SCHOLARLY SHOWCASE

SCIENCE, TECHNOLOGY AND INNOVATION POLICY

ENVIRONMENTAL POLICY AND SUSTAINABILITY

SOCIAL AND URBAN POLICY

SCIENCE, TECHNOLOGY AND INNOVATION POLICY

Sivarudran Pillai, Vishnu, and **Kira Matus.**
"Regulatory solutions to alleviate the risks of generative AI models in qualitative research."
Journal of Asian Public Policy (2024): 1-24.

Fan, Ziteng, Jing Ning, and **Alex Jingwei He.**
"Slowing down or adapting to technological progress? Automation risk and policy preferences."
Regulation & Governance

STUDY FOCUS

The paper explores the emerging applications of generative AI models, particularly in qualitative research within the social sciences and public policy. While these technologies enhance conversational capabilities, they also raise significant ethical concerns regarding data confidentiality and research integrity. The study identifies potential risks associated with the use of Large Language Models (LLMs), such as GPTs, through a review of scientific literature and discussions with qualitative researchers and stakeholders impacted by these technologies.

The research highlights the need for interventions to mitigate risks affecting the three key groups: Reviewers, Researchers, and Research Respondents (the 3Rs). By comparing current AI-related policies from the European Union, Singapore, the United States, the United Kingdom, and China, the authors identify regulatory gaps in addressing the ethical implications of LLM usage in qualitative research.

POLICY RECOMMENDATION

To ensure ethical integrity in qualitative research utilizing generative AI, policymakers should establish a regulatory framework that encompasses both soft laws and hard laws. This framework should facilitate ongoing dialogue among researchers, regulators, and stakeholders, while implementing guidelines and regulations that protect data confidentiality and uphold research ethics. Emphasizing transparency and accountability will be crucial to fostering trust and promoting responsible use of AI technologies in research.

STUDY FOCUS

This paper examines the relationship between the risks of robots replacing jobs and citizens' preferences for government policies. It aims to clarify mixed results from existing research by investigating when citizens support government intervention to reduce job displacement risks and their preferred policies. A survey in China, the largest robot market, found that citizens favor government action in dangerous work environments over routine jobs. They prefer direct assistance, like training programs, rather than company-focused regulations. Support for government action is stronger when citizens believe beneficiaries deserve help.

POLICY RECOMMENDATION

This paper recommends focusing on training programs that directly support workers affected by robot job displacement. Clear communication about the benefits and intended beneficiaries of these policies is essential for gaining public support. Policymakers should also strive for a balance between technological advancement and job security to protect workers' rights.

SCIENCE, TECHNOLOGY AND INNOVATION POLICY

Trencher, Gregory, **Masaru Yarime**, and Jeongsoo Yu.

"Using emerging technologies to tackle mobility challenges caused by population ageing: Experiences from Japan."

Technological Forecasting and Social Change 208 (2024): 123729.

Papyshev, Gleb, and **Masaru Yarime**.

"The limitation of ethics-based approaches to regulating artificial intelligence: regulatory gifting in the context of Russia."

AI & SOCIETY 39, no. 3 (2024): 1381-1396.

STUDY FOCUS

The paper examines the mobility challenges posed by population ageing, specifically focusing on Japan as a case study. It explores how innovations like autonomous vehicles and Mobility-as-a-Service (MaaS) can address these challenges, while highlighting the barriers to their implementation. Through interviews with practitioners and experts, the study reveals interconnected issues such as safety, driver shortages, deteriorating transport services, and accessibility barriers that impact the elderly's mobility and well-being.

STUDY FOCUS

The paper explores the regulatory landscape of artificial intelligence (AI) in Russia, highlighting the government's reliance on unenforceable ethical principles and industry self-regulation instead of strict regulations. Based on 50 interviews with policymakers, AI representatives, and academics, the study illustrates how this regulatory regime has been influenced by major tech companies seeking to minimize oversight. This approach, framed as a strategy to promote local innovation, may unintentionally compromise public interest by allowing for "ethics washing," where companies present superficial compliance with ethical standards without real accountability.

