Approach to Systemic Transition to Global Dematerialisation

Drivers and Challenges: Case from Seoul, Korea

Eric Zusman, So-Young Lee, Paul Ofei-Manu

Institute for Global Environmental Strategies

Abstract

In recent years, people from diverse backgrounds have realized that consumption patterns need to undergo a radical transformation to avoid a socio-ecological crisis. Academics have also synthesized an equally diverse literature to illuminate the multi-stage, multi-level process required to transition to more sustainable consumption patterns. At the risk of oversimplification, work on 'sustainability transitions' suggests that the critical first step in this transition involves creating a 'niche' or space where new technologies emerge, paving the way for broader landscape and regime changes. Work on sustainability transitions have nonetheless focused chiefly on cases in Europe at the national level. Furthermore, most featured transitions have a decidedly technological bent with less attention to social dimensions that are critical to the formation and expansion of niche.

This article will integrate core insights of 'governance', 'networking', and 'social learning' from sustainability transitions research to understand the drivers and enablers of the social space in Seoul, Republic of Korea. Current *Seoul Metropolitan Governance* and *Soil and the City Forum* trace the creation of niches not to technological innovation but the progressive idea aimed at changing social practices and mind-set for human prospering, for organic relations between consumption and production, human and nature. The case further illustrates how governance works to augment the impacts of innovative ideas through active citizen engagement and collective participation strategically facilitated to create communities of practice where action-reflection approach and user-driven innovation enable experiential learning as a precursor to transformative social change. It demonstrates a platform where diverse discussion and negotiations take place implementing practical governance composed of bottom-up multi-stage multi-level with actors' full participation from citizens of various backgrounds. In sum, it suggests that governance, networking, and social learning are critical drivers of sustainability transitions, especially in rapidly urbanizing contexts. It also raises questions about the possible refinements to work on sustainability transitions at the city level.

Introduction

From both the North and South, the nature of social problems addressed cultural as well as economic and require fundamental changes in the way society operates and how we live our live. In the North, efforts at self-reliance were overwhelmed by the corporate-driven modern culture that quality of life is equated with levels of material consumption; meanwhile, in the South, traditional communities were being undermined not only by the aggressive behaviour of corporations in controlling community resources, but also by the media in undermining traditional values and lifestyle. This delivers profits to the corporations that control production and distribution, while undermining communities, local economies and ecosystems alike. There is need for immediate forceful action to put in motion a sustainability transition.

Hence, there have been attempts of individuals from diverse backgrounds currently seek alternative ways of life in their daily lives and implement actions based on the premise that industrial-consumer society must face up to the urgent need for radical change due to the catastrophic social and ecological problems that have been faced recently. It is also because many recent efforts to 'green' lifestyles have only resulted in superficial, temporary modifications with limited impact.

At the same time, researchers have also synthesized a diverse literature to illuminate the multi-stage, multi-level process required to transition to more sustainable lifestyles. Work on 'sustainability transitions' suggests that the critical first step in this transition involves creating a 'niche' or space where new technologies emerge, paving the way for broader landscape and regime changes. Their prescriptions draw upon experiences in Europe to implement sustainability transitions that are "long-term, multi-dimensional and fundamental transformation processes through which established socio-technical systems shift to more sustainable modes of production and consumption" (Markard et al. 2012: 956). Nevertheless, most featured transitions have a decidedly technological bent with less attention to social dimensions that are critical to the formation and expansion of niche that would, in turn, alter regimes.

This sustainable transition approach will be increasingly important in Asian context because of the mounting list of environmental problems confronting the region as well as the significant opportunities to harness the energies of key stakeholders to drive a transition forward. The main factor behind the success will be how these ideas could be combined into practice in an effort to increase awareness and empower citizens to conscientiously contribute to more sustainable, equitable lifestyles as well as capacity building tools for policy makers to better consider and integrate approaches for sustainable consumption and lifestyles into wider policy planning for sustainable society.

This paper will utilise the *Seoul Metropolitan Governance* and *Soil & the City Forum* in terms of human resource network practicing civil governance and social learning with diverse stakeholders. The case shows the importance of all the factors underpinning a transition that is based on social innovation that paves the way for dematerialisation and de-growth develops within a context that links multiple economic, institutional, and political factors to shift paradigms.

Therefore, this paper emphasises the critical drivers of sustainability transitions especially in rapidly urbanizing contexts. It links to policy research and understanding social change or behavioural change, and networking and social learning for sustainability can give rise to an integrated set of drivers for sustainable societies. Just as importantly, the case traces the creation of a niche that is based not on a technological but social and ideational innovation. Further, it illustrates how actors can work to augment the impacts of innovative ideas through active citizen engagement and how governance can enable this process.

