Megacities

the Hollings Center
for international dialogue

Dialogue Summary

The world's megacities by the United Nations definition. Image creator, Peter Hermes Furian.

The United Nations report *World Urbanization Prospects 2018* describes a megacity as a city of 10 million or more inhabitants.[1] By that definition, the number of megacities will increase from 10 in 1990 to an estimated 43 in 2030 globally, hosting nearly 9 percent of the world's population.[2] Spanning five continents, megacities present numerous economic, demographic, and environmental challenges and opportunities that may differ in scope, but are shared in essence across the board. As such, they present a timely topic for international dialogue and cross-cultural collaboration.

Six of the current megacities by the UN definition are in Muslim-majority countries, and two are in the United States. Representing different countries and urban cultures, as well as distinct levels of economic and human development, these megacities nonetheless have several commonalities. All are potential economic powerhouses and can offer wealth, diversity, and innovation to their inhabitants, and investment and expansion opportunities to businesses. They all encounter challenges that accompany fast-paced growth such as overcrowding, resource

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[1] World Urbanization Prospects—2018, Infographic (May 16, 2018), https://www.un.org/development/desa/publications/graphic/world-urbanization-prospects-2018-more-megacities-in-the-future.

[2] The World's Cities in 2018, United Nations, https://www.un.org/en/events/citiesday/assets/pdf/the_worlds_cities_in_2018_data_booklet.pdf, p. 3.

scarcity and management, and social inequality. In an effort to discuss the opportunities and challenges within megacities, the Hollings Center for International Dialogue conducted a dialogue conference in Jakarta, Indonesia, in July 2019. The dialogue featured researchers, urban planners, municipal officials, journalists, architects, and environmentalists representing the megacities of Baghdad, Cairo, Dhaka, Istanbul, Jakarta, Lahore, Los Angeles, and New York. Over the course of several days, the dialogue participants determined several conclusions and points requiring further analysis:

- The definition of a megacity is far more amorphous than simple criteria of population, density, or geographic size. Megacities arose as major cultural, economic, and infrastructural phenomena with far-reaching influence and impact on their countries and the world. Better assessment of the challenges and opportunities created by megacities requires greater theoretical analysis and a broadened, inclusive definition.

- Differences exist between megacities of the "Global North" and the "Global South," such as in the type and amount of resources available to address challenges, which in turn alter applied solutions. Despite this, cities on both spectra can learn from each other when applying those solutions. Applicable capacity and cultural sensitivities should play a role in megacity cooperation. Yet, it remains important not to oversimplify megacity challenges by using these two classifications. The scope, priority, and remedy of each challenge varies city to city.

- Maintaining a healthy, vibrant megacity depends on the healthy flow of people, ideas, resources. Regular "back-and-forth" can create transparency and opportunity from the city center to the city's periphery. However, impediments to that flow can create infrastructural decay, cascading corruption, social stress, and economic inequalities.

- A thriving megacity requires significant amounts of water, energy, and food. Successfully addressing the challenges posed by the high demand for these nexus resources will foster not only improved social equality, but also create more efficient systems to address environmental challenges.

- Megacities require good governance of land use, health, housing, and transportation. Better transparency between governments and citizens is needed and new technological applications could help improve that communication.

- Balancing urban development while protecting heritage proved a sensitive subject during the dialogue, one on which city leaders and residents avoid having the necessary civic conversations. Heritage can be used to project a city's image and identity. However, it is important to balance community needs and interests with cultural, historical, natural preservation.

Megacities

Dhaka, Bangladesh. Image source: Lumenite

The Function and Form of the Megacity

What is a megacity? This question posed to the dialogue participants offers no simple answer. Disagreement exists even when applying the most basic definition. Some, like the United Nations, set the definition at a certain population threshold. Others instead may focus on population density or geographic size. However, as participants discussed and theorized further about the definition and nature of the megacity applying basic criteria to the megacity missed the greater point. As one participant from Bangladesh stated, "Theorizing the megacity is very important and we can't shy away from that. 'The city is the new human consciousness.'"

