadband will encourage investment by enabling a faster introduction of new services and set the policy direction to promote competition in market. Creating an ICT research and development center will provide the consulting for development and operation of Abu Dhabi-tailored research and innovations. Strengthened Information Security will enhance customer confidence, economic efficiency with reduced potential damages and overall social care and caution towards information security. The following chart organizes and consolidates the above information:

United Arab Emirates

Formulating a Mid- & Long-term ICT Development Master Plan of the UAE

- Policy Consultation on Three Initiatives of the Abu Dhabi's ICT Master Plan
 1. Establishment of an ICT R & D Center
 2. Establishment of Emirate-wide Wireless Broadband
 3. Establishment of Government Security Information System
- Sharing Korea's ICT Development Experience
 1. ICT Sector Evolution
 2. ICT Human Capital Development
 3. Laws and Regulations in Support of Sector Growth
 4. Innovation & Entrepreneurship
 5. Role of ICT in Economic Growth of Other Sectors
 6. Increase of ICT Usage in Society
 7. Green ICT
 8. Protection of ICT Infrastructure from Cyber Crimes

Source: Knowledge Sharing Program, <http://www.ksp.go.kr>

The executive council, consisting of related policy makers from both countries, approved only the Cyber Security and Emirate-wide Wireless Broadband in December. Korea Development Institute (KDI) and Abu Dhabi Systems & Information Centre (ADSIC) agreed to hold a final reporting workshop in early 2011 on the main findings of two initiatives. On March 13, 2011 the workshop hosted many government officials and 40 experts in the Information Security (IS) field. Once Korea's IS experience was presented, a follow-up project focusing on e-signature and data protection was planned. Abu Dhabi's senior official spoke of his vision aiming at setting up programs that focus on customer service. He also spoke of the desperate need to develop the human capital for the ICT and that there are plans to provide opportunities to learn technology (some provided by Korea)²⁴ to attract the students' attention to this kind of technical teaching.

V. Evaluation of Smart City Development in UAE and Korea

Korea's Smart City and ICT expertise is a prime example of what Paul Peterson, an urban economist, would describe as a program that "maintains or enhances the economic position, social prestige, or political power of the city, taken as a whole."²⁵ The primary objective of ICT innovation was epitomized in a well-known government slogan before the 2000s: "Although we were behind in industrialization, we will lead in informatization" which is to say that the Korean government was eager to achieve its economic development through national informatization, believed to be a key catalyst for advancing the national ICT industry.²⁶ The government has said that the informatization of Korea is to serve two main goals: increasing government efficiency and delivering services to citizens. So when Korea's urban agenda coincidentally converged with that of ICT development, it was deemed, from that point on, that cities would have exceptional ICT.

Saskia Sassen, a leading urban sociologist, lectured in Lift 11 Conference, that we must "urbanize technology" where 'users', city residents, "bring their own logics to these technologies, keeping the city alive and open." She would regard Korea's Smart Cities as "embedding technologies and controlling all outcomes in a routine fashion," essentially de-urbanizing a city. She furthermore says,

"The first phase of intelligent cities is exciting. The city becomes a living laboratory for smart urban technologies that can handle all the major systems a city requires: water, transport, security, garbage, green buildings, and clean energy. ... But the ensuing phase is what worries me; it is charged with negative potentials. ... The challenge for intelligent cities is to urbanize the technologies they deploy, to make them responsive and available to the people whose lives they affect. Today, the tendency is to make them invisible, hiding them beneath platforms or behind walls—hence putting them in command rather than in dialogue with users."

Public responses have in different words supported Sassen's argument. Various blog posts from residents and travelers to Songdo and Masdar coin the cities as "ghost towns" and

²⁴ "Korean Ministry of Land, Transport and Maritime Affairs Partners with UPC."

²⁵ Lyu, Hyeon Suk and Remenyi, D. *5th European Conference on E-government: University of Antwerp, Belgium 16-17 June 2005*. Reading: Academic Conferences, (2005). Pg. 11

²⁶ Lyu, Hyeon Suk. 2005. Pg. 262

“unnatural” due to the excessively planned urban landscape. The Yongsan International Business District has further critique beyond just the overly planned nature of the project. The project forces more than 2000 households, who currently reside in the project boundaries, to leave their homes while its non-transparent process has provided no opportunities for public condemnation and participation – a classic example of issues in eminent domain.

Other critiques address, the Korean e-government roadmap (PCGID 2003), which shows that only “23% of the Korean public has ever visited government websites including the primary web portal and that public participation in most of the government websites’ so-called, ‘civic participatory spaces’ is dismally low both in quantity and quality, showing an average participation rate of less than 20 postings a year in most of the Ministries’ forum and consultations.”²⁷ Attempts to make government more accessible and transparent through the web are often seen as a symbolic means for seeking popular legitimacy. Additionally, smart-city amenities and e-government services are only accessible when one has access through an electronic device such as a cell phone or computer with Internet. This also means that services are not used when it has not been integrated into the convenient daily routine of citizens’. These critiques essentially ask: for whom are these cities made? Are they only a political and economic tool to gain competitiveness as a city in the global market? I do not necessarily have answers but I do believe Korea and UAE must critically think about them as they continue implementing their projects. It is their prerogative to draw the line in how these Smart Cities are designed.

So why are these projects still happening?

