Brief for GSDR – 2016 Update

Regional Collaborative Environmental Governance in Yangtze River Delta, China

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Introduction

As the region with the fastest economic growth in China, the Yangtze River Delta (YRD) is facing the most serious environmental problems, ranging from soil contamination to air pollution (Hang et al., 2009; Cheng et al., 2011). A regional collaborative mechanism of environmental governance has been established since 2008 to tackle the environmental challenges. In recent years, provincial and city governments of YRD have cooperated and negotiated on environmental issues by signing protocols and holding conversations, which lead to environmental improvements in some areas.

Some important cooperation achievements in YRD are listed as follows:

- Dec. 2008 - *Cooperation Agreement on Environmental Protection, 2009-2010*
- Jul. 2009 - *Dispute Settlement and Emergency Response Program on Trans-Boundary Environmental Pollution*
- Sept. 2010 - *Dispute Settlement and Emergency Response Program on Environmental Pollution in Zhejiang-Anhui Boundary*[1]
- May 2012 - *Cooperation Framework on Joint Prevention and Control of Air Pollution*
- Since Oct. 2012 - *(Annual) Work Program on Emergency Response in Trans-Boundary Pollution Incidents*
- *Apr. 2014 - Dispute Settlement and Emergency Response Program on Environmental Pollution in City-level Boundaries*
- Nov. 2014 - *Treatment Plan of Air Pollution in Key Industries within a Prescribed Time Limit, by Ministry of Environmental Protection*
- Apr. 2015 - *Collaborative Action Plan of*

[1] In the No. 2008-30 State Council Document *Guiding Opinions on Further Pushing Forward the Reform, Opening-up and Economic and Social Development of the Yangtze River Delta Areas,* the Yangtze River Delta was defined as two provinces (Jiangsu and Zhejiang) and one city (Shanghai). In Wikipedia, however, some cities in Anhui Province are also categorized as a part of the greater Yangtze River Delta (see https://en.wikipedia.org/wiki/Yangtze_River_Delta). In fact, Anhui Province joined the YRD collaborative environmental governance since 2010.

Controlling High-Polluting Vehicles & *Collaborative Program on Controlling Air Pollution from Shipping*

- Jan. & Dec. 2014 and Dec. 2015 - *Three Work Conferences on Regional Cooperation Mechanism on Air Pollution Control* (eight national ministries participated as well)

The members in the framework of collaborative environmental governance have extended from two provinces and one city to three provinces and one city, and even several national ministries have joined. Significant achievements have been made in solving some of the environmental issues. A typical case is the improved air quality since 2013 (Greenpeace, 2015). However, it is largely credited to the strict regulations taken by the Nanjing and most other cities in the YRD during the years of Asian Youth Games 2013 and Youth Olympic Games 2014 took place in Nanjing (China Daily, 2014; Ding et al., 2015). Since some of the regulations are temporary, fundamental improvements have yet been obtained. And some environmental problems are still growing. An example is a recent study that has shown the worsening trend of water quality in Yangtze River estuarine (Xinhuanet.com, 2015). Thus this brief discusses the main obstacles of regional collaborative environmental governance in YRD, and proposes several strategies to enhance the collaborative environmental governance.

Obstacles in Regional Collaborative Environmental Governance

There exist various factors that give rise to collaborative environmental governance dilemma in YRD. The fundamental causes would be presented from the perspectives of the performance evaluation system, administrative structure and governance mechanism.

- ***Limitation of the performance evaluation system***

The current performance evaluation for local government in China is still economic-growth-oriented, which is directly measured by economic indicators (Li and Zhou, 2005). To maximize local economic interests, local governments of YRD inevitably compete with each other for public resources and capital, which generates the escalation of regionalism (Chen, 2013). In the political tournament, local government officials give priority to economic development at the expense of environment. Therefore, it is difficult to set up effective collaboration among local governments. Meanwhile, since the tenure of local government officials is limited (5-10 years), local officials have the tendency to introduce short-term policies in order to maximize their achievements during the term. This myopia behavior also leads to the resource aggregation on economic construction and the neglecting of collaborative environmental governance.

- ***Restriction from the administrative structure***

Environmental and ecological resources have numerous external effects. An administrative structure divided into separated units is inappropriate. For instance, in the Tai Lake basin which is located in the core area of YRD, conspicuous contradiction exists between the publicity of environmental resources and rigid administrative division, and frequent conflict exists between collaborative environmental governance and employ of local resources (Shen and Jin, 2016). The consequence of the closed administrative system is that each local government consumes environmental resources and

governs environmental problems in line with development demand in its own administrative unit. Here "closed" is the opposite of "open" are contrasted as follows - The natural ecological system (e.g. water, air) is open and without boundary, while the traditional administrative structure is closed and has strict boundaries, which makes the governance of environmental issues ineffective. It is has been shown that various governance modes on same environmental problem result in the decrease in policy and collaboration consistency (Chen, 2013; Margerum, 2008).

- ***Imperfection in the collaborative mechanism***

To break the restriction of closed administrative system and to launch in-depth collaboration, a complete and strong collaborative governance mechanism is of the top priority. However, the interest coordination mechanism and information sharing mechanism of YRD regional collaborative environmental governance are still incomplete and ineffective occasionally.

