

Beyond the Buzzwords:

Examining perceptions of climate change resilience and adaptation in Jordanian municipal planning.

Yasmeim OKOUR, Jordan University of Science and Technology, Jordan

Abstract

Addressing the diverse impacts of climate change is a significant challenge to cities and urban planners. In recent years, climate action has encompassed a substantial portion of municipal planning practice. As a result, new climate lexicons such as sustainability, resilience, mitigation, adaptation, risk, and vulnerability have engulfed municipal planning and policy discourse. Despite their prominence, such terminologies and concepts are often deemed ambiguous, used interchangeably, and conceptualized differently by various stakeholders. Focusing on two municipalities in Jordan as a case study, Irbid and Amman, the study examines the recent surge of resilience and adaptation reports, initiatives, and projects emerging from Jordanian public authorities. Using semi-structured interviews with municipal environmental and urban planners, this paper explores how municipal planners navigate the intricate lexicon of climate action. The findings illustrate that climate lexicons are perceived as new development buzzwords promoted by international development funding schemes. Specifically, adaptation and resilience work is seen as reactive to the funding priorities of international agencies rather than proactive actions driven by local municipalities. The translation of the global climate action lexicon into Arabic thus emerges as a significant issue. However, the analysis suggests that municipal planning practices in Jordan are driven by an understanding and belief of the overarching benefits of adaptation and resilience and other climate actions regardless of the conceptual ambiguities or the absence of well-understood and translated definitions. Overall, this study calls for further research that examines the impact of international climate action work and lexicon on climate adaptation and resilience efforts in the Global South.

Keywords

Climate Action, Adaptation, Resilience, Municipal Planning, Jordan

1. Introduction

1.1. Climate Action Lexicon: A Global Challenge

Research on the role of cities in driving global climate change response is growing (While & Whitehead, 2013). Climate action implemented by local municipal and planning authorities encompasses a wide range of strategies, including concepts such as climate change adaptation, and mitigation, disaster risk reduction, and urban climate resiliency (Hallegatte, 2009; Jabareen, 2013; Ribeiro & Goncalves, 2019). Climate change mitigation strategies refer to multi-sectoral actions cities take to reduce greenhouse gas emissions, while adaptation attempts to reduce the vulnerability of cities and residents to climate hazards (Seto *et al.*, 2014; Carter *et al.*, 2015; Araos *et al.*, 2016; Sancino *et al.*, 2021). On the other hand, researchers have described

urban resilience as the ability of interconnected urban systems to adapt and transform or bounce forward in the face of climate change. (Meerow et al., 2016; Rockefeller Foundation, 2019; Woodruff, 2021).

Cities and municipalities have also mobilized funding and research towards other complementary strategies and frameworks such as sustainable cities, green cities, smart cities, nature-based solutions, and green infrastructure that aim to support the long-term well-being of communities (Graute, 2016). Indeed, as cities are recognized as key actors in climate action, conceptual frameworks such as “resilience,” “adaptation,” “mitigation,” and “sustainability” are increasingly dominating local urban policy and planning (Jabareen, 2013; Carter *et al.*, 2015; Graute, 2016).

However, climate action strategies are generally considered interconnected and effective implementation requires a thorough assessment of potential conflicts and co-benefits between various strategies. Indeed, researchers have criticized the lack of consistencies in conceptual definitions and applications in national and local planning policy (Moser *et al.*, 2019). Urban planning professionals and municipal climate action frameworks often use resilience, sustainability, and adaptation interchangeably or define strategies differently based on the stakeholders involved (Davoudi & Porter, 2012; Meerow *et al.*, 2016). While definitions, climate lexicon, and climate action literature continue to grow, such conceptual discrepancies create significant challenges to municipal planners in developing and implementing coherent climate urban policies.

1.2 Climate Action in Jordan

Jordanian cities face many challenges, including rapid urbanization, high refugee influx, depletion of water resources, and increasing climate change impacts (Higgitt, 2009; UN-Habitat, 2023). The landscape of climate action in Jordan is growing. At the local and national levels, several plans and frameworks have been developed to promote climate change strategies in the country and reduce climate-related risks facing Jordanian communities, including:

1. National efforts:

- The National Climate Adaptation Plan of Jordan (NAP)
- National Climate Change Policy of Jordan (NCCP)
- A National Green Growth Plan for Jordan
- National Climate Change Health Adaptation Strategy of Jordan
- Jordan’s National Urban Policy
- National Green Growth Plans for various sectors (Agricultural, Energy, Transportation)