On the reverse side of these critiques, the majority of Korean opinion and the international audience applaud and glorify the grand projects in Korea and UAE. Two distinctive characteristics of Korean politics, and similarly in UAE, therefore allow for these projects to continue. According to Alan Altschuler and David Luberoff’s urban theory, Seoul is yet at its “Era of Transition,” a period of larger urban renewal projects, in which the U.S. went through in the 1950s and 60s. The authors describe, “The programs operated, moreover, in relative secrecy, so that those affected often learned of projects just before the bulldozers rolled. ... Since their [interest groups] cause seemed hopeless, even those most adversely affected generally gave in without a fight.”²⁸ Having adopted democracy from the U.S. in the 70s and 80s, Korea has yet to find its own style of democracy that encourages the public to be engaged in the politics and want to participate in public affairs.

Another distinctive characteristic of the South Korean urban housing development is the extensive government involvement that supports large changes for improvement of the city landscape. “The dominant assumptions were that the projects were required for the greater good and that the residents of such neighborhoods would be in most cases better off for their [squatter settlements] demolition.”²⁹ Large land and housing development projects are virtually monopolized and managed by the public sector, as is the case for Yonsan IBD and new town developments. Lee and Shin explain how this can be understood with Korea’s political history, “The state’s involvement in these development projects has been justified by the legacy of the

²⁷ Lyu, Hyeon Suk. 2005. Pg. 260

²⁸ Altschuler, Alan A., and David Luberoff. *Mega-projects: the Changing Politics of Urban Public Investment*. (Washington, D.C.: Brookings Institution, 2003) Pg. 22

²⁹ Altschuler, Alan A. 2003. Pg. 22

developmental state because it considered land housing as public goods.”³⁰ Korea’s citizens also reciprocate by trusting the government for its good intentions and believing that the government will protect them protect.

These critiques do not undermine Korea’s success in its urban initiatives and ICT development. The fast growing ubiquitous infrastructure technologies are capable of improving current urban management and infrastructure planning mostly because the system can easily be efficiently reviewed and updated. This new infrastructural change has the potential positive effects of achieving a new sustainable urban development model. Urban ICT infrastructure has indeed become a marketable product in the global urban development market so Korea and UAE must rise to occasion as responsible leaders of the field.

VI. Conclusion

This paper addressed three main themes: Korea and UAE’s urban development patterns, smart city and ICT development, and Korean exportation of urban plans through the Knowledge Sharing Program. This case study of UAE and Korea evaluated the two countries continue innovating urban plans and prescribes that they begin to reevaluate its top-down approach of urban planning and cater to its users, the city residents. Not a definite solution but companies such as IBM have begun to provide answers on how to develop better Smart Cities³¹:

- Develop your city’s long-term strategy and short-term goals.
- Prioritize and invest in a few, select systems that will have the greatest impact.
- Integrate across systems to improve citizen experiences and efficiencies.
- Optimize your services and operations.
- Discover new opportunities for growth and optimization.

Neither Korea nor UAE has formally evaluated and self-assessed its smart city development.³² Such an assessment can identify and help communicate emerging strengths and weaknesses. It can highlight where real progress is occurring and inform a plan for future improvements and can help cities prioritize actions. Considering the two countries habits to parallel each other in these initiatives, perhaps Korea can lead the way to influence UAE to do the same.

Korea has deemed itself no longer a developmental state, advancing as a knowledge economy and as an ODA country. With its vast expertise in various fields and the Knowledge Sharing Program, Korea presented itself as a resource with a menu of policy options, toolkits, etc. According to SERI quarterly, the international market for urban development was estimated to be \$611.8 billion in 2008.³³ Entering this market was Korea’s original motivation to develop its

³⁰ Lee, Yong-Sook, and HaeRan Shin. "Negotiating the Polycentric City-Region: Developmental State Politics of New Town Development in the Seoul Capital Region." (*Urban Studies*, April 2011: Sage Publications). 08 Nov. 2011. Pg. 6

³¹ "How Smart Is Your City? Helping Cities Measure Progress." *IBM Institute for Business Value*.

³² No information could be found through research.

³³ Park, Yong Gyu. 2012

ICT and marketable smart city. As in this case the Korean Knowledge Sharing Program will need to consider its objectives and governance to not abuse the trust given to as a 'Knowledgeable' country.

Diagram 1: KSP Project Cycle³⁴



Chart 1: Examples of Smart Core Systems³⁵

System	Elements	Instrumentation	Interconnection	Intelligence
City services	<ul style="list-style-type: none"> Public service management Local government administration 	Creation of local authority management information system	Interconnected service delivery	Immediate and joint-up service provision
Citizens	<ul style="list-style-type: none"> Health and education Public safety Government services 	Patient diagnostic and screening devices	Interconnect records for doctors, hospitals and other health providers	Patient-driven pre-emptive care
Business	<ul style="list-style-type: none"> Business environment Administrative burdens 	Data gathering about use of online business services	Interconnect stakeholders across city's business system	Customized service delivery for businesses
Transport	<ul style="list-style-type: none"> Cars, roads Public transport Airports, seaports 	Measuring traffic flows and toll use	Integrated traffic, weather and traveller information services	Road pricing
Communication	<ul style="list-style-type: none"> Broadband, wireless Phones, computers 	Data gathering via mobile phones	Interconnect mobile phones, fixed line, broadband	Information for consumers on city services, on their own time
Water	<ul style="list-style-type: none"> Sanitation Freshwater supplies Seawater 	Gather data for water quality monitoring	Interconnect businesses, ports, energy users of water	Quality, flood and drought response
Energy	<ul style="list-style-type: none"> Oil, gas Renewable Nuclear 	Fit sensors to gather data on usage across the energy system	Interconnect appliances and devices between energy consumers and providers	Optimize the use of the system and balance use across time

³⁴ Korean Knowledge Sharing Program Website

³⁵ IBM Institute for Business Value Analysis

