

ENVIRONMENTAL CHALLENGES AND POLICY RECOMMENDATIONS—AN ANALYSIS OF FOUR LARGE CITIES IN THE PEARL RIVER DELTA

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ABSTRACT

The Pearl River Delta is one of the regions with the densest industry and population in the world. Focusing on four large cities in the delta area, Guangzhou, Shenzhen, Foshan and Dongguan, this study presents an in-depth study of environmental challenges of this region based on economic, geographic and pollution data. Economic activities and pollutant concentrations are linked with geographic and remote sensing data to find out the spatial distribution and spatial relationship. It is found that pollution is closely related to local distributions of enterprises, population and road network, water pollution is more serious in coastal cities than inland ones. However, air pollution is more serious in inland large cities. Low-lying land in the delta area should take precautions against the rising sea level, especially for those villages in the city, which are more vulnerable to urban flooding. Policy recommendations, including the use of market mechanisms, strengthening environmental protection, facilitating regional joint action, encouraging low-carbon traveling, pursuing a low-carbon and circular economy, and controlling pollution in rural areas around megacities are given at the end of the paper.

KEYWORDS: *Environmental Challenges, Policy Recommendations, The Pearl River Delta & Spatial Analysis*

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