Looking beyond the limits of definition or taxonomy, a picture of diverse, all-encompassing, and outward projecting urban environments emerges, each unique yet still sharing some commonalities. These cities exert a cultural influence, not just on a region or a country, but often globally. Furthermore, as one participant stated, a megacity is "a global economic phenomenon" that in some instances projects greater global economic influence than some countries. Yet, at the same time megacities can serve as economic microcosms of global conditions complete with their own macro- and microeconomic characteristics and cycles of growth and decline. This microcosmic phenomenon extends to the environment as well. As one participant noted, megacities create their own ecological systems as resource usage and large-scale human presence have profoundly affected air flow, water cycles, and even land composition. These cities not only represent ground zero for the effects of the Anthropocene, but could also serve as laboratories for better environmental management and mitigation. Megacities also feature

unique social spaces, creating both positive and negative social tension. Questions and debate about gentrification, housing, preservation, and politics define the city's social characteristics. Ultimately, the megacity is not necessarily defined by setting bounds. As one participant from Bangladesh noted, "I think we can focus on and understand the diversity of the megacities."

The Global North and the Global South

When originally conceived, the dialogue agenda focused on a series of supposed shared challenges with the intention of having each city represented relay their local experience in order to collectively determine some recommendations and best practices. However, the diversity of experience from each megacity represented in the meeting made collective conclusions less plausible. As one participant from Egypt noted, "There are obvious commonalities, but there are huge diversities." As the discussion progressed further, the participants' approach to the themes and challenges of megacities mirrored the theoretical global North-South division. Most of the world's megacities are located in the so-called "Global South," places with lower GDP and human development index numbers. As such, these cities would have a completely different set of resources and tools to address megacity challenges than the wealthier cities of the "Global North." Additionally, these "Global South" cities are more likely to feel the brunt of global environmental impacts and global economic shocks.

Although this categorization of the megacity may be realistic, it is unfortunate because there are significant opportunities for collaborative action. Throughout the dialogue, participants shared hopes that cities could serve as engines of positive change from environmental protection to efficient delivery systems. They also collectively addressed shared challenges, such as traffic, pollution, civic responsiveness, and resource management. Megacities can and should learn from each other. Rightfully, the severity of these challenges and the applied solutions will vary from city to city, depending on priorities, available resources, and political will. However, the initial method to approach each problem may be the same city to city. As one participant noted, "There are two ways to look at the problem. One is to look at it as a solvable problem, which ends up providing engineering responses. The second is looking at protocols and regimes, which means to look at why we arrived at the problem." Regardless of megacity location, size, or available resources, successful solutions will be both theoretical and technical.

Resource Management: Water, Energy, and Food Efficiency

As a participant from Bangladesh noted, "Megacities are products of geography, but they are geographies by themselves." This statement echoed a general theme among the participants that both forces from within and outside affect the megacity. A megacity not only creates its own problems, but at the same time fosters its own solutions. What results is a never-finished process, subject to consistent forces and counter-forces. This was most apparent when looking at resource management.

> "Megacities are products of geography, but they are geographies by themselves."

Distributing massive amounts of resources requires responsive systems, which in theory can create efficiencies. Although the challenges of scale are immense, doing it correctly can have

profoundly positive impact on the health of a city and its social fabric. Failure, however, threatens megacity collapse.

Food

"Food is the largest economic activity—the largest economic sector. If you are going to try to create an equitable and sustainable society, you have to get food right." Getting food right requires more than just availability and distribution. It is a question of smart land use through protecting agricultural lands on the periphery. It is also about providing strong social conduits that support both urban and rural livelihoods. One method suggested by an American participant, was to reincorporate urban consumers back into the process. Participants posited several suggestions on how to achieve this. One possibility would be to use technological innovations to help regulate food pricing and give consumers better information. Another would be to promote urban agriculture, even in small scale, as it would shift perceptions that food must come from outside the city. In turn, megacities share more responsibility for their own consumption. Making megacities more active participants in food systems can have positive impact. Additionally, cutting food waste within the city remains something that could provide positive environmental impact. Some cities, including Los Angeles, are experimenting with zero food waste policies. As one participant stated, "For over 2,000 years, the city has been seen as oppositional to agriculture, but I think there is the possibility that the two are coinciding."

