Working toward green growth in urban China

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China, like many developing nations, is working to stem the tide of environmental degradation that flows from unchecked urban growth. Although the central government has made steady progress toward

strengthening national environmental laws and developing strategies for achieving the Sustainable Development Goals (SDGs), local environmental quality and the success of urban-level action plans remains varied across regions. Public awareness of environmental issues is on the rise, but there is still a need to understand the public's top concerns and what they might be willing to pay to mitigate environmental damage.

Last month, the Earth Institute's Anyi Wang and Allison Bridges presented their research on Chinese urban environmental sustainability at the 2018 International Conference of the Association for Public Policy Analysis and Management (APPAM) in Mexico City. Both studies use data from the Henan Urban Sustainability Survey, which was designed collaboratively by the Research Program on Sustainability Policy and Management at Earth Institute, Columbia University and Henan University. The large-scale in-person survey of more than 3,000 randomly selected local correspondents was conducted in three cities representing high, medium and low levels of economic development in China in May 2016. The survey collected extensive information on respondents' environmental behavior, sustainability knowledge and awareness, attitudes toward various urban sustainability issues, and willingness to pay for environmental improvement.

In the panel on Behavioral Drivers of Decisions, Dr. Wang presented his paper, co-authored with Dong Guo and Alice Tianbo Zhang, entitled "Willingness to Pay for Environmental Quality Improvements: Evidence from a Contingent Valuation Survey in China." Existing studies have generally found low marginal willingness to pay (WTP) for mitigating environmental damages among local residents. However, when combining ground-level air quality index data (AQI) with survey data on demographics, education, income and WTP, the study found that exposure to air pollution is a significant determinant of the public's WTP for overall environmental improvements and for air quality in particular.

Focusing on four environmental outcomes – overall environmental quality, air quality, fresh water quality, and biodiversity – the findings were consistent with previous studies in China on public WTP for environment. Specifically, males, younger, and more educated individuals tend to have higher WTP. The findings also suggest that the WTP is consistent across income levels and could be enhanced by increased sustainability awareness, which underlines the importance of continued educational efforts in fostering familiarity with sustainability issues.

In China, the central government's 13th Five-Year Plan for Economic and Social Development set numerous targets that are aligned with the SDGs. However, there remain barriers to the development and implementation of urban-level action plans and to the enhancement of civic engagement. Recognizing that achieving urban sustainability will require unprecedented coordination and strategic action, Dr. Bridges, together with her co-author Dong Guo, explored the degree to which public opinion, expert opinion, and government development priorities are aligned. In the panel on Cities and Planning, Allison Bridges presented her work entitled "Environmental Pollution as Public Priority for Urban Sustainability in China." This research identified pathways for greater inclusion of public opinion in local sustainability planning in China. Although mechanisms for the consideration and incorporation of public priorities have been implemented in localized cases throughout China, shifting the current urban planning practices to a more people-centered approach remains a challenge.

Opinion surveys can help local governments gauge how well existing policies and programs are addressing the concerns of the public. The same public survey used to analyze willingness to pay also found the sustainability issues most important to the sample population were education, health, air quality, and government accountability. Areas in which public interests are aligned with government priorities, such as

improving air quality, can serve as ideal starting points for enhanced public-government collaboration. Divergence of development goals indicates programs need to be well targeted to offer co-benefits across both public priority and government priority issues.

Local stakeholders in the survey cities indicated the primary barriers to sustainability were insufficient laws and regulations, underdeveloped staff capacity, and inadequate resources for enforcement. Following a multiscale analysis of development priorities, and review of the primary barriers to sustainability, Dr. Bridges' work informed the development of a rubric for identifying pathways for civic participation in strategic sustainability planning in Chinese cities.

These two studies suggest there is growing public interest in addressing environmental challenges in China's rapidly growing cities. As the estimated overall willingness to pay of the public exceeds the reported local government environmental expenditure, there is a level of consumer surplus that local authorities can tap into by following a more sustainable and environmentally-friendly path of economic development. Throughout the world cities are emerging as leaders in the development of high impact sustainability action plans. By leveraging the growing concern of citizens, urban governments can achieve sustainable development by ensuring innovative programs are successfully leading to nimble, science-driven, collaborative structures that work to usher in a new era of sustainable urban design and management.

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