Integrated Transitions

Approaches of Sustainability Transitions

Since the concept of sustainable development was introduced, there have been various attempts in policy and social science research to define how societies can become more sustainable[1] (Smith et al 2005; Frantzeskaki & Loorbach 2010). And, in recent years, a growing number of European researchers and policymakers have begun to explore the extent to which several drivers can induce these transitions (Rotmans et al. 2001; Kemp et al. 2001; 2007a; 2007b; Loorbach 2007).

The strength of the work on transitions is that it offers a vision of the processes leading to a more sustainable world, and of the necessary drivers of those transitions. Often the main source of change is technological innovation. The transition from horse and carriage to the automobile and the fossil fuel regime is one of the most recognised historical cases of a sustainability transition; however, even the earliest work on transition perspectives holds that change involves more than technology alone. When Kemp and Soete (1992) introduced the concept of a 'transition', they were drawing inspiration from MacKenzie, who considered the economic and sociological explanations of technical change. It was the realization that barriers prevent the development of desirable, 'good' technological systems made Kemp believed that it was essential to address economic and social considerations to induce and scale technological change (Kemp 1994).

If recognising the importance of social drivers to a transition process was one of the strengths of this work, another was its emphasis on a long-term, multi-stage and multi-level vision. The work on transitions recognises that environmental improvements can be achieved in the near term through system optimisation; however, as Geels (2008) has argued, sustainability transitions imply a need to completely overhaul that same system over the long-term. For example, Kemp et al. (2007b) has looked at the Dutch Energy Transition Programme 2050, which examined how to make the Netherlands' energy system radically more efficient and sustainable; this study found that a new system would bring ten times the improvement that mere system optimisation could deliver.

There are four main approaches to considering sustainability transitions. They can be looked at through the lens of technological innovation systems; strategic niche management approaches; transition management; or a multi-level perspective. These approaches have different focal points in terms of their causes, patterns, and drivers, but they share a similar underlying logic and are best viewed as complementary.

Networking and Social Learning in Strategic Niche Management

From the early 1990s, two strands of innovative transition theory developed: technological innovation systems (TIS) and strategic niche management (SNM). As its name suggests, TIS focuses on the development and adoption of new technologies and highlights the importance of innovative and far-reaching technological change. As such, it defines a technological system as a "network of agents interacting in the economic/industrial area under a particular institutional infrastructure and involved in the generation, diffusion, and utilization of technology" (Carlsson & Stankiewicz 1991:94). The most important component of TIS from a sustainable transition perspective is that it starts to acknowledge the need for a *system* as well as technology itself to drive forward innovative change. It begins to consider not only market failure but also a broader set of system failures that can affect the uptake of new technologies.

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[1] Social/system changes are complex. A range of approaches have been applied to understanding the concepts and ideas of change, for example evolutionary systems theory, innovation studies, transition theory etc.

TIS is nonetheless largely a supply-driven perspective with limited attention to demand. Innovative technologies may only succeed if they can penetrate specialised markets that allow them to be developed and improved, to the point where they can compete with incumbent technologies and generate demand. This creates a role for policy and business to actively create niche markets by removing economic, technical, or institutional barriers until such a time as new technologies can compete with prevailing technology (Kemp 1994; Kemp et al. 1998; Hoogma et al. 2002). However, TIS with a limited focus on demand downplays the social processes that enable the introduction, adoption, and diffusion of innovation. A technology is not only successful because of its efficiency, but because it is valued by consumers and supported by current infrastructure and/or regulations (Unruh 2000).

Strategic niche management (SNM), a second branch of theory, emphasises the need for policy to address both the supply and the demand sides. It emphasises the concept of niche, derived originally from evolutionary biology, as a space where radical novelties sprout and collective adopters develop (Kemp et al. 1998; Schot & Geels 2007); essentially, a niche seeds systemic change. A major consideration of SNM is how these niches might be created and widened, so as to enable sustainability transitions. Niches that allow radical innovations emerge within an existing system, and actors expand these innovations through learning and networking. At some point, when niche innovations have matured and are scaled up, broader and more durable systemic change becomes possible. SNM therefore focuses on "how niches grow, stabilise or decline in interaction with the dynamics of prevailing systems", and considers how to support and sustain niche creation (Hoogma et al. 2002; Kemp et al. 1998). This is done via carefully designed and appropriate levels of protection to help nurture innovations.

SNM is largely a bottom-up approach, twinned with radical niche innovations from the demand side, rather than a well-managed, top-down supply side process. As Geels et al. (2008:11) puts it, transition is "fundamentally about learning" such as about "subsidies for programmes of experimentation and pilot projects, exchange of experiences, training and competence building", in order to support and protect newly emerging niches. The learning process not only offers knowledge accumulation itself but also includes individuals' social and behavioural changes. Furthermore, networking creates disagreements and conflicts as well as harmonious results. This means learning processes need to be governed and communication enhanced. Geels and Raven (2006 cited in Markard et al. 2012: 957) say that niches build momentum "through processes of social learning across multiple experiments, articulating promising expectations and heterogeneous networking" and will "eventually compete with established technologies".

