Concepts of Sustainability and Live Aability of Green City form Buddhist Perspectives

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Chainarong Khaw-ngern[1], Phra Nattakitt Udomphol[2], and Kannikar Khaw-ngern[3]
(ggdrive.edu@gmail.com)

Abstract

Cities represent humanity's greatest achievements and greatest challenges. From inequality to air pollution, poorly designed cities are feeling the strain as 68% of humanity is predicted to live in urban areas by 2050. The World Economic Forum supports number of projects designed to make cities cleaner, greener and more inclusive. The latter focuses on how themes such as the circular economy and the Fourth Industrial Revolution can be harnessed to create better cities.

In the 21st century, science and technology will assume increasing importance in society, and new inventions capable of making our cities greener will be developed. Technologies within and across services can generate much greater benefits than can individual technological fixes. Green cities explore their impacts on people's health, life expectancy, wellbeing and quality of life, with emphasis on healthy living, liveability and sustainability. Moreover, green city concept is one of the latest responses to the diverse efforts and research conducted to address the problems caused by the dispersed model of city development and to help cities to become more sustainable and more liveable. Building green societies and green cities requires well-informed policy choices in favour of sustainable

[1] Student, Buddhist Psychology Graduate Program. MCU.
[2] Wat Srivanaram Banglamung Chonburi Province
[3] Lecturer, Graduated School. MCU.

development. Moreover, in Buddhist perspective through the Idappaccayata (the fundamental truth) as the Buddhist Law of Nature for sustainability for community. Buddhism offer with respect to environmental conservation and sustainable development where it has originated and the rest of world.

Keywords: Green City, Liveability, Sustainability, Idappaccayata

Introduction

What will the liveability of our cities be like in 40 years' time? Greening our cities has become one of the great global imperatives of the 21st century including to tackle climate change. Green cities bring together elements of architectural design and urban planning, often combining plants and built infrastructure to meet the needs of humans. This enthusiasm for "green cities" stands in stark contrast to traditional views about nature as the antithesis of culture, and so having no place in the city. The traditional view was that the only ecosystems worthy of protection were to be found beyond the city, in national parks and wilderness areas. This limits people's connection to the places in which they live and to broader ecological processes that are essential for life. Instrumental targets in isolation.

However, green cities cannot just be about area, tree cover and proximity (though they are important). We need to foster intimate, active and ongoing encounters that position people in ecologies. And we need to understand that those ecologies exist beyond the hard boundaries of urban green space. Without fostering a more holistic relationship with non-humans in cities, we risk an urban greening agenda that misses the chance to unravel some of the nature-culture separation that contributes to our long-term sustainability challenges as a society. Active interactions with nature in the spaces of everyday life are vital for advancing a form of environmental stewardship that will persist beyond individual (and sometimes short-lived) policy settings.

As we all know, cities have become a hot spot for climate action. The pollution level in the cities is many times higher than in rural areas, beside expansion of the cities that eats up forested lands, which absorbs this pollution. It is predicted that by the time of 2050 about two-thirds of global population will live in cities (UN, 2018., Meredith, 2018), so cities will need to become more sustainable, otherwise the huge level of greenhouse gas emissions and other kind of pollution will slowly destroy the world. Is it possible to make cities sustainable and make the urbanization less threatening to the environment?

It is possible to reduce the pollution created by the cities and it is already being done in most of the cities. Besides that, growing urbanization can be even good to the environment, because people who live in big cities drive less, use less energy, and enquirer less resources. If only city consistent with the environmentally friendly living principles, it can be truly sustainable. Sustainable city must be green. It is impossible to save forest lands if we want to build cities, but we can leave some green areas. Parks and gardens are not meant only for aesthetics. They absorb the pollution created by urban infrastructure. Sustainable city must have green areas and trees that could fight against the pollution. These areas have been exterminated, because they do not bring economic contribution, but they are very important for sustainability.

Every cities can be sustainable, but it requires some improvements and reorganization. If urban residents, municipalities and countries focus more on sustainability not only economic growth, urbanization will not cause destruction of the planet. However, if the cities do not become sustainable soon, there will really be some serious environmental problems that whole humanity will face with.