2. Local efforts:

- Sustainable Energy and Climate action plans for six cities (Irbid, Dier Alla, Busiara, Karak, Jerash, Aqaba)
- Amman Climate Action Plan
- Amman Resilience Strategy
- The Amman Climate Plan
- Amman Green City Action plan

1.3 Objectives of the paper

This research examines how Jordanian municipal planners navigate the intricate lexicon of climate action. First, the study explores municipal planners’ motivations behind promoting climate change adaptation and climate urban resilience in two Jordanian cities. Second, the research identifies municipal processes taking

place that aim to minimize and address conceptual ambiguities related to climate action. Specifically, the study attempts to answer the following questions: How do Jordanian municipal planners navigate the intricate lexicon of climate action? Overall, the study highlights the experiences of municipal planners in the Global South as they struggle to localize global climate action lexicon, while at the same time adopt the climate action language emerging from the Anglosphere to communicate their climate objectives and align them with international funding streams.

2. Methodology

To achieve the research objectives, this study utilized a qualitative approach by conducting semi-structured interviews with municipal planners in two Jordanian municipalities, the Greater Irbid Municipality (GIM) and the Greater Amman Municipality (GAM). The interviewee sample consisted of municipal planners and actors working in diverse departments and units within the municipalities. The sampling process aimed to identify participants involved in local development projects, land use planning, comprehensive planning, transportation planning, recreational planning, environmental planning, and local climate and urban policy development. Targeting diverse departments within the municipalities ensured a comprehensive exploration of how different municipal sectors navigate the emerging climate action lexicon in Jordan. A snowball sampling technique was used to identify key stakeholders and consultants of relevance to municipal climate action. Semi-structured interviews continued until data saturation was achieved. In total, 21 participants were interviewed (see Table 1).

Table 1. Participant distribution in municipal departments. Source: Author.

Department/Division	Greater Amman Municipality (GAM)	Greater Irbid Municipality
Comprehensive planning division	4	4
Municipal strategic planning division	1	1
Resilient Amman unit	2	-
Municipal communication division	1	-
International projects department	1	1
Social development department	1	-
Municipal planning consultants	3	2
<i>Total</i>	13	8

An interview guide was designed based on the research objectives. The questions within the guide were categorized into three main sections:

1. Background questions to examine their experience with climate action work
2. Questions to examine motivations behind adopting climate action strategies, including resilience and adaptation.
3. Questions to explore how municipal planners navigate and address conceptual ambiguities and linguistic barriers within municipal climate action.

The interviews ranged from 40-60 minutes in length and were conducted in Arabic. Verbal consent was collected from all participants, and interviews were recorded and transcribed. The analysis of the qualitative data from the semi-structured interviews consisted of thematic coding using NVivo software (Baralt, 2011).

3. Results and Discussion

3.1. Climate Action in Jordan: International Development Buzzwords?

To understand how municipal planners navigate diverse climate action lexicon, it is first essential to examine the motivation behind adopting climate-related strategies. One crucial finding of this study was the influence of international development funding schemes on local municipal climate action. Specifically, the participants highlighted that funding sources shape local climate priorities and goals. Due to limited financial resources, municipalities seek funding for local development projects from international development funding agencies such as the United States Agency for International Development (USAID), the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH, the Austrian Development Agency, the Swedish International Development Agency (SIDA), the Japan International Cooperation Agency (JICA), the Canadian International Development Agency (CIDA), and the French Agency for Development (AFD).

As a result of fiscal limitations, municipal climate action is continuously reshaped and reframed to align with emerging international funding priorities, as one participant explained:

“Last year, adaptation is what everyone was working on. This year, it’s all about smart cities.... because that’s what international funding grants are focusing on” (Comprehensive Planning Department, GIM).

“The USAID is about to launch a multi-million urban resilience project proposal in Amman; everyone will be talking about and working on resilience next year” (Resilient Amman Unit, GAM).

Thus, when funding opportunities are linked to themes of climate change mitigation for instance, municipal planners work on developing relevant project proposals, even if other areas of climate action are of priority to the local community. This international funding-driven format of climate action often overwhelms municipal planners who have to navigate new terminologies within calls for funding and can lead to misplaced efforts. At the same time, participants expressed their frustrations with the evolving lexicon of climate action. Funding agencies may define terminologies differently, and the interchangeable use of terms like resilience, adaptation, and sustainability creates confusion among municipal planners and can hinder the coordination efforts between various stakeholders.