In aspect of interest coordination mechanism, currently local governments of YRD adopt a "collective consultation" mode with low institutionalization and lacking of consistency. When referring to core interests, consensus is difficult to reach if there are large gaps among opinions of local governments. In addition, there is no transparent information sharing platform providing public access to detailed measurements and processes of local governments to solve environmental issues. Deficiency in the above areas could directly result in asymmetric information in different administrative units, which further leads to "prisoners' dilemma"

Strategies to Improve Collaboration of Environmental Governance in YRD

- ***Integrate trans-boundary pollution governance performance into existing evaluation system***

An essential countermeasure to optimize functions of YRD local governments and improve government performance evaluation is to make up the defects of the pressure regime. Incorporating trans-boundary environmental performance into local government performance evaluation and officials' career achievements could form top-down constraints and incentive mechanism. A trans-boundary environmental performance indicator system should be taken full advantage by YRD local governments.

It is also necessary to let market play the decisive role in the allocation of regional economic and ecological resources. Make the evaluation system connected with the market mechanism. Reasonable labor division, functional complementation and collaborative development are encouraged as well. Moreover, various YRD cities need differential development patterns so as to minimize industry isomorphism and decrease vicious competitions.

- ***Transform organizational structure for the collaborative governance arrangement***

To break the restrictions of rigid administrative division, a coordination mechanism among provincial governments in YRD needs to be established. An integrated regional agency with the coordination function would avoid irresponsible conflicts in the decentralized autonomy framework (Yang, 2009). Under the agency a clear division is grouped according to specific ecological targets and spaces instead of traditional

bureaucracy. Such organization operates under plans and coordination from joint conferences and environmental task forces. Besides, sectors in charge of information communication, dispute resolution, joint planning, expert consultation, supervision and safeguard, crisis management should be included as well (Ma et al., 2008).

Except for governments' macro-management and official cooperation, YRD governments should adopt market-driven and third-party governance. To incorporate enterprises into the process of environmental governance, we believe a just and orderly trade system of pollution discharge rights, a fair competition system of environmental product supply as well as a market mechanism that encourages cleaner production shall be in place.

- ***Unblock information and coordination mechanisms among interest groups***

The information and interest coordination mechanism among YRD local governments is indispensable. Firstly, the basis of unimpeded interest coordination is accessible and transparent information. Local governments should make joint efforts to build a YRD common air pollution forecast platform, a scientific research platform, and a data sharing platform, which would enhance the sense of trust among governments and help government representatives to put forward more scientific and feasible proposals (Wang et al., 2012). A disclosure system for those environmental information would expand the scope of information application and supervision.

Secondly, YRD local governments could improve regional negotiation mechanism under the regional environmental supervision organization. The negotiation consensus should be be reflected in the form of a regional environmental law, and the implementation of detailed measures in every administrative unit should be supervised by YRD regional environmental supervision organization to ensure the realization of common expectation.

Various stakeholders are involved in the new coordination mechanism. A governance structure that ensures the participation of civil society organizations, trade associations, the media and communities, will bring wisdom and strength to the environmental governance in the YRD.

Reference

Chen, Y. (2013). Essays on Regional Cooperation of Ecological Governance among Local Governments in Yangtze River Delta (in Chinese). Master Dissertation, Soochow University, China, 2013.

Cheng, Z., Chen, C., Huang, C., Huang, H., Li, L., & Wang, H. (2011). Trans-boundary primary air pollution between cities in the Yangtze River Delta. Acta Scientiae Circumstantiae (Chinese Edition), 31(4), 686-694.

China Daily (2014). Nanjing to clean air before Youth Games, http://usa.chinadaily.com.cn/sports/2014-07/09/content_17692130.htm, viewed 23th January 2016.

Ding, J., van der A, R. J., Mijling, B., Levelt, P. F., & Hao, N. (2015). NO x emission estimates during the 2014 Youth Olympic Games in Nanjing. Atmospheric Chemistry and Physics Discussions, 15(5), 6337-6372.

Greenpeace (2015). A Summary of the 2015 Annual PM2.5 City Rankings, http://www.greenpeace.org/eastasia/Global/eastasia/publications/reports/climate-energy/2015/GPEA%202015%20City%20Rankings_briefing_int.pdf, viewed 23th January 2016.

Hang, X., Wang, H., Zhou, J., Ma, C., Du, C., & Chen, X. (2009). Risk assessment of potentially toxic element pollution in soils and rice (Oryza sativa) in a typical area of the Yangtze River Delta. Environmental Pollution, 157(8), 2542-2549.

Li, H., & Zhou, L. A. (2005). Political turnover and economic performance: the incentive role of personnel control in China. Journal of public economics, 89(9), 1743-1762.

Ma, Q., Qin, P., Bai, Y., & Zeng, H. (2008). Strategies for building coordination mechanism of cross-regional environmental management (in Chinese). China Population Resources and Environment, 18(5), 133-138.

Margerum, R. D. (2008). A typology of collaboration efforts in environmental management. Environmental management, 41(4), 487-500.

Shen, D., & Jin, M. (2016). Lake management organizations in China. International Journal of Water Resources Development, 32(1), 153-166.

Wang, T., Jiang, F., Deng, J., Shen, Y., Fu, Q., Wang, Q., Fu, Y., Xu, J., & Zhang, D. (2012). Urban air quality and regional haze weather forecast for Yangtze River Delta region. Atmospheric Environment, 58, 70-83.

Xinhuanet.com (2015). Water quality is deteriorating in Yangtze estuarine, http://news.xinhuanet.com/energy/2015-09/14/c_128225225.htm, viewed 4th January 2016.

Yang, Y. (2009). From decentralized autonomy to central governance: case of Murray-Darling River Basin and its implication for the governance of Tai Lake Basin. In Management Science and Engineering, 2009. ICMSE 2009. International Conference on (pp. 2143-2149). IEEE.