Liveability requires broad well-being

Davern et al., (2019), found some consistent factors. Critical factors for liveable communities are 1) residents feeling safe, socially connected and included; 2) environmental sustainability and 3) access to affordable and diverse housing

options linked via public transport, walking and cycling infrastructure to employment, education, local shops, public open space and parks, health and community services, leisure and culture. These are the essential ingredients for a liveable community. They are needed to promote health and well-being of individuals, build communities and support a sustainable society.

Cities are prominently increasing as major social and economic hubs. For such cities, liveability rankings and awards can provide welcome global recognition and marketing tools. Such rankings can operate to attract (or detract) people to a community. For example, many people know Melbourne has been repeatedly voted the "world's most liveable city". (Davern et al., 2019). These rankings focus on the inner city, remuneration packages and economic productivity, however, mask intra-city inequities. To overcome this, our definition of liveability considers the underlying conditions that support health. Liveability indicators are linked to urban, transport and infrastructure planning policy.

When it comes to greening cities, our natural resources are being rapidly depleted, and environmental degradation is threatening our well-being. Modern cities are replete with pollutants, traffic and noise. Urban features of transportation, labour-saving devices, passive entertainment and fast food have created environments that promote non-communicable diseases (NCDs) such as obesity, diabetes, heart disease, depression, dementia and cancer. These unhealthy urban habits have permeated rural areas as well. As a result, in the United States, nearly 70% of the adult population is overweight and 40% obese. The rates of heart disease, which have been declining, are now beginning to rise. By 2030, 40.5% of the adult population in US is likely to have some form of cardiovascular disease. (Bhatnagar, 2019) Cities are the action arms of civilization. They are engines of creativity and innovation. They are dynamic, complex, evolving systems but these dynamics can produce unintended or unforeseen outcomes.

Ways to Make Our Cities Liveable

Xuemei, (2015) suggests the following 10 items are the essential ingredients required to achieve thriving, prosperous cities.

1. Empower cities: More financial power should be delegated to cities in proportion to their responsibilities. In addition, it is important to recognize their rightful place in policy processes and implementing Sustainable Development Goals (SDGs). Current implementation strategies emphasize country, regional and international approaches, without much focus on cities.

2. National level support: It is important to realize urban issues are not the responsibility of local government alone. The aggregated social and economic power and environmental impacts of cities are often comparable to that of entire nations, but their potential cannot be properly tapped without support. Having a place in the national government institutional structure is essential.

3. Integrate new migrants and other vulnerable populations into the urban fabric: In China alone, there are 250 million people termed the “floating population” who come to cities to work but often without adequate social security or healthcare support. These people are often systematically discriminated by cities’ bureaucracies.

4. Beyond city limits: Ensure policies and management decisions at the city level take into account of the regional and global context and interactions.

5. Coordinated long-term vision: As cities grow and new cities emerge, we need a coordinated long-term vision of urban development. Unrealistically ambitious outlooks and over-competition results in redundant infrastructure and inefficient resource use.

6. Prepare for future risks: Cities need to be prepared not only for the risks arising from global phenomena such as climate change, but also those arising from local processes. For example, numerous cities sit on deltas, and many of the world’s deltas are sinking as a result of extraction and the concentration of high-rise buildings.

7. Implementation and accountability: Many cities suffer from air and water pollution, where local officials prioritize economic development over environmental quality; corruption is rife and officials are bribed to ignore regulations. Enhancing implementation of environmental regulation and reducing corruption will have a dramatic effect on the liveability of cities.

8. More science in planning and decision-making: We do not have a full grasp of how cities as a complex system behave and respond to intervention. For example, decisions about transport can affect housing, industry, energy consumption and health in unexpected ways. Unintended adverse consequences can be minimized through closer collaboration on science and urban policies. The most rapid urbanization happens in Africa and Asia. We need more urban research institutes in these areas linked to local and national policies.

9. Nurture cultural innovation: Cities are centers of rapid cultural innovation. Evidence shows that cultural shifts in cities, e.g. "Cycling is cool" or "Wasting food is a shame", have the potential to deliver significant sustainability outcomes within and beyond cities.

10. Facilitate city-to-city learning: Cities learn from each other more than from anything else. However, engagement in such peer learning can be constrained by local capacity, and this is where upper-level government and international organizations can help. In doing so, we must recognize that solutions are not one-size-fits-all. It is also important to recognize that learning and sharing does not have to be unidirectional.

Similarly, creating the sustainable cities of the future will require profound thinking to appreciate the advantages of a deeper complex-systems approach to urbanization.