On the other hand, participants critiqued the global climate action lexicon as never-ending buzzwords that are disconnected from the socio-economic realities of cities, particularly cities in the Global South. Municipal planners emphasized that while thinking globally is important, the climate action lexicon must be defined and refined locally. This issue is exacerbated by the need to translate terminologies often introduced in English into Arabic. Rather than burdening planners with the task of translating terminologies developed in the Anglosphere to the local language, international funding agencies that aim to support meaningful local climate action must consider the sensitivities of the local climate lexicon. Multilingual climate action work thus complicates the implementation of diverse climate-related strategies. Indeed, it is important to recognize that the climate lexicon within international development funding schemes may be disrupting local climate action work rather than supporting it.

Despite conceptual ambiguities and translation challenges, Jordanian municipal planners recognize the importance of various strategies, such as resilience and adaptation, in addressing the country’s climate vulnerabilities and are motivated by an overarching belief in the benefits of climate action. As one participant stated:

“Even if there is confusion about the terms and strategies, everyone in the municipality knows why they are important, and everyone is motivated to implement meaningful climate action” (Comprehensive Planning Department, GAM).

3.2. Navigating Climate Lexicon

As new climate action terms are introduced into local municipal planning, understanding how participants navigate diverse climate lexicon is important. Specifically, this allows the identification of specific factors or processes that help municipal planners understand new terminologies, overcome potential ambiguities, and thus enhance local resilience and adaptation efforts. The framework presented in Figure 1 illustrates the main variables that shape how planners navigate intricate climate lexicon: Driving forces, Disruption forces, and Stabilizing processes.

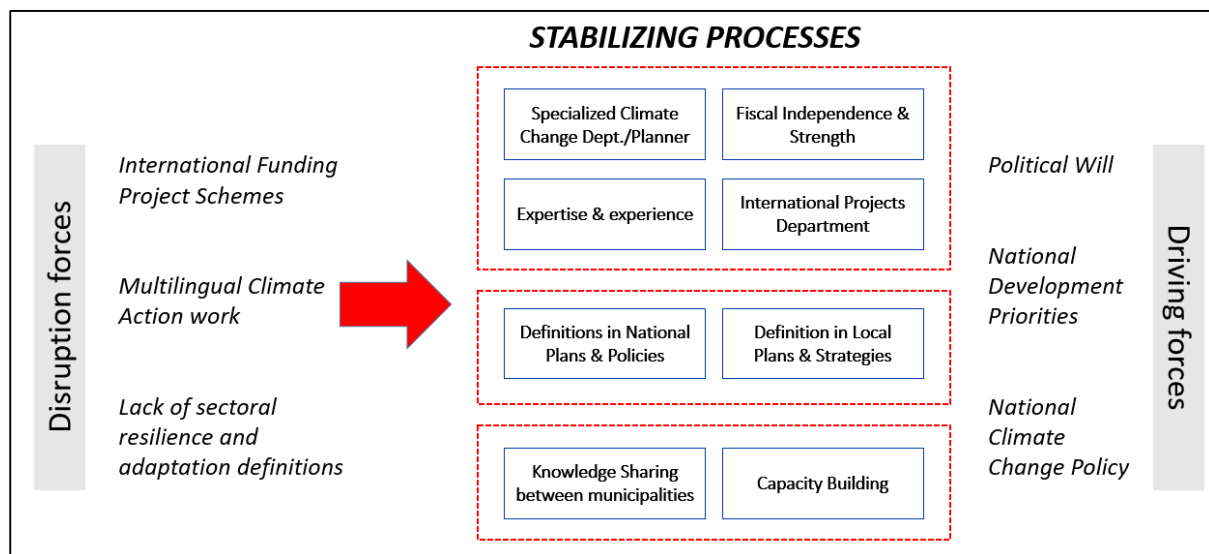


Figure 1. Navigating the Global Climate Lexicon in Jordan Framework. Source: Author.

Driving forces:

Participants discussed three main factors crucial to the navigation of the climate lexicon. Such driving forces are considered the foundation for implementing meaningful climate action and overcoming conceptual ambiguities. First, political will at the national and municipal levels is important. Municipal planners emphasized that decision-makers who recognize the urgency of climate change can promote the incorporation of climate action in municipal urban policy and allocate resources to support municipal planners in overcoming the challenges they face, including dealing with intricate climate lexicon. For instance, cities whose mayors are active members of global climate networks, such as C40 Cities or the Global Covenant of Mayors for Climate and Energy, tend to be more successful in adopting and implementing progressive climate policies.