Governance in Transition Management and Multi-Level Perspective

Whether niches are created intentionally or spontaneously, their survival is not guaranteed. In fact, many niches do not survive. In response, a field of theory has emerged known as transition management (TM). TM marks the next progression beyond SNM, broadening its scope to include governance perspectives on the process of transition and long-term social change. Its starting point is to identify the societal problem, then search for solutions including, but not limited to, technological innovation. It then examines the role of governance in sustainability transitions.

The management and governance of transition is important, especially when we consider modern democracies, where policy is made in relation to social and political factors. The concept of governance implies a partnership between multiple actors, rather than top-down government regulation. In sustainability transitions, governance is important because transitional social processes occur due, in part, to well-managed processes of deliberation and decision-making. These latter involve the participation of and interaction between a wide range of actors, with diverse beliefs and preferences, using a range of technologies, to create a basket of shared visions. Kemp (2007b: 327), in fact, proposed that, at the heart of TM, lies "a model of reflexive governance that aims to modulate ongoing developments to sustainability goals through changes in governance (participatory and value-focused) and adaptive policies for system change".

When the models for change are driven by the TM process, they are implemented in practice for experimentation in order to help to identify success through social learning and networking at niche levels. In other words, while SNM brings issues around networking and social learning to the fore to help understand the formation of niches, TM focuses on governance as one of the key tools of SNM. Loorbach and Rotmans (2010) insist that "TM has been made operational as a combination of problem structuring and envisioning in multi-stakeholder arenas, developing new coalitions, implementing agendas in experiments, and evaluating and monitoring the process" (Markard et al. 2012: 959). In sum, it depends upon governance.

Importantly, TM stresses that transition no longer depends on the prescription of what needs to be done; rather it facilitates a process to understand what could be done to move towards a sustainable society. In other words, transitions cannot be controlled but their substance and pacing can be directed. In recent years, there has been growing support within academic circles for TM, especially as concepts around sustainability transitions are applied at local and regional levels (Markard et al. 2012).

The creation of niches is crucial to sustainable transitions, while the management and governance of niches is essential to initiating a transition; however, successfully developed and managed niches do not always reach transition stages. Niches may be necessary but insufficient for a full-fledged technological transition. Academics therefore developed a multi-level perspective (MLP) approach to illustrate that transitions require change across a nested hierarchy of levels: namely at the niche, regime, and landscape levels.

This approach considers micro-level niches, where radical innovation originates, as embedded within regimes. These meso-level regimes can be conceptualised as the infrastructure and market factors that facilitate paradigm shifts; for example, much of the world is currently operating under a fossil fuel energy regime. Regimes are nonetheless not limited to hard infrastructure; they also reflect 'softer' features such as economic cycles and societal trends. The regime is an important level of analysis; however, it too is situated within a landscape consisting of meta-factors such as cultural values and political systems (Geels & Schot 2007; Lachman 2013). Therefore, radical change at the niche level provides windows of opportunity to contribute to fundamental change in regimes, which in turn filter up, typically even more slowly, to the landscape level (Kemp et al. 2001; Geels 2002).

Drivers of Sustainability Transitions

As Hendriks (2009: 343) put it: "the very success of any long-term policy ... often hinges on the willingness of the public and their elected representatives to accept the need for change and to fund necessary programmes". Several cases suggest the possibility of government-guided shifts to more sustainable systems; however, often these changes are not attributable solely to governments. Rather, markets, regulations, infrastructure and societal demand play a critical role in initiating the policies that accelerate the adoption of new technologies (Shove & Walker 2007; Frantzeskaki & Loorbach 2010).

Moreover, governments can – but do not always – facilitate transitions. The Dutch national Environmental Policy Plan lists five barriers to sustainability transitions: short-term thinking, fragmented policies and institutional deficits, lack of ownership for environmental problems, long-term uncertainty, and insufficient precautions (Kemp & Loorbach 2005). Government can create or exacerbate all of them – and are especially likely to do so if they are captive to vested interests. Perhaps even more insidiously, when governments are tied to narrow interests they are more likely to "guide" transitions with appealing titles i.e. low carbon, green, circular economy but in reality do little to strengthen social networks, communities of understanding, and other social organisations in SNM; or to pull innovative niches forward and bring stakeholders with problem-solving knowledge into solution-finding arenas, as suggested in TM. They thereby risk undermining changes to nested-hierarchies of niches, regimes and landscapes, as envisioned in MLP.