How Sustainable Cities Can Improve Lives

Germany, Denmark and Sweden have developed a reputation for being world leaders in several aspects related to community planning and development, for example, by building innovative green buildings; amazing cycling paths, routes and highways; world-famous pedestrian-only shopping streets; and excellent parks, recreation areas, and other public spaces. Copenhagen, Oslo and Stockholm topped 27 other cities in the 2009 European Green City Index. In 2011, the Innovation Union Scoreboard ranked Denmark, Finland, Germany and Sweden as the leading countries for innovation among the European Union 27 member states, noting that the overall good performance in innovation of these countries reflected a balanced national research and innovation system. In 2012, the Legatum Institute ranked Norway, Denmark and Sweden as the highest countries in the world for overall prosperity. (Rodriguez, 2015)

Furthermore, Stockholm, Hamburg and Copenhagen, have respectively won the 2010, 2011 and 2014 European Green Capital Award, according to the European Commission. When giving the awards, the Commission noted the following: “the City of Stockholm launched a new program that allowed visitors the opportunity to explore the solutions created by Stockholm in relation to a variety of themes, including combating climate change and ensuring an effective and sustainable transportation system. Hamburg has achieved high environmental standards and good performance levels in terms of cycling and public transport indicators.” And Copenhagen is “a good model in terms of urban planning and design. It is also something of a transport pioneer, aiming to become the world’s most practicable city for cyclists. Its goal is to have 50 % of people cycling to their place of work or education by 2015 (35 % cycled to their workplace or school in 2010), helping the city reach an ambitious goal of being CO2 neutral by 2025.” (Rodriguez, 2015)

Green, multimodal mobility systems and networks are perhaps the most visible and common innovations in community planning and development in Germany and Scandinavia. They include integrated networks of public transit by road, rail and water; dedicated pedestrian lanes, paths and networks; and plenty of bicycle infrastructure, featuring dedicated bicycle lanes, paths and networks, and highways, with strategically located bicycle parking areas and pump stations, all of which makes it possible for residents to go to the places they need or want to go, quickly, conveniently, safely, comfortably and economically, and without having to drive their private cars at all times. They also make it possible for residents to have increased opportunities for exercising, therefore, staying physically and mentally active fit socializing, more particularly, breathing fresher air than residents living in communities where the use of the private automobile prevails. (Rodriguez, 2019).

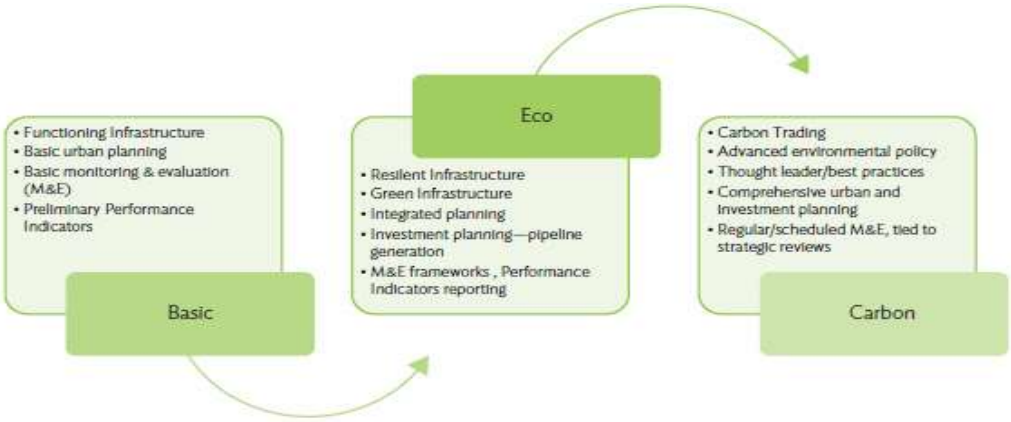

Figure 1 Green City Stages (source: Green city development tool kit, 2015)

Figure 1 provides a conceptual framework of how cities transition to various levels of green, commencing at basic and progressing to eco and then carbon positive. This framework provides a basis for cities to operate and track progress within, and is not rigid, and some cities may find their experience and development spread across multiple categories, that is, one sector may be eco, another basic, and another carbon positive. Such variation is not uncommon and highlights the

importance of being able to perceive the bigger picture of cities and the relationship between sectors. Similarly, the framework highlights one of the great opportunities for Asian cities and that is an increased entry point for some sectors. The benefit of lessons learned from the industrialization period and subsequent technological advances means that cities may be able to skip a step and potentially avoid the negative impacts of development associated with older or poorer practices.