POLICY RECOMMENDATION

Governments should consider establishing clear, enforceable regulations for AI technologies that prioritize consumer protection and public interest. Rather than relying solely on self-regulation and ethical guidelines, a balanced approach that includes robust oversight and accountability measures is essential to mitigate the risks of ethics washing and ensure responsible AI development.

POLICY RECOMMENDATION

Policymakers should prioritize the development and implementation of mobility innovations tailored to the needs of the elderly. A holistic approach is essential to address the interlinked challenges of safety, accessibility, and service quality, while ensuring that expectations align with the realities of ageing populations.

Aoki, Naomi, Melvin Tay, and **Masaru Yarim.** "Trustworthy public sector AI:
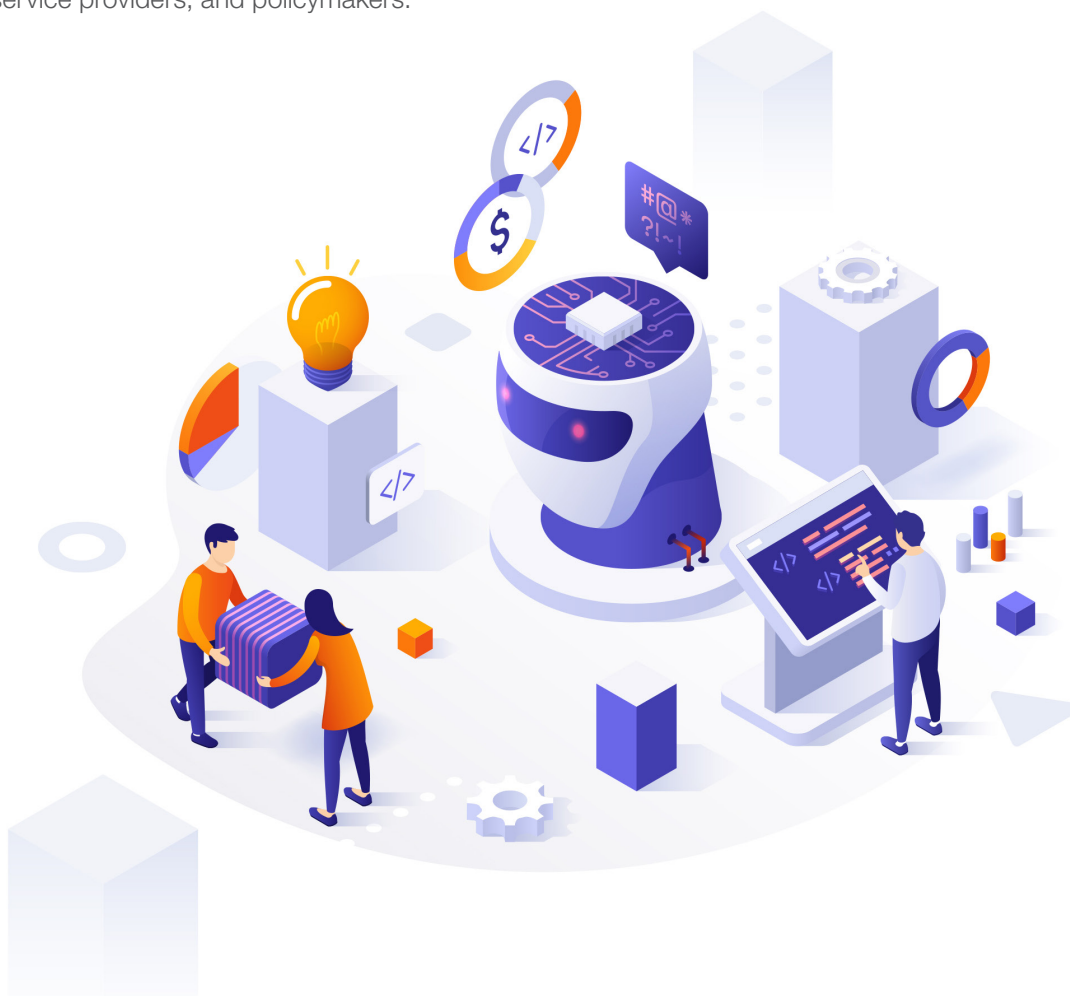
research progress and future agendas."

Research Handbook on Public Management and Artificial Intelligence (2024): 263-276.

