

**IR-1 : Study on the Integrated Environmental and Economic Evaluation
Methodologies for the Sustainable Development (Final Report)**

Contact Person Yuichi Moriguchi
Team Head, Regional Environment Division,
National Institute for Environmental Studies, Environment Agency
16-2 Onogawa, Tsukuba, Ibaraki 305 Japan
Phone +81-298-50-2540 · Fax +81-298-50-2570
E-mail moriguti@nies.go.jp

Total Budget for 1995-1997 113,814,000 Yen (FY1997 47,031,000 Yen)

Key Words Sustainable development, Economic model, Environmental indicators,
Environmental accounting, SEEA, CVM

The integration of environmental conservation and economic development is the common essential target of the world towards the sustainable development. Therefore, it is urgent and important to study how to set and how to achieve policy targets towards this ultimate goal, both internationally and nationally. Based on the outcomes from the research projects in the first phase on environmental-economic modeling and accounting, this project aims at the development of economic models, environmental indicators and environmental accounts for the integrated analysis of the environment and the economy.

In "Basic Economic Model Development for Identifying Integrated Target in Environment and Economic Growth", eight economic models (including general equilibrium and dynamic optimization models) were linked to environmental modules, and they were applied to various policy assessment for sustainable development.

In "Studies on the Development of Economic Model for Pan Pacific Region", we examine the methodology of the linkage of the bottom-up model and the top-down model in collaboration with Battelle-PNL and to make a preliminary study of modeling of the linkage.

In "Methodology for the Integration of Environmental Accounting and Environmental Indicators for Setting and Reviewing Policy Targets", a Japanese material flow account was compiled along with the harmonized framework for international comparison study, and trends of indicators derived from the account were analyzed. A framework of three dimensional, environmentally extended Input-Output tables was designed towards a more comprehensive physical account for the next phase of the study. Case studies of environmental accounting in municipal level were also carried out.

In "Research on the Estimates of the Integrated Environmental and Economic Accounting", (1) Trial calculation method of Actual environmental cost and Imputed environmental cost were reviewed. (2) Focusing on global warming problem of the many aspects of global environmental Issue, the cost of Imputed environmental cost of CO₂ was estimated. (3) Current price tables and corresponding constant price tables were estimated with 5-year intervals between 1970 and 1995. (4) Tables in physical terms were compiled which corresponds to tables in monetary terms.

"A Study on Applicability of Contingent Valuation Method in Japan" focused on the three major elicitation method of willingness-to-pay (WTP) used in contingent valuation approach and compared their performance in an empirical survey asking the economic value of preserving River Satsunai.