

FUTURE CITIES

NEW ECONOMY AND

SHARED CITY
PROSPERITY

DRIVEN BY

TECHNOLOGICAL
INNOVATIONS

Discussion Papers



UN HABITAT
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**FUTURE CITIES, NEW ECONOMY, AND SHARED CITY PROSPERITY
DRIVEN BY TECHNOLOGICAL INNOVATIONS**

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Message from the Executive Director



A stylized handwritten signature in black ink, appearing to read 'Maimunah'.

Ms. Maimunah Mohd Sharif

United Nations Under-Secretary-General
and Executive Director, United Nations
Human Settlements Programme (UN-Habitat)

Whether standing on the streets of Kuala Lumpur, Nairobi, or New York, it is often challenging to imagine what these cities will look like in the coming decades. What new pathways to sustainable urban development will we create if we combined and applied a social, economic, environmental, and cultural lens to guide us towards sustainable urbanisation? To achieve a sustainable urban future, we need an integrated approach combining cutting-edge ideas and talent through a participatory process that brings out the best of our global and urban family. Technology and innovative thought need to be combined with concrete actions to ensure we are able to attain Sustainable Development Goal 11, which is to create inclusive, safe, resilient, and sustainable cities.

Today, city planners are considering new means of transportation in the re-planning of their cities. Computer scientists are analysing data to give new solutions to old problems such as gender-bias decision-making. Creative and smart local governments are applying evidence-based policies to benefit communities. Technology forces us to rethink our current urban management systems. This ultimately alters the very conception of city development, moving closer to quality of life and defined by new indicators of inclusive growth.

UN-Habitat's new Urban Knowledge and Innovation Branch aims to lead this movement for sustainable, innovative solutions. This report *Future Cities, New Economy, and Shared City Prosperity Driven by Technological Innovations* pulls together thought-provoking discussion papers from the leading experts in urban development, technological innovation, finance, design, and sustainability. The papers explore the themes of: how to effectively analyse new trends in city development; how to develop urban infrastructure that is smart, inclusive, and relevant to its specific context; best practices in testing and implementing new ideas on city development for long-term success; and the interdisciplinary merger of city development, economics, and finance for a more inclusive future.

I would like to thank the contributors for sharing their knowledge and expertise with us. I would like to offer special thanks to the Chengdu People's Municipal Government of China for their support and to the team at UN-Habitat who worked hard to make this publication possible.

Foreword



Mr. Justin Yifu Lin

Dean, New Structural Economics, Peking University
Former Chief Economist, World Bank

The concept “Economic Growth” proposed by the 1971 Nobel Economic Prize Laureate Simon Smith Kuznets indicates twofold meanings as follows: one is modern economic growth, while the other is pre-modern economic growth. The pre-modern economic growth lasted until the 18th century. During that period, the economic growth rate basically depended on the population growth rate, and the average income level did not significantly increase. Since the 18th century, the annual average income growth rate of developed countries such as those in western Europe had jumped to 1% from about 0.05% in the era of pre-modern economic growth, and it had even doubled up to 2% by the end of the 19th century. Such dramatic development can be attributed to successive technological revolutions, including steaming in the first industrial revolution, electrification in the second one, informatization via computer and the Internet in the third one, and intelligence based on big data, cloud computing and artificial intelligence in the emerging fourth one.

Besides effective market mechanism, new economy calls for facilitating state to provide service and solve market failures certainly happening in the process of technological innovation. For instance, given the fact that new technology relies heavily on research and development (R&D), the scale of enterprises’ investment on development would be quite huge and the risk of a development activity would be very high, while the probability of failure would be not low. Enterprises would be passive to carry out technological development without being endowed any patent licenses, which are normally issued and granted by the government. In addition, the government also needs to support basic research, the breakthrough of which is a public goods and needed for the development of new technology.

Moreover, new technology can be well deployed into practice only if adequate hard and soft infrastructure is available. The new economy is currently in demand for support of infrastructure such as cloud computing, big data, Internet of things and 5G network, while railway, road and many other types of hard infrastructure primarily aim at traditional industries in the past.

New business forms would not come into being and new technology would not be able to really improve economic efficiency without new types of infrastructure.

Soft infrastructure, or so-called institutional arrangement, is also indispensable. New technology should be generated or applied by technical and production talents, but it is difficult for entrepreneurs themselves to cultivate these human resources from a preliminary education level or without any help. It is the government that should provide higher education or even postgraduate education to cultivate these talents with anticipation for potential new technological revolution in the future.

There would be a large number of opportunities for us to apply new technology into various scenarios, which calls for constant trial, especially action by the first mover. New business forms are normally fostered not by large-scale mature firms, but by some young people who are familiar with technology, sensitive to market, open-minded and full of new ideas.

Since the reform and opening-up in the late 1970s, China has made great achievements based on early trial and pilot in some local regions, which has been a very valuable principle of policy practice. In order to well cope with novel phenomena and capture new opportunities, the government pilots policies in a certain local area, then adjusts and improves it by drawing experiences and lessons from local practices, and finally generalizes it nationwide.

It is extremely meaningful for regions and cities like Oxfordshire and Chengdu to have been pioneers to explore how to develop and govern the new economy. We are looking forward to conclude the experiences and practices from them and generalize it to other cities worldwide, which help to provide equitable opportunities for each participant during economic growth and achieve shared prosperity.

Preface



Mr. Marco Kamiya

Senior Economist, Knowledge and Innovation Branch, United Nations Human Settlements Programme (UN-Habitat)

It is with immense pleasure that I introduce the Discussion Papers, *Future Cities, New Economy, and Shared City Prosperity Driven by Technological Innovations*. This collection of articles, from the foremost minds in urban development, technological innovation, finance, design, and sustainability, has come at a much-needed time in our societal timeline. Climate change, just one of our many cross-disciplinary challenges, threatens our ways of life and compounds the societal, infrastructural, and economic problems that we have, for decades, struggled to ameliorate. Human ingenuity remains the sole factor that has kept our global society persevering, and the time has come for us to use this endowed skill to merge the fields of technologic innovation, sustainability, and urban development.

The new Urban Knowledge and Innovation Branch at UN-Habitat, in calling for such a merging of thinkers, has begun its functions with thoughtfulness and enterprise. This Branch of UN-Habitat is bound to contribute greatly to our global challenge of achieving the Sustainable Development Goals. We must tackle our problems with intelligence, hope, and good conscience. The time for technological, innovative thought is now.

Thank you again to our contributors. In these challenging times, it is encouraging to read such forward thinking ideas that stretch across the globe. I implore the readers to take their time with each article, as the intellectual enrichment these papers offer is worth the meticulousness

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