STUDY FOCUS

The paper examines the growing adoption of artificial intelligence (AI) technologies in public sector operations and services (AI-PS) across at least 49 countries. It addresses the challenges of implementing AI in public services, particularly the critical issue of building societal trust in AI-PS. The authors emphasize the importance of trust in AI systems for effective public service delivery and conduct a systematic literature review to assess current research on this topic. The findings highlight gaps in knowledge and propose future research directions to better understand and foster trust among various stakeholders, including citizens, service providers, and policymakers.

POLICY RECOMMENDATION

Governments and public agencies should prioritize initiatives aimed at building societal trust in AI-PS. This includes developing transparent communication strategies, engaging stakeholders in the design and implementation process, and conducting ongoing research to address ethical concerns and enhance public understanding of AI technologies. Establishing clear frameworks for accountability and performance evaluation will also be essential to ensure the responsible deployment of AI in public services.

ENVIRONMENTAL POLICY AND SUSTAINABILITY

Vlasceanu, Madalina; Doell, Kimberly C.; Bak-Coleman, Joseph B.; ... **Tyrala, Michael**, ... & Van Bavel, Jay J. (2024).

"Addressing Climate Change with Behavioral Science: A Global Intervention Tournament in 63 Countries".

Science Advances 10(6).

Chen, Xiaodong, Zhuang Miao, Ge Wu, and **Pengyu Zhu**.

"City-level green growth accounting: Evidence from China's thirteen urban agglomerations."

Renewable and Sustainable Energy Reviews 203 (2024): 114776.

STUDY FOCUS

The paper investigates the effectiveness of various expert-crowdsourced interventions designed to motivate global behavior change in response to climate change. Analyzing data from 59,440 participants across 63 countries, the study tests 11 interventions aimed at improving four climate mitigation outcomes: beliefs, policy support, information sharing, and tree-planting behaviors. The findings reveal that while some interventions had minor effects—such as decreasing psychological distance to strengthen beliefs and inducing negative emotions to enhance information sharing—none significantly increased more effortful behaviors like tree planting. Additionally, the effectiveness of these interventions varied based on participants' initial climate beliefs, indicating that tailored approaches may be necessary.

POLICY RECOMMENDATION

To effectively drive climate behavior change, policymakers should adopt tailored interventions that consider the diverse beliefs and motivations of different audience segments. Strategies should focus on reducing psychological distance and fostering emotional engagement while recognizing that more demanding behaviors may require distinct approaches. Continuous evaluation and adaptation of interventions will be essential to enhance their effectiveness across various contexts and populations.

STUDY FOCUS

This study investigates the role of urban agglomerations in mainland China in achieving national objectives for 'Carbon Peak' and 'Carbon Neutrality' through strategies that mitigate environmental risks. It focuses on the industrial sector across thirteen urban agglomerations (TUAs) from 2006 to 2016, employing a comprehensive decomposition framework based on the Malmquist productivity index. This framework allows for an analysis of whether changes in productivity are driven by efficiency improvements or technological advancements, considering various input and output variables such as capital and labor.

The findings indicate an average annual environmental productivity gain of 2.6% during the study period, reflecting an overall enhancement in productivity within the industrial sectors of the TUAs. However, a detailed analysis reveals that while energy use and pollutant management contributed positively to environmental productivity growth, the 'catch-up effect'—representing the ability of less advanced areas to emulate more productive regions—was negative at -0.2%. This suggests that the TUAs struggled to reach the productivity levels of their more advanced counterparts, primarily due to negative impacts from industrial energy use and capital inputs.

POLICY RECOMMENDATION

The study emphasizes the need for technology transfers from more developed regions to less advanced ones, particularly in renewable energy and capital investments. Such transfers are critical for improving environmental performance and productivity within the industrial sectors of the TUAs, highlighting the importance of strategic collaboration and investment in fostering sustainable development.

Soares, Ian Varela, **Masaru Yarime,** and **Magdalena Klemun,**

"Balancing the Trade-off between Data Center Development and Its Environmental Impacts: A Comparative Analysis of Policy Responses in Singapore, Netherlands, Ireland, Germany, USA, and the UK,"

Environmental Science and Policy, 157, 103769 (2024).