At the same time, incorporating climate lexicon in national development priorities and frameworks is important. Municipal planners emphasized that climate action at the national level is the overarching framework that guides local municipal planning operations. Climate goals, indicators, and funding mechanisms established by national climate policies can be leveraged by municipalities to effectively incorporate climate action at the local level, and thus potentially reduce some conceptual ambiguities. At the same time, national development priorities can be used to align climate action work across municipal

sectors and foster a shared understanding of various climate change strategies and concepts among diverse stakeholders.

Disruption forces:

Municipal planners identified three main variables that create significant challenges to navigating the climate lexicon. As discussed in the previous section, international funding project schemes can disrupt municipal climate action and introduce new terminologies and diverging definitions. Similarly, multilingual climate action work imposed by the need for international grants to fund local development projects overwhelms municipal planners. Participants emphasized the need to focus on developing a coherent Arabic climate lexicon and building a shared understanding of climate-related risks and strategies across sectors, rather than waste time on translation. Some participants also pointed out how Arabic translations of climate concepts such as resilience and adaptation are not consistent between Arabic-speaking countries. This can also hinder resilience and adaptation to regional coordination and collaboration efforts within the Arab world.

On the other hand, some participants emphasized that while developing coherent Arabic definitions of adaptation and resilience is important, effective climate action also requires sectoral definitions of climate strategies. As one participant explained:

“At the end of the day, a transportation planner will ask you: tell me what resilience means to my sector and to my work” (International Projects Department, GIM).

Stabilizing processes:

Stabilizing processes represents existing municipal capacities and infrastructure, knowledge and information, and initiatives that support municipal planners' efforts in mitigating conceptual ambiguities of climate lexicon. First, both Irbid and Amman municipalities have specialized department tasked with seeking international funding. The international projects departments in both municipalities, as well the Resilience Amman Department in GAM play a leading role in fostering a shared understanding of climate lexicon. Because both departments are implementing diverse climate initiatives and projects, they play a pivotal role in fostering inter-departmental collaboration within the municipality, which supports cross-sector knowledge sharing and facilitates a consistent interpretation of key concepts among stakeholders. At the same time, participants also explained, that the long and extensive experience of GAM in implementing local climate action, can mitigate potential ambiguities that may emerge as climate lexicon continues to evolve.

Second, existing efforts to define various climate-related terms at the national and local levels are important. Definitions provided in local climate action plans and national documents, such as Jordan's National Climate Change Policy and the National Adaptation Plan, act as standardized references that municipal planners can utilize and expand when developing climate strategies that meet their local needs. Such information ultimately supports the alignment of national priorities with local climate goals.

Third, participants indicated the importance of knowledge sharing and capacity building across municipalities. Local planning authorities that work together to share experiences, successes, and challenges with diverse climate action strategies can help municipal planners gain a more nuanced understanding of what, for example, climate resilience means within a Jordanian context and can foster the development of a common climate action lexicon. A collaborative learning process can also support smaller municipalities with limited resources to leverage climate change knowledge and expertise from other localities.

4. Conclusions and Future Research Direction

The urgency to adapt to climatic risks and hazards has exposed municipal planners to complex and evolving climate action lexicon and conceptual frameworks. The findings from this study illustrate how the climate lexicon emerging within international development funding schemes impacts local climate action work and complicates municipal planners' ability to navigate conceptual ambiguities within the climate lexicon. The study emphasizes the need for a unified Arabic Climate Action Lexicon that promotes collaboration between municipalities in Jordan and between Arabic-speaking countries. Despite the challenges, municipal planners' understanding of the benefits of climate change strategies, such as resilience and adaptation, helps mitigate some conceptual ambiguities within local climate action work.

Future studies research that explore international funding schemes effectiveness in promoting urban resilience is warranted. This includes examining how international funding development frameworks can support or potentially disrupt the establishment of a local climate action lexicon driven and co-created by local communities. A comparative assessment of how the climate lexicon is employed by municipalities facing different climatic challenges and resource constraints is also essential. Finally, future research can identify the characteristics of effective climate action knowledge-sharing systems for local Jordanian governance, international non-governmental organizations, higher education, and local community organizations that can foster a shared understanding of the climate lexicon across diverse Jordanian localities.

