Transforming to Resilience: Lessons Learned from Low-Carbon Development: In Two Indonesian Cities

Forum on Urban Resilience to Climate Change and Disaster Risk Reduction Management Strategies, 04-08 December 2017, Laog City, Ilocos Norte, Philippines

Dr. Saut Sagaral, Dr. Ari Tarigan
Bandung Institute of Technology, Indonesia, Resilience Development Initiative, Indonesia

Introduction

We now live in the era where about half of the world’s population is concentrated in cities and urban areas. According to the United Nations Department of Economic and Social Affairs (UNDESA, 2015), the proportion of urban residents in the world might increase to about two-thirds by 2050. By 2030 alone, at least 6.6 billion people will live in cities and urban areas (IPCC, 2007; Ho et al., 2012). This estimation is significant for Asia and Africa, where many small and medium-scale cities have gradually turned into large-scale cities and urban areas. Such cities face rapid spatial expansion, population explosion, industrial expansion and auto mobility trends (Ho et al., 2012; UNDESA, 2015).

To some extent, urban development and urbanisation are responsible for creating environmental challenges, including greenhouse gas (GHG) emissions. Ho et al. (2012) have argued that 70% of air pollution is caused by activities in urban areas and cities. At the same time, the existing size of urban forests, parks and other vegetative zones for environmental protection has gradually declined. Thus, great hope has been pinned on policy makers, urban planners, environmentalists, and private-sector players to seek innovative solutions that help reduce carbon emissions (Dzikovitz, 2003, Gospop, 2011, Lehman, 2013; Howard et al., 2012, Lee & Kim, 2013).

Methods

The analytical method of the study is content analysis (Krippendorf, 2004). This is a qualitative-based procedure that relies on interview transcripts and documents from mass media, government reports and technical research. A number of face-to-face interviews with key respondents were performed from spring 2013 to summer 2014 for Balikpapan, and during summer 2016 for Palembang. The two surveys made the initial screening to identify respondents that had participated in low-carbon urban development programmes or at least had sufficient knowledge of the related issues. They were also chosen based on their seniority in their institution. The key informants represent stakeholders from the local government, private sectors, urban planning, universities and non-government organisations.

Photo Illustration

City Profile of Balikpapan & Palembang

Findings & Conclusion

Overall, this study illustrates the transformation process of two cities to build their low-carbon agendas. Our study recommends four critical perspectives to analyse the low-carbon urban transformation: 1) public policy and planning, 2) vertical and horizontal collaboration, 3) infrastructure and 4) knowledge creation and utilisation. The public policy and planning perspective refers to ideas about how spatial and land-use planning can encourage sustainable mobility and a green economy. The vertical collaboration perspective refers to multi-level governance partnerships between formal institutions from the top level of the governance system such as the central government to lower levels of the governance system such as the local government. The horizontal collaboration perspective explains how cities can create multi-government partnerships with other cities in the region and in other countries. The infrastructural perspective denotes how urban infrastructure can support low-carbon urban transformation. Last, the perspective on knowledge creation and utilisation discusses the linkages among educational institutions, private sectors and the local government to disseminate low-carbon knowledge and promote low-carbon technologies and products to urban residents.

Acknowledgments

This research is part of research project entitled “Increasing Energy Security through Intention Adaptive Capacity, Case Study: Palembang City Indonesia”, Funding: Asia I Glass (2016), Institute of Technology Bandung. Research PI: Dr. Saut Sagala. Team members: Husnul Alberdi Aris and Umar AlFaruq.

Further Contacts:
- Dr. Saut Sagala
  - Email: saut.sagala@sappk.itb.ac.id
  - Phone: +62 813-2806-6702
  - Website: https://sites.google.com/site/sagalaweb/