Truong, Nhi, Gregory Trencher, **Masaru Yarime,** Brendan Barrett, and Kazuyo Matsubae,

"Barriers to the adoption of electric cars and electric motorcycles in Vietnam,"

Transportation Research Part D: Transport and Environment, 131, 104204 (2024).

STUDY FOCUS

The paper examines the environmental impact of data center deployment and analyzes policy responses aimed at enhancing their sustainability. Focusing on six major data center hubs—Singapore, the Netherlands (Amsterdam), Ireland, Germany (Frankfurt), the USA (Virginia), and the UK (London)—the study identifies three primary policy responses: moratorium, adjustment, and continuation. It assesses the degree of policy change, the duration of these changes, and their effects on data center deployment rates. Findings indicate that while all regions adapted their strategies, only two implemented long-term measures through stricter environmental standards. The analysis reveals that moratoriums can effectively stabilize resource consumption in the short term, while continuation strategies may lower costs but face opposition.

STUDY FOCUS

The paper examines the adoption barriers for electric cars (ECs) and electric motorcycles (EMs) in Ho Chi Minh City, Vietnam, contributing to the understanding of electric mobility in developing countries. While much of the existing research has focused on ECs in industrialized nations, this study highlights the unique challenges faced in a context where motorcycles dominate transportation. Utilizing a quantitative survey of 944 potential adopters, the authors employed exploratory factor analysis and regression modeling to explore how various structural conditions—such as environmental, economic, social, and institutional factors—impact the psychological barriers to purchasing ECs and EMs.

The findings reveal both commonalities and distinct differences in the barriers affecting the adoption intentions for these two technologies, enhancing our understanding of the complex interplay between structural conditions and psychological factors in urban settings.

POLICY RECOMMENDATION

To promote sustainable data center growth, policymakers should implement stricter environmental standards and consider moratoriums as temporary measures to manage rapid deployment. Additionally, integrating multi-regional infrastructural strategies that align IT infrastructure needs with available energy resources can enhance the effectiveness of sustainability efforts. This holistic approach will help balance growth with environmental responsibility.

POLICY RECOMMENDATION

To promote the adoption of electric mobility in developing countries, policymakers should implement targeted strategies that address the specific barriers identified for both electric cars and motorcycles. This includes enhancing infrastructure for charging stations, providing financial incentives, and fostering public awareness campaigns. Additionally, engaging with local communities to understand their unique needs and preferences can help tailor interventions that effectively encourage the transition to electric mobility, ultimately reducing environmental impacts and improving energy security.

SOCIAL AND URBAN POLICY

He, Alex Jingwei, Ling Zhu, and Jiwei Qian.

"Policy design and policy feedback in welfare retrenchment: A survey experiment in China."

Policy Studies Journal (2024).

Wang, Juan, and **Pengyu Zhu.**

"The distribution of shared parking use in time and space: A case study in Guangzhou, China."

Journal of Transport and Land Use 17, no. 1 (2024): 603-623.

STUDY FOCUS

This paper examines how different welfare reform designs influence public attitudes and behaviors, emphasizing the interplay between policy feedback and individual proximity to reforms. Focusing on a 2020 public consultation in China regarding changes to medical savings accounts, the study employs a survey experiment to assess how varying policy designs impact public opposition. The findings reveal that moderate welfare retrenchment leads to significant public resistance, driven not by partisanship, but by specific policy characteristics and individuals' past experiences with health insurance.

POLICY RECOMMENDATION

First, tailored policy designs can foster greater public support by aligning reforms with citizen interests. Second, engaging communities during the policy-making process enhances transparency and acceptance. Third, policymakers should consider citizens' past experiences with existing welfare policies, integrating feedback mechanisms to improve satisfaction and trust. Finally, broadening the analysis of public opinion to include diverse factors beyond partisanship can lead to more effective and widely supported welfare reforms. Overall, the study highlights the importance of thoughtful policy design and public engagement in shaping successful welfare reform outcomes.

