EFFECT OF CARBON DIOXIDE ON EMISSION ECONOMIC GROWTH, ENERGY CONSUMPTION AND POPULATION GROWTH IN SAARC COUNTRIES

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Abstract

This study examines the impact of carbon dioxide emission on economic growth, energy consumption and population growth in SAARC countries such as Sri Lanka, India, Bangladesh, Pakistan and Nepal countries by using an annual time series data collected from World Development Indicator from 1971 to 2018. Autoregressive Distributed Lag (ARDL) bounds test approach was used for employing both linear and non-linear relationships between variables. The test results reveal that carbon dioxide emissions have increased significantly with increases in economic growth in Nepal and Pakistan as well as it has decreased insignificantly in Sri Lanka and Bangladesh. But in India, carbon dioxide emission has decreased insignificantly with economic growth. Also, in the case of energy consumption had a positive significant impact on carbon dioxide emissions in Sri Lanka, Bangladesh, India and Pakistan but Nepal had a positive insignificant impact on carbon dioxide emissions. Furthermore, carbon dioxide emissions have increased significantly with population growth only in Pakistan as well as Bangladesh, Indian and Nepal had positive insignificant impact on carbon dioxide emissions. In the case of Sri Lanka, carbon dioxide emissions have decreased insignificantly with increases in population growth. Results from the testing of Environmental Kuznets curve hypothesis (EKC) imply that in the case of India and Pakistan, carbon dioxide emissions will decrease over time with economic growth indicating that these two countries should not make immediate corrective actions and policies against carbon dioxide emissions but in the case of Sri Lanka, Bangladesh and Nepal, carbon dioxide emissions will increase over time with economic growth. So, these three countries should take immediate corrective actions and policies against carbon dioxide emissions.

Keywords: Environmental Kuznets Curve, ARDL Model, VEC Models, SAARC Countries, Carbon Dioxide Emissions.