As the rest of the world wakes up to the catastrophic implications of climate change, it falls to national, state and especially municipal governments to take practical steps to prepare for the impacts. Conscious that nation states are moving too slowly, growing numbers of cities and companies are busily investing in decarbonization and adaptation measures. Take the case of the Global Covenant of Mayors for Climate and Energy, which includes over 10,000 cities from 139 countries. By 2030, the Global Covenant's participating cities could reduce over 1.3 billion tons of CO2 emissions each year, the equivalent of taking 276 million cars out off the road. (Rodriguez, L. (2019).

However, even the greenest cities are facing a grim reality. No matter what national governments and businesses do to reduce carbon emissions, massive climate disruption is unavoidable in the short and medium term. Even in the unlikely event that greenhouse gas emissions are reduced to zero by 2030, scorching heat, rising seas and extreme weather events will continue to increase. While firmly committed to decarbonizing, growing numbers of city leaders recognize that some climate change is inevitable and they must be prepared to manage it. Some are actively exploring ways to design-in resilience, including redesigning, repurposing and retrofitting the built environment.

The truth is that cities are part of the climate problem as well as the solution. For one, cities are prodigious producers of greenhouse gasses, up to 70% of total emissions, and consume more than 80% of all energy resources, but they are also engines of productivity, generating more than 80% of global GDP, and innovation machines, responsible for producing more than 90% of all patents. Importantly, cities

concentrate over half of the world's population (more than four billion people) and this number will nearly double by 2050, causing rising demand for energy, food and water. Flooding, droughts, water scarcity and appalling levels of pollution are already making growing numbers of cities uninhabitable. (Rodriguez, L. (2019).

Becoming a green city is more complicated than just good urban planning and stricter codes. Jamieson, M. (2013) lists some best practices from the world's most sustainable cities.

1. Ambitious, well defined goals, and regular reporting of progress
2. Electricity generation using renewable resources
3 . Strict building codes favouring green technology
4. Investment in public transportation
5. Efforts and policies to cut waste, reduce water consumption
6. Increased density
7. Encourage knowledge-based, creative economies
8. Access to affordable, healthy food
9. City government who leads by example
10. Encourage grass roots efforts to engage citizens

The Green City and promotion of green development recognize that cities are dynamic, have limited resources, need resilient infrastructure (hard and soft), and are able to deliver the quality of life benefits expected by its residents. Cities can also provide greater opportunity for the private sector to engage and deliver green development outcomes. The transition of cities through the development curve can correspond, but not always, with that of the transition to different stages of a "green city." As resources and capacity permit, the investments taken in cities influence how quickly and effectively this transition takes place. However, this correlation is not always neat.

The economic status of a city does not always translate into higher investment or achievement of green development. Central to the success of green development and city development is increased knowledge and participation of

residents and the community. Early engagement with the community to identify needs, to promote understanding and awareness of key issues, and to obtain inputs into design processes provides invaluable local context and knowledge, supports the development of community-led responses. Community engagement supports knowledge transfer, education initiatives, and basis for long-term sustainability. Situating green development within the context of livability and improved urban environments enables a more practical understanding of the importance of green development initiatives and its relationship to individuals. Developing indicators that can assist city leaders and community track progress that relates to the livability of cities is a useful tool to improve knowledge and encourage accountability as well as celebrating success. Tracking progress and transition through the development and green city cycle is therefore important, and the tool kit also provides an introduction and/or framework for establishing indicators leading, ultimately, to the establishment of an index.

Buddhist perspectives

Buddhism principles to solve environmental problems have been divided into 2 levels, attitude and behavioral level. Attitude level; to see the connection of various factors, that affects each other in chains is the the fundamental truth (Idappaccayata), (Buddhadasa Bhikkhu, 2015) that when there is this, it has because of this, this has Idappaccayata principle. It is the four basic principles of the Four Noble Truths of Buddhism, because Samudaya is suffering, therefore, Samudaya is the cause of suffering because the lust is suffering. Therefore, if the lust is without suffering, then there is not because of the path of Nirodha. Buddhism will teach to see everything as a whole, looking at everything is always a chain reaction. For the behavioral level “Kula-ciratthiti-dhamma” (Phra Brahmagunabhorn, 2013) the Dharma that reasons for lastingness of a wealthy family consist of, 1) Lost items, find any environment that has been lost and help each other to recover 2) Waste to be

