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Shifting paradigms in coastal restoration: Six decades' lessons from ChinaZe Zheng Liu¹, Baoshan Cui¹ and Qiang He²¹Beijing Normal University, China²Duke University, USA

With accelerating degradation of coastal environment worldwide, restoration has been elevated as a global strategy to enhance the functioning and social services of coastal ecosystems. While many developing countries suffer from intense coastal degradation, current understanding of the science and practice of their coastal restorations is extremely limited. Based on analysis of >1000 restoration projects, we provide the first synthesis of China's coastal restorations. We show that China's coastal restoration has recently entered a rapidly developing stage, with an increasing number of restoration projects carried out in multiple types of coastal ecosystems. While long-term, national-level restorations enforced by the government appear promising for some coastal ecosystems, especially mangroves, restorations of many other coastal ecosystems, such as salt marshes, seagrasses and coral reefs, have been much less implemented, likely due to under-appreciation of their ecosystem services values. Furthermore, the planning, techniques, research/assessment, and participation models underlying current restorations remain largely inadequate for restoration to effectively halt rapid coastal degradation. To promote success, we propose a framework where paradigms in current restorations from planning to implementation and assessment are transformed in multiple ways. Our study has broad implications for coastal environmental management policies and practices, and should inform sustainable development of coupled human-ocean systems in many countries.

Biography

Ze Zheng Liu has his research interests in wetland ecology and hydrology, wetland restoration, and wetland management. Currently, he is particularly interested in how the interactive processes of ecological communities, such as competition, facilitation, and food web interactions, to structure their environments and influence fundamental ecosystem processes such as plant growth and productivity. Such fundamental theories on community assembly and ecosystem functioning has important implications for the restoration of damaged habitats.

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