5. References

- Araos, M., Berrang-Ford, L., Ford, J.D., Austin, S.E., Biesbroek, R. and Lesnikowski, A. (2016) 'Climate change adaptation planning in large cities: A systematic global assessment', *Environmental Science and Policy*, 66, p375-382. Available at: <https://doi.org/10.1016/j.envsci.2016.06.009>.
- Baralt, M. (2011). 'Coding qualitative data' in Mackey, A. and Gass, S. M. (eds.) *Research methods in second language acquisition: A Practical Guide*. Chichester: Blackwell Publishing Ltd, pp222-244. Available at: <https://doi.org/10.1002/9781444347340.ch12>
- Carter, J.G., Cavan, G., Connelly, A., Guy, S., Handley, J., and Kazmierczak, A. (2015) 'Climate change and the city: Building Capacity for urban adaptation', *Progress in Planning*, 95, p 1-66. Available at: <https://doi.org/10.1016/j.progress.2013.08.001>
- Davoudi, S. and Porter, L. (2012) 'Applying the Resilience Perspective to Planning: Critical Thoughts from Theory and Practice', *Planning Theory and Practice*, 13(2), p299-333. Available at: <https://doi.org/10.1080/14649357.2012.677124>
- Graute, U. (2016) 'Local authorities acting globally for Sustainable Development', *Regional Studies*, 50(11), p1931-1942. Available at: <https://doi.org/10.1080/00343404.2016.1161740>
- Hallegatte, S. (2009) 'Strategies to adapt to an uncertain climate change', *Global Environmental Change*, 19(2), p240-247. Available at: <https://doi.org/10.1016/j.gloenvcha.2008.12.003>
- Higgitt, D.L. (2009) 'Urbanization and environmental degradation in Jordan', in Sassen, S. (ed.), *Human Settlement Development – Vol 1*. Oxford: Eolss Publishers Co. Ltd, pp350-361.
- Jabareen, Y. (2013) 'Planning the resilient city: Concepts and strategies for coping with climate change and environmental risk', *Cities*, 31, p220-229. Available at: <https://doi.org/10.1016/j.cities.2012.05.004>

- Meerow, S., Newell, J. P., and Stults, M. (2016) 'Defining urban resilience: A review', *Landscape and Urban Planning*, 147, p28-49. Available at: <https://doi.org/10.1016/j.landurbplan.2015.11.011>
- Moser, S., Meerow, S., Arnott, J. and Jack-Scott, E. (2019) 'The turbulent world of resilience: interpretations and themes for transdisciplinary dialogue', *Climatic change*, 153(1), p21-40. Available at: <https://link.springer.com/article/10.1007/s10584-018-2358-0>
- Ribeiro, P.J. and Pena Jardim Gonçalves, L.A. (2019) 'Urban resilience: A conceptual framework', *Sustainable Cities and Society*, 50, p101625. Available at: <https://doi.org/10.1016/j.scs.2019.101625>
- Rockefeller Foundation (2019) *Resilient cities, resilient lives: Learning from the (100RC network.)*. Available at: https://resilientcitiesnetwork.org/downloadable_resources/UR/Resilient-Cities-Resilient-Lives-Learning-from-the-100RC-Network.pdf
- Sancino, A., Stafford, M., Braga, A., and Budd, L. (2021) 'What can city leaders do for climate change? insights from the C40 cities climate leadership group network', *Regional Studies*, 56(7), p1224-1233. Available at: <https://doi.org/10.1080/00343404.2021.2005244>
- Seto K. C., S. Dhakal, A. Bigio, H. Blanco, G. C. Delgado, D. Dewar, L. Huang, A. Inaba, A. Kansal, S. Lwasa, J. E. McMahon, D. B. Müller, J. Murakami, H. Nagendra, and A. Ramaswami (2014). 'Human Settlements, Infrastructure and Spatial Planning' in Edenhofer, O., R. Pichs-Madruga, Y. Sokona, E. Farahani, S. Kadner, K. Seyboth, A. Adler, I. Baum, S. Brunner, P. Eickemeier, B. Kriemann, J. Savolainen, S. Schlömer, C. von Stechow, T. Zwickel and J.C. Minx (eds.) *Climate Change 2014: Mitigation of Climate Change. Contribution of Working Group III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*. Cambridge: Cambridge University Press, pp923-1000.
- UN-Habitat (2023) *Jordan National Urban Policy*. United Nations Human Settlements Programme. Available at: https://unhabitat.org/sites/default/files/2024/02/231231-jnup_en_-final.pdf
- While, A. and Whitehead, M. (2013) 'Cities, urbanisation and climate change', *Urban Studies*, 50(7), p1325-1331. Available at: <https://doi.org/10.1177/0042098013480963>
- Woodruff, S., Bowman, A.O.M., Hannibal, B., Sansom, G., and Portney, K. (2021). 'Urban resilience: Analyzing the policies of U.S. cities', *Cities*, 115, p103239. Available at: <https://doi.org/10.1016/j.cities.2021.103239>