repaired 3) Know about the estimated consumption and 4) Set up people who have morals and morality as head of the clan. Family head Is the leader of the country, the city leader, the sub-district chief, the sub-district chief, the sub-district administrative committee is to choose people with morals Is the leader of that community The Dharma that makes the family prosperous for a long time, when in which environment has lost the ecosystem, help each other to recover Whether planting Water quality treatment Use renewable energy, and know the estimated consumption, eat well, environmental problems are problems in the global society. When this happens, the direction for solving environmental problems will be able to be done at the right point and effective.

The Buddhist teaching of leading the simple life following the Eightfold path and remaining alert and mindful about our thoughts and actions so that every citizen irrespective of faith and religion or caste is conservationist and accordingly all deeds are environmentally benign will bring sustainable outlook in all endeavors and all spheres of our lives. It is to be emphasized that from a Buddhist perspective, there is nothing wrong with economic progress or wealth ethically and lawfully earned following Noble Eightfold path, unless it stimulates attachment and insatiable greed. Buddhism has offer with respect to environmental conservation and sustainable development where it has originated and the rest of world. To maintain sustainability, the economy should not grow beyond the ecosystem's capacity to regenerate raw material inputs into production and its capacity to absorb waste materials and energy outputs from production.

The challenge of sustainability requires both the greening of our technology and the self-restricting of our needs. Post-capitalist economies are driven by a complex function of value creation that balances spiritual and material values and respects the human condition of future generations. Planetary resources are perceived and managed today as competitive goods with an expected high return on investment and not as common goods with a high degree of vulnerability. Material resources such as clean air and water as well as non-material resources such as trust,

compassion and peace are fragile. Managing our vital, material resources will not succeed without a good management of the spiritual resources of humankind. The transition from a market-driven capitalist economy towards a values-driven post-capitalist economy is linked to a new interest in spirituality as the art of managing the non-material resources of humankind. (Bouckaert, 2011).

Conclusion

The 2030 Agenda for Sustainable Development alongside the 2016 New Urban Agenda offer a renewed opportunity for the global community to address several global urban challenges associated to growing inequalities, social exclusion, extreme poverty, high unemployment, particularly among women and youth, and the increase in disaster and climate risk. Goal 11 and other urban components of the SDGs can address persistent problems related to the sprawl of cities, the proliferation of slums, the vulnerability of populations, and the poor conditions of the urban environment. More than half of the world's population currently lives in cities and, consequently, urbanization has been among the major drivers of global environmental change. The fast urban growth, likely to result in a share of 75 % of people living in cities by 2050, has resulted in the development of cities which are unfriendly to people as well as to the environment.

In the 21st century, science and technology will assume increasing importance in society, and new inventions capable of making our cities greener will be developed. But smart-city approaches are much more than technologies. Smart cities are about synergies and partnerships. Technologies within and across services can generate much greater benefits than can individual technological. The combined development of a high-capacity public transport system together with adjacent high-density, high-amenity, and energy-efficient urban development will have a greater greenhouse gas reduction impact than the sum of individual transport and urban-development investments.

The Green City Concept is one of the latest responses to the diverse efforts and research conducted to address the problems caused by the dispersed model of city development and to help cities to become more sustainable, less dispersed and more liveable. Cities with high liveability are likely high in green performance and are often found in the top positions of other liveability indexes and environmental performance or sustainability indexes. A green city as defined is also a sustainable and liveable city. Therefore, is a multidimensional concept which involves economic, environmental and social aspects. It is a city that takes responsible political and societal action in order to achieve high environmental quality, which by itself contributes to human well-being. (Rocco et al., 2016). Imagine green cities, that provide residents with plenty of opportunities to enjoy a high quality of life to preserve or improve their economy, the quality of their environment, and the health and well-being of their residents. That enables residents to live in variety of housing options, and that makes it possible, and attractive for them to walk, bike or take public transportation to go to the places they need to go every day, such as work, schools, grocery stores, shopping malls, parks and other public spaces, entertainment and recreational areas, and fitness and health facilities. Green cities explore their impacts on people's health, life expectancy, wellbeing and quality of life, with emphasis on healthy living, liveability and sustainability.

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