

## MODERATOR'S COMMENTARY

### KEY ISSUES DURING THE *GULANGYU DIALOGUE*

by Roderick Lawrence

This text briefly presents four key issues discussed during the Science-Policy Dialogue on “Modeling urban health and well-being for policy and action: Algorithms vs. institutions” held at the Marine Garden Hotel, Gulangyu Island, Xiamen, China on 28<sup>th</sup> and 29<sup>th</sup> April 2016. The dialogue was organized by the global, interdisciplinary science programme on ‘Urban Health and Wellbeing in the Changing Urban environment: A Systems Analysis Approach’ directed by Dr. Franz Gatzweiler.

The following four key issues are a personal interpretation by Professor Dr. Roderick Lawrence, the moderator of the dialogue. They are not meant to reflect a consensus among all the participants.

#### THE QUEST FOR MORE DATA

We are swimming in big data, indicators and statistics. The water level is rising steadily. Are we being submerged, or can we keep our heads above the water line?

It is important to clarify the purpose in producing large volumes of data and statistics. Relevant questions include: what qualitative information, data and statistics are required to better understand real world challenges such as climate change, access to affordable primary health care, migration flows and increasing inequalities in cities?

What data and information are required for elected officials, public administrators and community groups to know *how* and *when* to make informed decisions?

Does the balance between social well-being and private profit, between individual liberty and the common good depend on more data, indicators and statistics?

#### THE KNOWLEDGE – ACTION GAP

We need to accept the complexity of real world challenges rather than denial, and work with change rather than ignore it. We are confronted by an increasing knowledge-action gap concerning urban ecosystems and health. We have great difficulty in applying what we know to tackle global challenges including climate change, access to affordable primary health care, migration flows and increasing inequalities in cities.

Relevant questions include: What is the appropriate knowledge and know-how required to overcome current inertia and address complex real-world challenges by well-informed public

policies? What data, models and systems are responsive to the dynamic nature of urbanization and urban health?

The structural changes needed to address global challenges in cities and mega-urban regions do not keep pace with the dynamic changes that have increased steadily. The ineffective responses to these changes have increased the dilemma of the knowledge-action gap. The unforeseen consequences of the primacy of national sovereignty, private property rights, economic growth and technological innovation, irrespective of their consequences for 'the common good' are well documented. All these drivers are grounded in human choices that reflect fundamental values that are rarely studied in sustainability science.

## THE PURPOSE OF MODELS

We are faced by the dilemmas of urbanization which is increasing rapidly. The unforeseen negative impacts of urbanization on health and well-being are not well understood. We need new empirical knowledge based on systematic studies in cities and urban mega-regions.

Relevant questions include: Can models based on systems thinking illustrate the multiple components, functions and unintended consequences of urban development in order to increase shared understanding and influence policy decision making? What models communicate effectively with citizens?

Urbanization is a main driver of national and local development agendas. Urbanization creates profit for many actors and institutions but often at the expense of societal co-benefits. Can systemic models and simulation tools for concerted action help to identify synergies and co-benefits that promote and sustain health and well-being?

## COMMUNICATING URBAN HEALTH CHALLENGES

Despite living in a so-called 'information society' we still lack data and information about where we live. We need a commitment for the systematic monitoring of urban ecosystems. We should also communicate this data and information about cities and population health to all concerned in ways that people understand better the key issues at stake.

Making sense of this empirical knowledge requires a new transdisciplinary knowledge domain created by the synergy among multiple academic disciplines in the natural and social sciences and the humanities, and between researchers and society. In an age of big data, disciplinary-based researchers are no longer the sole producers of empirical knowledge because knowledge is becoming an emergent product of multiple societal stakeholders acting collectively to address challenges that may impact on their habitat and their health.

Relevant questions include: How can researchers improve communication of research findings to elected officials, representatives of the private sector, non-government organizations and

citizens? How can non-scientific knowledge be used to formulate the questions researchers should address?

We need to decide whom we want to involve and to whom we want to communicate. Collaborative research (e.g. the co-design, co-production and co-implementation of data and information) about context specific themes and situations can be initiated with actors and institutions from society as integral participants. Citizen science is more than the collection of data and information at low-cost, because it is a way of enabling residents to better understand their habitat, risks to their health and well-being, and engage them in defining and implementing more effective responses to deal with them.

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