Abstract

This study aimed to explore the impact of population on the environmental quantity and quality in Thailand in 1980 and 1990 in both static and dynamic aspects. Firstly, the regional and provincial environmental quality indicators were developed using the linearly scaling. Factor analysis were used as a tool for a corroboratory purpose. Next, the appropriate functional forms of the relationship between population distribution, internal migration as well as environmental quantity and quality were examined using the Box-Cox Test. Then cross-section regression analysis was used to investigate the magnitude of the regional linkages. Finally, the provincial linkages were worked out based on the concept of Ehrlich and Ehrlich (1990).

The study revealed the medium level of each region's environmental quantity with the increasing trend. This provides some suggestions that unless more concern was given on the use of natural resources, the scarcity of natural resources will become a problem in the future. The study further demonstrated the quality of the environment for Thailand overall was still quite high. However, it was still necessary for more concern and careful involving the future environmental quality, particularly in some provinces, i.e., Bangkok, Pathum Thani, Chonburi, Nakhon Pathom, Samut Sakhon, Samut Songkhram, Samut Prakatn, Rayong, Phuket, Songkhla, Yala, Surat Thani, Chiang Mai, and Sukhothai.

At the regional level, it revealed that the most appropriate functional forms for the population-environmental quantity and quality linkages were polynomial both in the static and dynamic aspects. It further revealed that population density found from the study to have a significant effect on both environmental quantity and quality while in-migration and out-migration did not show a noticeable, significant effect on environmental quantity and quality. The study further revealed that the environmental quantity and quality had low sensitivity with respect to population changes, i.e., changes of population density, in-migration and out-migration

changes. However, the population density was found to be relatively dominant.

At the provincial level, it was shown from the study that the provinces that received high population density-environmental quality impacts were Bangkok, Phuket, Chon Buri, Nonthaburi, Samut Songkram, Ang Thong, Songkhla, Samut Sakhon, Rayong, Phra Nakhon Si Ayutthaya, Saraburi, and Nakhon Pathom. The impacts were the same when the in-migration-environmental quality were examined. Few changes were discovered when the out-migration-environmental quality impacts were inspected.