In addition to these barriers and resistance, some theorists criticise the lack of agency implied in MLP, and its implicit assumption of a rather systemic approach to transition, due to its emphasis on rules and structures of the niches and regime. To achieve multi-scale and inter-generational justice that lies at the core of sustainable society, it requires an appropriate governance mode for sustainability transitions which composed of bottom-up, multi-stage, multi-level approach which expects actors' full participation. Therefore, we here need to bring up effective drivers of transition – governance, networking, and social learning – the critical concepts in sustainability transition process.

Governance

Governance emphasizes the responsibility of governments, networks of civil society, participatory local authority and civic engagement within "the process of decision-making and the process by which decisions are implemented (or not implemented)" (UN ESCAP 2009: 1). Governance is not only an important element in the process of sustainability transition but also itself transformative process from the bureaucratic, authoritarian administration arrangement to citizen participated, deliberated and communicative institutional arrangement. The policy process including agenda setting, formulation, and legitimation is the political as well as social process when we begin to consider citizens participation. Especially at local level, democratic governance can occur through diverse and typically wider communication paths with citizens. As noted by UN-HABITAT working group discussions for input to post-2015 agenda, this coordination not only promotes sustainable development but also reduces poverty and inequality.

Governance follows what the mainstream administration and government emphasize i.e. rule of law, efficiency, effectiveness, and so on. At the same time, as UN ESCAP (2009) announced, governance also has characteristics on consensus oriented, participatory, accountable, transparent, responsive, equitable and inclusive. 'Consensus oriented' refers to participatory and conciliation of all stakeholders and citizens so that institutional coordination between politics and civil society helps to manage political process. 'Responsiveness' means broader open-communication, and 'equity' contains secured balance for the rights of marginalized group and individuals. When governance is successfully put into practice, citizens – including marginalised citizens – have the role to represent, integrate, and develop local capacities; therefore, the quality of citizen's life is richer through democratic participation and participants achieve multiple benefits.

Networking and Social Learning

Networking within and among niches to stimulate innovations and firmly nest them in supportive enabling environment is an important part of SNM. For example, communities applying alternative energy systems can share their long-term expectations for the future and encourage each other with their respective visions (Brown & Michael 2003; Eames et al. 2006; Geels & Raven 2006). This can also be widened to include perspectives from outsiders through social networking. Networking aims to create new platforms where diverse discussions and negotiations take place, allowing both fringe actors and established players to join and promote radical innovation.

Networking is essential to creating new platforms where diverse discussion and negotiations take place, even the established firms to promote radical innovation may join. Hence, to introduce innovations of fringe actors and of established firms, the creation of social network process is crucial. Actors in NGOs, businesses, consumers, academics become engaged in each step and help adjust the direction of the transition. Transition is fundamentally about learning through 'doing by learning, learning by doing' and networking at niche levels. Policy makers also have important role to facilitate the process of learning and thereby open the door for a transition and networking building that can, in turn, widen participation and carry forward that transition.

Making sustainability transitions requires critically reassessing practices and identifying innovative alternatives. In fact, transition research stresses the need for behavioural as well as radical technological changes. Learning processes not only offers knowledge accumulation itself but also include social and behavioural change of individuals. In addition, as the character of networking fuels disagreements and conflicts as well as harmonious results, learning process need to include communication skills. The transition approach needs to support the dynamic interplay between the development of innovative technologies and the social learning processes enabling their uptake and dissemination. These learning processes typically go beyond formal education and simple awareness-raising. Rather they often involve users engaging in experiential learning and communities of practice that enables user-driven innovation to redefine existing technical and social landscapes.

Challenges

Kemp et al. (2007: 327) analysed the challenges to sustainability transitions with a practical experiment – the Energy Transition programme. They noticed achievements often fall short of initials ambition i.e. it became 'less multidimensionality', 'more focus on technology and business', 'somewhat limited stakeholder involvement'. The main weakness is that regime actors dominated networks and no space was provided for 'civil society, consumers, the wider public and other actors'. From this, they concluded that a transition "created a new discourse, framework and orientation which widely supported. Nevertheless, it was not the open, reflexive process it was supposed to be – there was little cooperation between the platforms or mutual learning. It has not become politically salient in the legislature or society is not really involved in it." Therefore, the programme placed limited pressure on polices and did not affect the regime change such as 'regulations, energy markets, product standards, user behaviour, infrastructure renewal' etc. In other words, sustainability transitions missed the fundamental questions about current social system i.e. excessive mal-consumption, capital dependence, inequality and so on. Importantly, in realising social change, actors who are not mainly involved in, or are marginal to, the mainstream structure tend to play a critical role.

The next section will seek to illustrate Seoul case which brought the opportunities in implementing transition into sustainable society to overcome challenges references in previous studies in Europe. Transition in this case is not only about low-carbon technology but about sustainability in a much broader sense, changing social practices and altering conventional mind-sets.