STUDY FOCUS

This paper investigates the usage patterns of shared parking in Guangzhou, China, focusing on the factors influencing both the total number of transactions and the average duration of parking. By analyzing transaction records from 121 shared parking lots, the study employs a quasi-Poisson regression model to identify key explanatory factors, such as the duration of implementation, parking lot capacity, land use types, proximity to points of interest (POIs), and transit stations. The findings indicate that these factors significantly affect parking transactions. Additionally, a linear regression model reveals that the average parking duration is influenced by land use, the number of nearby office buildings, and peak usage times.

POLICY RECOMMENDATION

The study emphasizes the importance of enhancing land use planning by integrating shared parking facilities into urban development strategies, particularly in high-demand areas near office buildings and transit stations. Increasing parking lot capacity in these locations can accommodate more transactions and alleviate congestion. Furthermore, raising awareness about shared parking options, especially close to points of interest, can boost participation. Implementing dynamic pricing strategies that reflect peak times may also optimize usage and maximize revenue. Overall, addressing these factors can improve the effectiveness of shared parking schemes and help mitigate urban parking challenges.

Florentin, Kevin Macarius, Motoharu Onuki, and **Masaru Yarime,**

"Facilitating Citizen Participation in Greenfield Smart City Development: The Case of a Human-centered Approach in Kashiwanoha International Campus Town,"
Telematics and Informatics Reports, 15, 100154 (2024).

STUDY FOCUS

This article investigates how Kashiwanoha International Campus Town has engaged its new residents in the development of a smart city, focusing on a human-centered approach that utilizes smart technologies to address local social issues and enhance resident participation. By employing qualitative methods, including analysis of official documents, field observations, and interviews with citizens and planners, the study highlights the importance of context-sensitive and collaborative strategies in building community within newly developed urban spaces. The findings reveal that investing in citizen participation and placemaking is crucial for fostering community ties and creating an environment conducive to innovation. However, challenges persist in empowering grassroots initiatives, indicating that achieving a balance between community-driven and technology-driven development is complex.

POLICY RECOMMENDATION

The article makes several policy recommendations aimed at improving citizen engagement in smart city projects. These include prioritizing resident input in planning processes, fostering collaboration among stakeholders, and creating platforms for grassroots innovation. By addressing these aspects, the study seeks to shift the narrative surrounding new smart cities from one of criticism to one of opportunity, emphasizing the potential for creating vibrant, inclusive communities through thoughtful engagement and participatory practices.

Tyrala, Michael. (2024).

"World-Systems Analysis and the COVID-19 Pandemic: How the Structural Dynamics of the Capitalist World-Economy Exacerbate Societal Vulnerability and Undermine Collective Responses to External Shocks".
In: Miller, Monica K. (Ed.). The Social Science of the COVID-19 Pandemic: A Call to Action for Researchers (pp. 500-514). Oxford University Press.

STUDY FOCUS

This book, The Social Science of the COVID-19 Pandemic: A Call to Action for Researchers, edited by Monica K. Miller, explores the profound impacts of the COVID-19 pandemic on various aspects of society, including education, family dynamics, and the economy. Recognizing that the pandemic presents unique challenges that go beyond medical and health sciences, the book emphasizes the importance of understanding social behaviors and psychological responses to the crisis.

POLICY RECOMMENDATION

Through a collection of essays by international scholars, the book provides a comprehensive overview of the pandemic's timeline, detailing how it has reshaped daily life and societal norms. It examines individual behaviors and experiences during the pandemic, discusses the long-term outcomes following the crisis, and offers best practices for conducting future social science research related to pandemics.

The book serves as a vital resource for researchers and policymakers, aiming to promote recovery from COVID-19 and minimize the negative impacts of future crises. By highlighting the significance of social science in understanding and addressing pandemic-related challenges, it encourages a collaborative approach that integrates psychological and societal perspectives into public health responses.
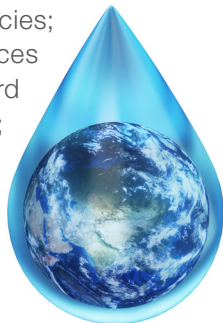
SOCIAL AND URBAN POLICY

Cuaton, Ginbert Permejo, Yvonne Su, Pamela Katic, and **Masaru Yarime**,
"Unpacking water governance dynamics and its implications for household water security in post-disaster resettlement communities in the Philippines," *Geoforum*, 154, 104053 (2024).

