

Official Development Finance for Infra-System Transition towards Sustainability: Case of Kenya

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Recent trend reveals that the Official Development Finance (ODF) in the international aid architecture needs transition by going beyond traditional Official Development Assistance (ODA), and by strengthening its sustainability towards the Sustainable Development Goals (SDGs), especially in the infrastructure domain.

Infrastructure in developing countries require urgent transition towards sustainability, during which international ODF can play an important role. However, traditional donors tend to finance more of their ODA on social sector, such as governance, health, and education, albeit with the exception of some donors like Japan. Recent decades have seen the incremental influence of emerging donors, mainly China and India, in providing infrastructure finance to developing countries through their Other Official Flows (OOF) (Gurara et al. 2017). For instance, China ranked the top in terms of infrastructure financing to Africa with a total of USD 13,443 million, almost doubled the volume of the second largest provider, the U.S. (ICA 2014).

The infrastructure-oriented finance in Africa represented by China has generated heated debate widely in policy and academia arenas. Gradually consensus has been made that financing infrastructure could help develop the economic infrastructures for developing countries, unleash the economic development potential and facilitate trade and investment, and eventually result in structural transformation (Lin & Wang 2017). Meanwhile, if potential environmental and social risks are not managed well by financiers, including but not exclusively to emerging donors, it can also be environmentally and socially disruptive.

Infrastructure transition requires not only physical construction and development of infrastructure projects, but also institutional changes, therefore, the term infra-system transition and theory of sustainability transition are adopted in this research. Sustainability transition theories could provide analytical framework in construing how ODF can help mobilize the interactions between niche and regime levels in a broad landscape context towards sustainability. This research aims to explore the answer to the question: how ODF can help promote the sustainability transition of infra-systems in developing countries?

The research builds its conceptual framework in Chapter 2 on the theories of sustainability transition, a rapidly developing field in the past two decades with the advantage of construing the multi-actors' interaction at niche, regime, and landscape levels, especially for the infra-system domain (Geels 2004). Developed on the actor and role theory which is mainly for exploring how actors can influence regimes (Wittmayer et al. 2017), the hypothesis is that it is only when donor actors change their single roles and play role constellation among donor and recipient actors with sustainability perspective that their niche projects motivate sustainability transition of

recipient's infra-system regime. Without the sustainability perspective, they hinder the transition. Focusing on either role change or role constellation, not to mention the sustainability perspective is not enough for donors to design their ODF towards the desired goal.

In Chapter 3, Kenya is selected as case study country which is confronted with huge financing gap in its infra-system domain, and among the top ODF recipients from both traditional and emerging donors in Africa. To answer the research question that "how can ODF, from both traditional and emerging donors, at the niche level affect the rules and institutions at the regime level for the infra-system's sustainability transition in Kenya", and to test the above proposed hypothesis, this dissertation takes three cases in Kenya: 1) The first case is Lamu Port, to be the largest port in east Africa upon completion and involving Chinese ODF actors, with the aim to explore how Chinese actors have changed their roles concerning the mitigation of potential environmental and social risks; 2) The second case is the Olkaria I and IV geothermal project, the single largest one in the world by 2017 and involving traditional and Chinese ODF actors, with the aim to explore how these donor actors change their roles in project coordination and their role constellation; 3) The third case is the renewable electricity transition in Kenya, to explore how international ODF actors as a whole have shifted the transition through role change and role constellation together with the recipient actors in the past decades.

In Chapter 4, the role change of Chinese ODF actors concerning potential environmental and social risks is examined with the case of Lamu Port project. Questionnaire survey with 35 community members were conducted in 2013 to examine the changes to local actors, and semi-structured interviews with 59 representatives from Chinese government, Kenya government, Chinese companies, Chinese media, NGOs, and researchers were carried out in 2013, 2014 and 2017 to identify the actors, explore the role changes of Chinese actors and their relations with Kenyan actors. The results reveal that Chinese companies have changed their roles qualitatively to a large extent so that the contractor of the first three berths proactively took countermeasures required by the Kenyan contractee to mitigate almost all the environmental and social risks in the construction. While, Chinese government has not changed its role qualitatively, albeit quantitatively by continuously issuing several voluntary regulations. Meanwhile, the role constellation is limited at the government level on sustainability issues. Therefore, the influence of Chinese ODF on the transition of Kenya's infra-system's may not be sustainable, though the physical development of port per se may result in social and economic benefits. A coordination mechanism is proposed with full awareness of possible challenges in reality.

In Chapter 5, the role change and role constellation of traditional and Chinese donor actors are examined with the case of the Olkaria I and IV geothermal project. Nine key informant interviews with Kenyan electricity companies, development agencies and multilateral development banks in 2015 and 2016 provided the primary data, with the supplementary of secondary data from literature survey. The key findings are that Chinese actors still bilaterally coordinate with the Kenyan actors, though invited to join the coordination mechanism of traditional donors, which resulted in higher transaction cost, ineffective project operation, and negative environmental and social risks. Meanwhile, the role constellation in the project coordination does exist among

tradition donors, however only to a limited extent. The role constellation barely exists with Chinese actors for various reasons: first, Chinese actors lack incentives to participate the coordination with traditional donors, and lack a unanimous representative agency at the organizational level; second, traditional donor actors are still preparing readiness and exploring approach of engaging with emerging donors including China; third, the Kenyan government may gain some leeway and obtain aid negotiation capital in working separately with two groups of donors. A trilateral cooperation mechanism among Germany, China and Kenya is proposed as an exploration of possible aid coordination.

In Chapter 6, the role change of international ODF donor actors and their role constellation with recipient actors are examined with a historical review of renewable electricity transition in Kenya. Six key informant interviews with Kenyan electricity companies, and multilateral development banks in 2016 provided the primary data, with the supplementary of secondary data from archival records and official documents. The findings are that international actors have provided both financial and technological support to renewable transition at both niche and regime levels, which helped the rapid growth of renewable electricity in the past decades. The roles of international ODF actors, especially the World Bank, have changed within role constellation with Kenyan actors, by fostering niche level experimentation and adjusting regime level support. Additionally, the examination of three niche novelties adopting geothermal and wind power revealed that protective policies on Independent Power Producers (IPPs) from both Kenyan government and international donor actors are needed for further niche accumulation towards renewable energy transition.

Chapter 7 provides an overview of these three cases for discussions. The results suggest that the hypothesis holds true: ODF donors motivate the sustainability transition of infra-systems in Kenya by changing their roles quantitatively and qualitatively with sustainability considerations, and by active role constellation at both niche and regime levels among donors and recipient actors. If these are not taken into consideration or put into implementation, the sustainability transition of infra-system may be undermined. Further discussions are made in terms of implications for development study and sustainability transition study: the sustainability of Chinese ODF, transition of traditional ODF, ODF evaluation by recipients, infra-system transition in developing countries, role constellation of donor actors and recipient actors towards sustainability transition, and ODF intervention for the SDGs.

The contribution of this research to the global environmental studies, provided in Chapter 8 together with the recommendations for future research, are: First, enriching the analytical framework of development aid by integrating the sustainability transition theories. This will help analyze how particular type of ODA or ODF help attain the SDGs for developing countries; Second, finding out conditions and contexts with which donors can help promote the sustainability transition of infra-systems in developing countries, which goes beyond the dichotomy between traditional and emerging donors.

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