【Grant-in-Aid for Specially Promoted Research】

Humanities and Social Sciences

Title of Project : An Economic Analysis of Sustainable Development in a New era with Decreasing Population and Large-scale Negative Shock to the Economy

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Research Project Number : 26000001　Researcher Number : 70372456
Research Area : Environmental Economics and Environmental Policy
Keyword : Sustainability Index, Inclusive Wealth, Benefit Transfer, Shadow Price, Database

【Purpose and Background of the Research】

This project aims to provide vision of sustainable development based on economic approach while focusing on recovery of large-scale natural disaster such as the Great East Japan Earthquake. In order to build new theory of suitability, it is crucial to consider factors such as decreasing population through aging society, external shocks such as natural disasters that threaten societal stability as well as sustainable growth. Moreover, we plan to analyze the effect of external shocks at multiple levels: across regions, countries, and localities within countries through collections of relevant data, we are able to further develop exiting ideas regarding sustainable growth and provide pragmatic policy recommendations.

Previous economic researches of sustainable development assumed increasing population and economic growth focusing on developing countries. Our research reverses such trend by considering sustainable development of developed society with decreasing and aging population. Detailed study of Japan and comparison with other countries would lead to construction of suitable development model that can be applied when eventually societal maturity diffuses globally.

【Research Methods】

This project combines multi-level social survey and econometric methods to study the various factors at different level indicated in the Figure.

In order to construct subjective sustainability index that include values of environment, energy and bio-diversity as inclusive wealth at the micro-level, we target wide range of sample. We are planning local level survey at regional (Tohoku) and prefecture level, and various sample sets of main developed and developing countries. We combine subjective happiness data from social media such as twitter and results of in person and Internet based individual survey.

We develop sustainable development index (SDI) using obtained data and use this index to analyze proposed problems of disaster management and general problems faced by matured society.

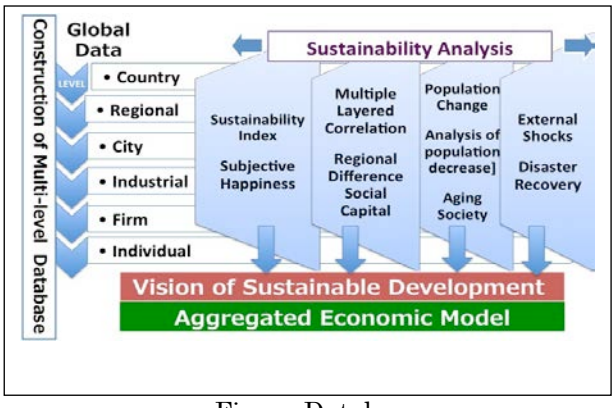

Figure Database

【Expected Research Achievements and Scientific Significance】

There three main outcomes we expect to achieve. First, we construct spatial model of sustainable development and develop datasets of inclusive wealth and shadow price index that consider material, environmental and human capitals.

Second, through the analysis of variations and changes of newly calculated shadow prices, we provide predicted effects of external shocks, particular that of natural disasters. We then extend the discussion of results to provide practical policy that would lead to efficient management of sustainable economic and subjective utility growth pursued by various countries. Lastly, we contribute to the future discussions sand researches of sustainable development by making collected data in the form of aggregate data archive.

【Publications Relevant to the Project】

Managi, Shunsuke, 2011, Technology, Natural Resources and Economic Growth: Improving the Environment for a Greener Future. Cheltenham, UK: Edward Elgar Publishing Ltd.
Managi, S and Kaneko, S. 2010, Chinese Economic Development and the Environment. Cheltenham, UK: Edward Elgar Publishing Ltd.

【Term of Project】 FY2014-2018

【Budget Allocation】 335,500 Thousand Yen

【Homepage Address and Other Contact Information】

http://www.managi-lab.com/english.html