

Present Environmental Performance and Future Environmental Sustainability in Sub-Saharan Africa and Asia-Pacific Regions: Rooted in Population-Development-Environment Nexus

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Environmental performance and environmental sustainability are multi-dimensional in nature and closely associated with population dynamics and economic development of any country. In this present paper, we try to examine the present level of environmental performances by the countries in Sub-Saharan Africa and Asia-Pacific regions and thereby to find out how the environmental performances are affected by population dynamics and incidence of poverty. Comparison based study regarding present environmental performance between countries fallen in these two regions in respect to economic development has also been made. The relationships among population dynamics, present environmental performance and future environmental sustainability achieved by these countries are also examined.

We made also use of two new data sets in this present paper, *i.e.* Environmental Performance Index Data (2008) and Environmental Sustainability Index Data (2005) computed and released by Yale Centre for Environmental Law and Policy (YCELP, Yale University) and Centre for International Earth Science Information Network (CIESIN, Columbia University). Environmental Performance Index a composite index based on 25 indicators in 6 policy categories (environmental health, air pollution, water quality, productive natural resources, bio-diversity and habitat and climate change) and Environmental Sustainability Index is based on 21 indicators in 5 components (environmental system, reducing environmental stresses, reducing environmental vulnerability, social and institutional capacity and global stewardship). Data are also obtained from other sources like Human Development Report and World Development Report. 38 countries in Sub-Sahara African region and 23 countries in Asia-Pacific regions have been considered in the present study.

Industrializing countries, such as China and India, fall within the lower ranking in environmental performance. Countries receiving the lowest scores are Niger, Angola, the Democratic Republic of the Congo, Mali, and Burkina Faso.

Countries in Sub-Saharan Africa characterized by commendable protection of natural resources, but a relatively poor performance in overall environmental health due to primarily developing and transition economies. Niger with 39.1 score ranked lowest in environmental performance. Regarding countries in Asia-Pacific region, the environmental performance varies by the level of economic development. For example, New Zealand scored very high in overall environmental performance where as Soloman Island with 52.3 scores ranked lowest.

An overwhelming majority of the frontrunners in the overall Environmental Health category are developed, industrialized nations as environmental performance and its indicators are highly correlated with per capita income and sustainable population growth. Population density, TFR, average annual population growth are correlated with environmental health as well as with overall environmental performance.

Regarding overall environmental sustainability, countries in Sub-Saharan Africa scored very low as these countries are characterized by weak governance and high human vulnerability. Countries in Asian-Pacific region vary widely in their environmental sustainability index. The results suggest how a country and government uses its natural endowment is still a factor. Asia-Pacific region includes four of the most populous countries in the world: China, India, Indonesia, and Bangladesh which exhibit low environmental system score, moderate to high vulnerability and capacity and moderate stewardship. In nutshell, there are statistically significant relationships among population dynamics, environmental performance and environmental sustainability which again related to overall economic development.

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