Wu, Sherry Jueyu, Ke Michael Mai, Ming Zhuang, and Fangxin Yi.
"A large-scale field experiment on participatory decision-making in China." *Nature Human Behaviour* (2024): 1-8.

STUDY FOCUS

This study examines the complex dynamics of water insecurity faced by households displaced by Typhoon Haiyan in resettlement villages in the Philippines. While much of the existing research has concentrated on water availability and accessibility, this paper highlights the critical role of power and politics in shaping water governance. By employing political ecology and water governance perspectives, the study investigates the overlapping drivers of water insecurity in these post-disaster contexts. Key findings identify five main drivers: inadequate relocation of displaced persons to areas lacking basic facilities; institutional disharmony and delayed involvement of water agencies; governance regime influences leading to substandard housing and water systems; micropolitics affecting water district management; and the economic impacts of maladaptive resettlement on households' ability to afford water.

POLICY RECOMMENDATION

The study advocates for improved institutional arrangements to enhance the governance of water services in resettlement communities. This includes fostering better coordination among water institutions during resettlement processes, ensuring that basic services like water are prioritized in relocation plans, and addressing power dynamics within local governance structures. By focusing on these areas, policymakers can work towards more equitable and sustainable water security outcomes for disaster-displaced populations.

STUDY FOCUS

This paper investigates the effects of local democratic decision-making in authoritarian contexts, specifically examining whether participatory budgeting can enhance civic engagement and government accountability. Conducted as an intervention involving over 20 million people in China, the study randomly assigned communities to either a treatment group, where citizens engaged in deliberative processes to allocate local community budgets, or a control group. The findings reveal that participatory decision-making significantly increased various forms of civic engagement beyond the budgeting process within six months of the intervention. Residents in treatment communities expressed a greater need for improvements from the central government, suggesting a potential shift towards seeking accountability from an authoritarian regime. Additionally, these changes were associated with a more positive societal outlook and increased satisfaction with government policies.

POLICY RECOMMENDATION

The study recommends that policymakers and local authorities in authoritarian settings consider implementing participatory budgeting as a means to foster civic engagement and enhance accountability. By encouraging citizen involvement in local decision-making, governments can create pathways for greater public input and oversight, ultimately leading to improved governance and more responsive policies. Such initiatives might not only empower communities but also lead to a more engaged citizenry that holds authorities accountable for their actions.

Lejano, R. P., and W. S. Kan (2024). "The relational dimensions of collective action." *Planning Theory & Practice*, 25(3):413-419.

Lejano, R. P., and Daniel Stokols. "Social Ecological Systems in Flux." *Annual Review of Sociology 50* (2024).
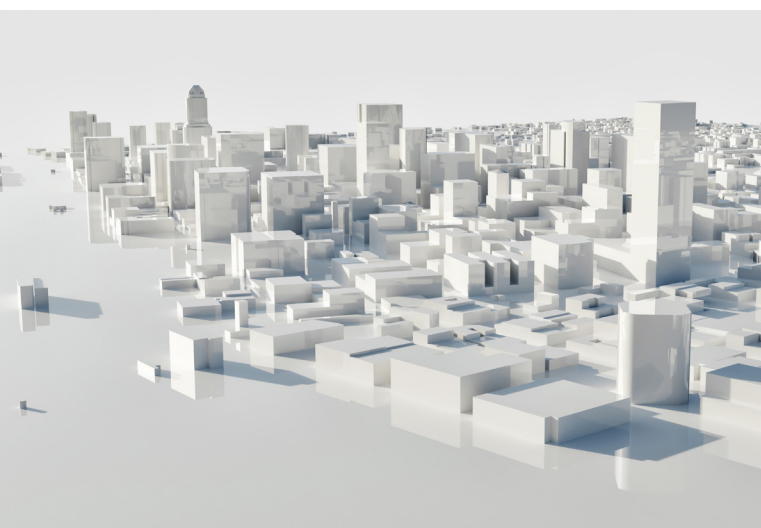
STUDY FOCUS

This paper explores the relevance of Elinor Ostrom's theories on the commons to urban planning, emphasizing the importance of relationality in fostering collective action. It examines how interpersonal connections at farmers' markets illustrate a network of relationships that enhance community engagement. The authors argue that understanding social connections can address urban injustices and promote cooperation, urging planners to rethink governance strategies to prioritize empathy and community ties.