The Case of Seoul[2]

There have been distinctive changes in Seoul Metropolitan Government (hereafter Seoul) administration since the current Seoul Mayor Mr. Won Soon Park was popularly elected in 2011. It is uneasy to radically innovate fundamental administrative structure due to the Local Government/Authority Act; nonetheless, there have been serious attempts and changes, especially toward broader and more open-communication between citizens and local government. The Mayor has led direct communicative approaches towards citizens in various ways; as a result, there was significant public consultation and information sharing with citizens.

This change gave the current Seoul administration a distinctive character that emphasizes practical policies to improve a citizen's daily life rather than rhetoric. The diversity of current attempts in Seoul administration to s significant extent reflects the transition process from bureaucratic and authoritarian administration toward citizen participation, deliberation, and

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[2] As this research focused on analysing a process rather than outcome, the case study is based on in-depth interviews, literature reviews on the municipal ordinances, municipal policies, policy evaluations, white paper, and related publications.

communication. This change goes beyond simply improving the performance of government agencies. Rather, it offers a starting point for paradigm shift in the practice of administrative politics.

Those innovative changes take their cue from niche projects; and niches have established structure which would potential carry over to the regime and landscape. When Seoul, the capital city of Republic of Korea, takes innovative policies as a new paradigm, it will bring the positive results to the other local governments. It is therefore important need to analyse this new approach to policymaking and agenda setting to better understand the possibility of paradigm shift in local governmental administration in Korea as well as other Asian countries.

Seoul Governance

Social Innovation in Seoul

Korean society in general and Seoul in particular has just begun to introduce several important social innovations. Even more striking is that Seoul's mayor (Mr. Won Soon Park) considers social innovation—i.e. social enterprises and community businesses and innovating public services which encourage citizens' participation—as an essential method to resolve social problems and conflicts in Korea. His strong belief in social innovation arguably is a by-product of his time at the Hope Institute, a civic think-tank established in 2006 and operated by citizens with no financing from the public or private sector. The Hope Institute was founded on the belief of empowering citizens as a driving force of social change and supporting social economic organizations to realize a new economic paradigm. In so doing, it holds firm to the importance of translating theories and discourse into practice and reality. It was during his time at the Hope Institute that Mr. Park actively began to develop and implement diverse programmes promoting social innovations.

The Hope Institute was not the only source of Mr. Park's belief in these ideals. Mr. Park was also a human rights lawyer, a founder of several NGOs, and self-named a 'social designer'. In these capacities, he implemented a range of diverse projects for changes and innovations, plus through three years research on case studies across Korea, he observed innovation from the work of citizens and community. His publications based on field based research confirmed his philosophy that: 1) the answer is in the field and policies must be based on field rather than desk research; 2) people are the main source of intelligence, culture, and creativity so we need to collect ideas from people; 3) developing vital and liveable local regions and communities is important; 4) communication can be a time-consuming and complicated process but is nonetheless essential; 5) a small project can provide a foundation for innovative government policies; 6) transparency thorough public information disclosure is a basic and fundamental need. In other word, practice in the field can avoid the unnecessary accumulation of paper , faith in people can replace expedient administrative execution, building communities is critical to encouraging citizen engagement and creativity, multi-stakeholder communication can replace top-down one-way decision making, and innovation can replace customary practice. Without information, there is no communication and without communication there is no participation. In this light, Mr. Park has fundamentally different starting point from previous administrative practices tended to focus on the construction of visible infrastructure than the building of communities.

Based on Mr. Park's administrative philosophy, Seoul established the Social Innovation Pursuit System with the following components:

- Exploring the innovation agenda: Analysing domestic innovation cases to understand their drivers and apply those lessons to city administration

- Planning action measures: Actively soliciting advice from working departments and relevant experts to develop and practical plans

- Practicing the innovation agenda: Holding Seoul innovation workshops to share innovation efforts and explore measures that need to be developed

- Diffusing social innovations: Activating meetings for learning on how to bolster innovation capabilities and to diffuse cases of success throughout society

The Seoul Institute, belonging to Seoul Metropolitan City, operates a social innovation research group that works on theories and cases for Seoul's new innovations. It is composed chiefly as an advisory group of experts from academia, NGOs, business, the press etc. and runs workshops. It also established social innovation networks with domestic and overseas innovation organizations.

"Sharing Ten Million Things, Ten Million Happiness"

Seoul developed its 'Sharing City, Seoul' Project as a social innovation which was intended "to create new economic opportunities, to restore reliable relationships, and to reduce the wasting of resources with a view to resolving urban economic, social, and environmental problems all together." This project was founded on creating happiness for the ten million people residing in Seoul by sharing spaces and buildings as well as experiences and wisdom. The Seoul Sharing Hub is established to archive, disseminate, and diffuse information while building networks with the relevant domestic and overseas organizations, enterprises, media, and other social areas.