Water

The cities represented at the dialogue ranged from water-scarce to water-abundant, but regardless of water availability, megacities share a common challenge about how to develop water infrastructures and provide clean and safe water to populations. Approaches vary significantly. In some megacities, particularly those in the "Global South," water provision is decentralizing, with local residents pulling water from anywhere, including non-renewable or polluted ground sources. In the "Global North," antiquated, centralized infrastructure has sometimes failed, showing the fragility and risk of outdated provision systems. In both cases, water quality impacts human and environmental health of the megacity, the city periphery, and greater region. Whether it is the city of Los Angeles's demands on the Colorado River basin or Cairo's demands on the Nile, poor upstream and downstream relations can lead to disputes with agricultural areas also critical to the sustainability of the megacity. Participants suggested multiple mitigations, including better rain and wastewater collection within cities, water conservation through smart technologies and education, better regional integration policies, and improved environmental regulations and pollution control.

Energy

A dialogue subgroup addressing megacity energy needs recognized the difficult balance between "energy poverty and environmental sustainability." Megacities, like the rest of the world, have prioritized meeting growing energy needs over mitigating the environmental impact of energy production. The political will for the latter is lacking. As one asked, "If dirty energy is cheap energy, why worry about the 100-year timeframe?" Almost all megacities remain largely dependent on large scale, fossil fuel-based electricity generation and transportation systems. Some solutions to this, most notably energy storage, remain to this date largely outside the control of city planners. However, participants did suggest that grid decentralization may be

The quality of available resources and the condition of the overall environment is a challenge for many megacities. In Los Angeles, air quality, even with significant intervention, continues to be a challenge. But, progress can be made. Image source: trekandshoot.

possible in these cities thanks to the reduction in cost of solar panels. "Large building or large co-located clusters of buildings can support cogeneration and use waste heat for heating and cooling of those buildings." Cogeneration, combined with conservation, would help to alleviate growing energy needs and make megacities more environmentally responsible.

Waste

In some megacities, such as Jakarta, scarce landfill space requires waste to be incinerated or dumped into bodies of water. This burning and open dumping pollutes air and groundwater, putting strain on the health of megacity denizens and lowering the amount and quality of available food and water resources for the population. In megacities of the "Global South," participants noted a lack of awareness on reuse and recycling. And despite such awareness in the "Global North," recycling systems are breaking down as other countries reject the importation of waste for processing. This creates a potential crisis for landfills and incinerators. To start addressing waste issues, participants suggested educating the populations to not only reduce waste, but also to properly dispose of waste. This has begun in places like Indonesia, where local community waste bags and designated collectors will collect a community's waste and encourage waste reduction and recycling. Some participants also suggested working with the major private sector polluters. These enterprises often create the largest amounts of waste in megacities. Curbing that output can have significant impact.

Balancing Heritage and Renewal

"Heritage is tricky," began one participant when discussing the question of heritage preservation in a growing megacity. "It can be seen as an obstacle and it can be hard to define." This leads to larger questions about who gets to define what is worth preserving and who benefits as a result. As participants discussed the concept further, the deep sensitivities and politics of heritage preservation became readily apparent. "Heritage is about identity," said one participant. Another noted, "Heritage is a tool to define your past and your future. It is always about the present and never about the past, actually." Too often city planners and leaders ignore social ramifications and aspects of heritage, instead focusing on the technical applications of preservation.

Sometimes preserving heritage makes little sense. A participant from California mentioned that in an area with severe housing shortages, the California lifestyle (part of that state's heritage) of "one story houses with a backyard and a pool" are no longer sustainable. Yet, the deep emotional attachment to that lifestyle has prevented meaningful housing reform. Likewise, in other countries, preserving heritage may in fact mean preserving dark history of conflict or colonialism. This too provokes deep emotional response and justifiable resistance. Cities that have undergone such significant trauma may wish to move on from that past entirely. Such opinions should be heard.

> "Heritage is a way to build national identity."

Choosing what to preserve and how to preserve it as one participant stated, "is interesting because it reflects the government's perception of what the country is." Another noted, "Heritage is a way to build national identity." Often this means choosing the interests of some over others, and too often this disadvantages the poor and marginalized parts of the community. Preventing that requires people remain part of the picture. Multiple participants advocated sensible repurposing of buildings and sites. One example cited came from Cairo, where efforts to preserve an old neighborhood has been used as a way to combat gentrification. Another example from Istanbul showed a balancing of priorities during the construction of the tunnel under the Bosporus. When archeological artifacts were found during construction, efforts were made to safely remove, preserve and catalogue those artifacts before resuming construction. "I think all of us need to think about the tradeoffs," said one. Preserving heritage is a balance.

