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Major Hydropower States, Sustainable Development, and Energy Security: Insights from a Preliminary Cross-Comparative Assessment

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Abstract: Hydropower remains, by a wide margin, the largest source of renewable electricity around the world, and hydropower dams supply a greater source of commercial energy than the world's fleet of nuclear power plants. Yet far less attention has been paid to the political, security, and governance elements underlying the continued use and growth of hydropower. Theorists from many disciplines—political geography, security studies, development studies, economics, public policy, and governance—have questioned both the proper role and ostensible benefits from the generation of electricity from large-scale hydroelectric dams, but have tended to approach the problem on a case-by-case basis. In this study, we provide the first systematic, cross-comparative assessment of five hypotheses about global hydropower states, using World Bank data from 1980 to 2010 and a research design which incorporates five reference classes of countries. Based on regression and comparative country analyses, we find tentative statistical evidence that hydropower countries do seem to perform worse on a series of security, economic development, and governance metrics.

Keywords: energy security; hydroelectric dams; hydropower; resource curse; water wars

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