In fact, Korea is a rapidly growing country in Asia and a side-effect of this growth is the collapse of social spaces needed to build local communities, especially in cities. Intense competition caused low quality of life as well as alienation from neighbours and nature. Seoul believed sharing contributes to interpersonal exchange and a sense of community. Also sharing reduces waste and environmental degradation. Therefore, Seoul put the priority policy on restoring communities and challenged citizens to build their community by themselves—i.e. share the common spaces to raise children, discuss life improvements, create work places, and enjoy entertainment. This policy is based on the existing grassroots civic experience in *Seongmisan Village*,[3] Seoul.

To support systemic infrastructure for village restoration, Seoul designated the Community Building Division under the Seoul Innovation Bureau in January 2012 and announced the Ordinance for Town Community Support in March. In the months that followed, seminars and conferences were held with experts and citizens under the division's governance system to create the direction and system of the project with participants. Then the research conducted by the Seoul Institute and the Basic Plan for Seoul's Town Community established in September 2012. In addition to the legal basis for the project, nine Town Community Support Centres were founded to provide in-kind support and counselling for different needs of the towns when residence prepared their own town plan and applied for support. The numbers of village community projects registered for 2013 doubled from the 2,233 in 2012 to approximately 4,400 and 68% of the projects were initiated by residents.

The government-guided planning processes of local municipalities toward transitions often ran into difficulties with a lack of direct engagement although it aims to create better individual and social lifestyles. From setting the agenda to implementation, full citizen participation was expected. The current administration in Seoul is distinct from the previous administration in terms of the active participation of citizens and positive support from the city government. In order to support and share information and experiences, Seoul prepared 532 project fairs

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[3] *Seongmisan* is the name of little mountain located in Mapo-gu, Seoul. About 30 like-minded parents in the village gathered to buy a place for the cooperative childcare centre and also to protect Seongmisan against the development in early 1990s. This family-centred-community movement became famous as 'Seongmisan Village' which now includes about 1000 members, cooperative support, Seongmisan School (alternative), and other town businesses.

(attended by approximately 34,000 annually), 332 residents' consultative group meetings, 200 feasibility analysis TF meetings, 662 meetings between residents, and 1900 fact-finders. The administration proved how to share detailed and accurate information with citizens, how to communicate and negotiate based on that information, and how to reach an acceptable and logical conclusion. It is true that this process proved both costly and time consuming. However, as the transition approach suggests (Kemp 2007b), in the long-term it is more efficient because costs of preserving unsustainable systems gets bigger over time and thereby heightens the likelihood of conflict between local government and citizens. To a significant degree, the citizens are left bearing the social costs of typical town development models in Korea. In this case, the citizens decided to accept their share of the responsibility for community development after long but full communication.

Civic Participant Governance

Perhaps the most visible illustration that Seoul was attempting to encourage civic participant in governance processes is the Listening Open Forum(聽策 rather than 政策). The Listening Open Forum was a place where Mr. Park's attendance was all but guaranteed, and thereby offered citizens as well as civil servants a change to voice their concerns directly to the city leadership. The main difference between this engagement process and other forms of engagement is that it was held on such a regular basis that citizens from many different backgrounds with varying levels of political sophistication became a critical source of ideas and inputs for the government. Held 71 times annually over the nearly two year period between November 2011 to December 2013, the Listening Open Forum became a critical element of participatory decision-making process.

Another good example of participatory governance involves the development of the Honorary Vice Mayor system in 2012. Currently nine Honorary Vice Mayors representing the elderly, the disabled, traditional merchants, foreigners, women, youth, small businesses, culture and arts, and tourists exist. The vice mayors actively participate in a diverse range of meetings, forums, ceremonies totalling 376 events. This system has offered an effective communication channel for encouraging marginalised citizen to air their opinions.

Moreover, Seoul allows citizens to participate in the planning of policies, including the citizen-participatory budgeting system, with a view to implementing not just reflecting upon citizen suggestion. For instance, the budgeting committee comprised of citizens reviewed proposed community projects to ensure financial transparency and equitable allocation of resources. Evidencing that this commitment to implementation encouraged yet more participation, the citizen participation in the budgeting committee increased sharply by 80%. Moreover, the citizen-participatory system selected 223 projects (equivalent 50.3 billion KRW) in 2013 with Seoul endorsing 202 of the projects. The reliability of budgeting under the citizen-participatory system is ensured with a review system that entails holding 25 districts' meetings, sub-committee reviews, and general assembly meetings.