The Periphery and the Core: Governance of the Megacity

When conceptualizing the dialogue, the organizers wished to evaluate challenges at the periphery of the megacity. Participants debated definitions of the periphery. Said one participant, "There is a social periphery, a power periphery, a geographic periphery. There is this notion of the sphere of influence of the core city—a black hole that draws things in." The participant further elaborated that in reality the megacity is more fluid than this. "It's the periphery that is changing. There could be many centers and in some cases the edges become the new center." It is this flow and shift between the center and the periphery that can make a megacity thrive or fail. This changing interaction between them also creates many of the axes of separation within the megacity, creating forces of inequality and inclusion at the same time. Therefore, how to

create responsive, equitable governance of the megacity remained a top issue of concern for dialogue participants.

Land Use and Housing

In the megacities discussed, the issue of housing provoked much concern and sensitivity. As one participant stated, "Euromonitor says that the world's largest cities are the most unequal. The bigger the city, the larger the income inequality. Areas with greater income disparity tend to be more segregated, suffer high crime rates, and experience acute health problems." These inequities are most pronounced in housing and land use. In some megacities, the lack of affordable housing stock has resulted in massive amounts of informal housing, often with substandard construction and services. For example, by one participant's estimate, about 70 percent of Karachi's residents live in informal housing (slums). Instead of cities working to provide services and improve conditions, too often informal housing becomes an excuse for "urban renewal" and gentrification, worsening the inequality and creating more distinct political divides. Some megacities, like Jakarta, are attempting to work on this challenge, deploying technological solutions for communication, building lower- and middle-class apartments, and working with NGOs to reach more residents of informal housing areas in the city. However, progress has been slow.

On the other end of the inequality spectrum, several of the represented megacities have experienced rapid gentrification as the result of active re-engineering of neighborhoods by the city governments, making affordability of housing even for middle and upper classes a

Traffic was a significant concern cited by dialogue participants. In Cairo, the traffic problem has become so severe that it has affected health and economic prosperity. Image source: Baloncici.

significant problem. As one participant noted, "If people stop finding opportunity in the city because it's too expensive, that is concerning." In New York City, much of the new housing stock added has been luxury, which has helped to drive up rental rates across all parts of the housing sector, even if these new units are going unused. The same has occurred in Cairo, where the construction of gated communities has actually led to a housing surplus. However, the lack of affordability of the housing stock in Cairo has driven even more people to the overcrowded informal housing sector.

Participants offered few suggestions on how to best address land use and housing, but the suggestions that did come focused on two aspects. The first was cross-transparency between city planners and all residents of the city. Reinvigorating the modern city with the human dimension and including marginalized populations in decision making can help thread the needle between organic and planned growth. The second suggestion was to encourage better economic and physical "back-and-forth" between the periphery and the other parts of the city. Greater interaction between groups and neighborhoods can help ease social tension.

Transportation
Providing better "back and forth" through the megacity requires improved transportation. Of the megacities represented at the meeting, all of them have significant problems with automobile traffic, which slows the flow of people within the megacity, and contributes significantly to carbon emissions and pollution-related health problems. Most of the participants agreed that improved mass transit systems are needed while consciously thinking about the impacts to communities. Istanbul, Jakarta, and Los Angeles have all constructed additional light and heavy rail lines in the last decade. Other cities have worked to improve bus service. However, only putting resources into mass transit improvements and expansions will not suffice. Several participants advocated that education is needed in these cities to make automobile transportation options less desirable. Additionally, several participants advocated the improvement of pedestrian options such as sidewalks and skywalks. Many of these cities, most notably Los Angeles, Jakarta, Baghdad, and Cairo, have poor pedestrian infrastructures and cultures. Making megacities more walkable can help unify communities, improve citizen health, and help to take some traffic off the roads.

Digital Transparency and Responsiveness
Some dialogue participants noted that improving transparency and responsiveness of megacity governments should be a top priority of the government. Better communication between city governments and citizens can help alleviate daily problems and combat corruption. Some of the megacities have deployed technological options to communicate with citizens. New York's 311 system remains a gold standard for city responsiveness and collection of important information. Jakarta has used cell phone apps to connect more than 60,000 community leaders. With the help of these community leaders, the app can assist citizens in administration requests, licensing, and tax payments. Like in many megacities, work still needs to be done on digital literacy, smart phone penetration, and broadband internet access. But these technologies do show significant potential.

Cover Photo: Jakarta, Indonesia. Credit: <u>Andreas H.</u>