POLICY RECOMMENDATION

The paper recommends designing urban policies that foster relationality by creating spaces for interpersonal connections, such as community-centered markets and integrated social services, to combat alienation and enhance collective action in urban environments.

STUDY FOCUS

This article addresses the pressing global challenges faced by contemporary society, such as climate change and the risks associated with artificial intelligence. It argues that while scientific and technological advancements have made strides, there remains a significant gap in effectively mobilizing social and political capacities for collective action. This disconnect arises from a tendency to approach complex global crises through unidimensional frameworks, which fail to capture their multifaceted nature.

To address these challenges, the authors propose an integrative approach grounded in the paradigm of social ecology. This perspective emphasizes the interconnectedness of social and environmental systems, encouraging a focus not only on the carbon footprint of society but also on the broader social implications of carbon emissions. The article outlines the core principles of social ecology and highlights its potential to foster collaborative research and enhance collective action, ultimately leading to more effective strategies for global governance.

POLICY RECOMMENDATION

The policy recommendation put forth advocates for the adoption of a social ecological framework in policymaking and governance. By promoting interdisciplinary collaboration and integrating social factors into environmental policies, decision-makers can develop more holistic strategies that address the root causes of global crises. This approach aims to inspire innovative solutions and strengthen collective responses to the urgent challenges facing humanity.

SOCIAL AND URBAN POLICY

Lejano, R. P., & Kan, W. S. (2024). "IPCC and the City: The need to transition from ideology to climate justice." *Journal of Planning Education and Research*, 44(3), 983-990.

Xie, Siqi, Ning Luo, and **Masaru Yarime**, "Data Governance for Smart Cities in China: The Case of Shenzhen," *Policy Design and Practice*, 7 (1), 66-86 (2024).

STUDY FOCUS

This article reflects on the urban components of the Sixth Assessment Report (AR6) by the Intergovernmental Panel on Climate Change (IPCC), which addresses the critical issues of climate change, mitigation, and adaptation within cities. The author critiques the report for its ideological leanings and its tendency to focus on theoretical frameworks rather than providing critical assessments of the actual conditions faced by developing cities. While AR6 emphasizes the importance of reducing carbon footprints, it overlooks the broader social implications— referred to as the social footprint of carbon— and fails to adequately address the significant adjustments that mitigation and adaptation efforts will necessitate for urban populations in developing nations.

POLICY RECOMMENDATION

The article calls for a more nuanced understanding of urban climate challenges, highlighting the need for comprehensive evaluations that consider both environmental and social dimensions. The author recommends that future reports and policy frameworks integrate assessments of social impacts alongside environmental strategies. This approach would ensure that the unique challenges faced by developing cities are acknowledged and addressed, facilitating more equitable and effective climate action that takes into account the realities of urban populations in these regions.

STUDY FOCUS

This paper explores the challenges and opportunities of data governance in the context of smart city development in Shenzhen, China. It highlights the critical importance of establishing effective mechanisms for managing data, given the unique institutional characteristics of the region. The study finds that a centralized government-led approach has been adopted, transitioning from merely addressing the fragmentation of government data to promoting the integration of diverse data sources across society. Collaborative efforts between the government and technology enterprises have resulted in the creation of open data platforms, along with regulations aimed at safeguarding data security and privacy while facilitating data exchange for innovation.

POLICY RECOMMENDATION

However, the paper identifies several key challenges. Stakeholders lack adequate incentives to provide accurate information, and the value of data is not sufficiently recognized, which hampers data sharing. Furthermore, citizens are often uninformed about the types of data collected and their uses, and institutional mechanisms to ensure responsible handling of citizen data by public authorities are still lacking.

To address these issues, the paper recommends actively involving citizens in data governance processes to align with a people-centered approach to smart city development. This includes enhancing transparency about data collection and usage, creating incentives for accurate data reporting, and establishing robust institutional frameworks to protect citizen data. By fostering citizen engagement, the governance of data in smart cities can be improved, leading to more effective and equitable outcomes.