Encouraging civic participation is critical to injecting vitality into communication and open administration. The openness of the city administration is intended to encourage citizens' participation. Communication should be mutual and interactive and connect people. As a result, trust and solidarity build strengthening support and legitimacy. Seoul offers numerous ways of communication i.e. direct SNS between citizens and Mr. Park, Open City Hall, Open Administration 2.0 and so on. Citizens' participation in open communication gives places a premium on the common good rather than individual interests and is itself considered a valuable asset for civic education and social learning. Citizens learn while they practice and participate and vice-versa. Innovative citizen can help promote informal education via the interaction between social learning and participation. For instance, Open City Hall is utilised for citizens' social learning place. This social learning process also helps citizens drive forward innovation.

Soil & the City Forum

Seoul has also adopted several policies that promote a sustainable and healthy city by encouraging the coexistence between nature and the surrounding community. The Seoul campaign 'Blooming Flower, Seoul' was created to motivate citizens' involvement in cultivation of trees and flowers as part of their daily lives. It also launched the Urban Agriculture festival in 2012 and similar festivals take place to exchange information and provide hands-on demonstrations. Seoul has planted rice paddies in *Gwanghwamun* Square in Central Seoul and raised honeybees on City Hall's rooftop gardens.

However, the practices of civic participant and sustainable lifestyle require a considerable degree of individual awareness and action as well as system transition. As efforts to achieve sustainability transitions increase, it becomes necessary to create social spaces where current lifestyle patterns are critically examined; collective deliberation supports redefining of concepts such as quality of life and well-being; and active experimentation helps to deliver new solutions for sustainable lifestyles.

Soil and the City Forum (hereafter the Forum) in Korea operates on the underlying premise that current society must recognize the urgent need for radical change due to the scale of environmental degradation. It has attempted to practice governance of multi-stakeholder participation through networking of NGOs, citizens, academics, artists, farmers as well as policy makers. The Forum has, in conjunction with relevant NGO's and local, national and regional authorities, focused on the value base of social innovation and creative approaches to sustainable and responsible living.

The Forum is best demonstrated the important role to stimulate development of sustainability transition since its establishment in 2012. The Forum argues that it is crucial to explore ways of changing the existing socio-economic system as well as to consider environmental concerns towards the transition to a sustainable society. Social change as well as citizens radical behavioural change is high on the agenda. It also focuses on organic and local agriculture with manual labour than heavy dependence on fossil-fuel. It believes cultivating the earth presents a viable solution to the eradication of poverty, degradation of the agriculture, emptying of rural community while combining a supportive social-cultural environment with a low-impact lifestyle in cities.

Therefore, it goes beyond typical sustainability transition concept which begins with innovative technology. The Forum also places an emphasis on the dematerialisation of development and accepts new concept of wealth – a creating and collecting radically innovative niche based on a new idea analogous to dematerialism of Morris (1890, 1966, 1992a, 1992b) and de-growth of Georgescu-Rogen (1975, 1979, 1993). Its uniqueness is that it goes beyond technological innovations and new niches built around progressive ideas and is rather framed around on an arguably more pleasant set of ideas. That set of ideas includes cultivating the earth in Seoul, less labour for accumulating material wealth, blurring the boundary between urban and rural as a clear alternative to the existing growth-oriented and material-intensive lifestyles in Korea.

The Forum further encourages participants in niches to expand their innovative ideas through learning and networking. A transformative learning model and networking process for systemic change i.e. active citizens' engagement and collective participation strategically facilitated to create communities of practice where action-reflection approach and user-driven innovation enable experiential learning as a precursor to transformative social change. It goes beyond simply recycling or energy saving activities into creating a culture of sustainable community living. The Forum provides seminars and programmes of experimentation and pilot projects, exchange of experiences, training and competence building and so on. It also provides opportunities to be involved in any relevant events i.e. participating urban agriculture events in Seoul. Hence, the learning process under the Forum not only promotes the accumulation of new knowledge but also supportive social and behavioural changes. Moreover, as the main figures of the Forum have their own networks and supporters, education or learning programmes also

take place through interconnections between individuals. The Forum is hence a network of networks and a platform that enables collective deliberation towards a sustainable society.

As this platform, the Forum provides a space where diverse discussions and negotiations take place to implement practical governance reforms composed of bottom-up multi-stage multi-level with actors' full participation from NGOs, citizens of various backgrounds – ranging from universities, civic groups, the artists and media producers (worked for social justice) to policy makers, borough municipal officers, firms and business. Networking building and practicing governance with wider participation helps strengthen support for the transition. Importantly the main participants in the Forum are the national figures and representatives of each field as well as strong supporters for Seoul Governance: for example, Professor Lee who with a major in environmental sociology has worked for 20 years as a Representative in the Korean Federation for Environmental Movement, one of the biggest and oldest NGOs in Korea; the Head of *Heuksalim* (meaning save the soil) has been devoted to research and implementation to protect indigenous seeds and agriculture since 1991; the successful business man who turned his company into an innovative urban agriculture small business with the motto of 'agriculture is the art'; the well-known artist who has composed diverse art works related to marginalised people as well as the soil. These and many more people have contributed their long time experience and network into the Forum and, in so doing, fashioned a network of niches. It includes the Seoul Institute which serves as Seoul's think-tank.

The case shows the importance of all the factors underpinning a transition that is based on social innovation that paves the way for dematerialisation and de-growth develops within a context that links multiple economic, institutional, and political factors to shift paradigms. Additionally, the concept of niche formulation in relation to social learning and networking is proved as a useful tool for sustainability transition. Just as importantly, the case traces the creation of a niche not to technological innovation but to a progressive idea. In sum, it suggests that governance, networking, and social learning are critical drivers of sustainability transitions, especially in rapidly urbanizing contexts.

Conclusions

This paper started with the contention that sustainability transitions will be critical to transforming conventional approaches to development. Transition approaches toward sustainability began with the idea that a technology is not a single element but rather a constituent agent of change. Technology interacts with people, with both participating in forming a system, much like a living organism, which underpins the technological innovation system (TIS) approach. It is from the foundational insights of TIS that SNM shed more light on social networks, communities of understanding, and other social organisations that make up the demand side. The thinking behind SNM opened the door to transition management (TM) to suggest that good governance can help innovative niches develop, and bring stakeholders with problem-solving knowledge into solution finding arenas. The multi-level perspective (MLP) expanded both the scale of this thinking and its desired outcome, noting the need for changes to a nested hierarchy of niches, regimes, and landscapes. Markard and Truffer (2008) later asserted that the development of the sustainability transition approach is not a linear development process from TIS, SNM, TM to MLP, but instead lies with the possibility of combining and complementing each perspective.

The need for social change is particularly important at the niche level when new approaches begin to take root. And it will also be critical for governments and civil society to help nurture a virtuous cycle of change. Governance rather than government will be critical to carrying forward and scaling a sustainability transition. Moreover, this process will be particularly revealing to watch in Seoul because modes of governance are increasingly transforming from autocratic and bureaucratic to deliberative and consultative.

Moreover, this transformation of the modes of governance places Seoul in a particularly good position to strengthen the link between social inclusivity and environmental sustainability. The new forms of governance that are emerging in Seoul illustrates that civil society and social innovations play critical roles in transitions. Several concrete examples underscore this point. For instance, Seoul has attempted to integrate marginalised groups into administration process. Seoul has proven that a broader participation of engaged citizens is crucial for the transition process although the transition research has focused chiefly on more sustainable socio-technical energy, transport or production systems as Orbetzeder and Rohracher (2013) pointed out. Moreover, those initiatives can be fragile due to the development of new working relationships, reliance on goodwill, and dependence on grant funding (White & Stirling 2013). The fully motivated social actors set the Forum in Seoul and enhanced and shared their skills and opportunities for influencing regime transition to support social innovation.

Above and beyond the case findings, the examples in the paper offer considerable lessons for work on sustainability transitions, especially the process of expansion of niches toward regime shift. There are clear signs that Seoul intends to open up the decision-making process widely to citizens; nevertheless, the full participation of citizens is always insufficient. When citizens hesitate, lack information, or have limited motivation to take part into collaboration, it is difficult for the bottom up governance process to move forward. To move from the niche to landscape stage, governance needs strong support from citizens. Although innovative niches exist in Seoul, some of them have not yet been fully formed or gained sufficient collective support to reach higher levels of development. The successful cases of niches prove that the collective power of people and the lasting support of local authority are the basis of their achievement.

Additionally, systematic infrastructure is also crucial to accelerating the development of niches. Niche innovations hence need to be systematically consolidated rather than 'random' organisations. Although they were able to put in place a municipal ordinance/act, the act relies chiefly on the support from the Mayor to maintain its vitality of them or not.

For the transition from the niche to regime, a negotiation and agreement between stakeholders is essential. Collective supporter can motivate niches to movie forward but cannot consolidate the transition without consensus. In order to reach systemic transition, networking of innovative niches needs the support of citizens and, more importantly, governance embraces a wide range of stakeholders is crucial.

Last but not least, innovative and reflexive citizens can be educated through interaction between social learning and participation. Public participation, transparency and communication are essential parts of governance process. Communication helps to build trust and solidarity and leads support and legitimacy. Citizens' participation in open communication give priority to common good over individual interests and itself is a valuable asset of civic education and social learning. In addition, as the character of networking gives rise to debates and conflicts as well as harmonious results, this learning process also need to include communication skills.

Sustainability transition is not chiefly about technology but also about changing social practices and mind-sets through good governance. Governance with public interested citizens established through networking and social learning cannot only achieve a low-carbon society but sustainability in a much broader sense.

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