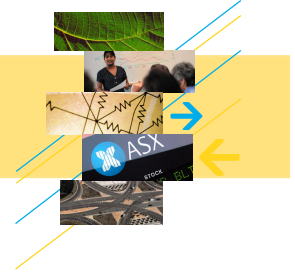


Sustainable Development



How can it be measured and modelled in Australia?

As a nation, in 1992 we decided that all future development should be sustainable (*National Strategy for Ecologically Sustainable Development*¹). However, we do not yet have a clear and precise way to either measure or model sustainable development in Australia.

Therefore, questions such as 'how sustainable have we been over the last decade?' or 'are we consuming too much?' cannot be answered.

CSIRO, in collaboration with a wide range of government and other agencies, is undertaking a project to pilot a framework for practically measuring and modelling sustainable development, at the regional scale, in Australia. This framework will help us question our current activities and how we can better use resources to ensure their availability for future generations.

The project will draw on theoretical and conceptual thinking about sustainable development and its measurement through inclusive wealth.

¹Department of Environment and Heritage

Inclusive Wealth

Inclusive wealth measures the fundamental building blocks that make up our well being. For example our lifestyles depend on a wide range of natural, human and manufactured assets, both directly and indirectly. So even though we may rarely visit a farm, producing 'basics' such as food and clothes still requires clean water, good soil, seeds, healthy animals, tractors, business management, trucks, roads, etc.

Therefore, inclusive wealth means assessing these fundamental building blocks (soil, water, roads, etc), using market and non-market prices and grouping them together to form measures of human capital, manufactured capital and natural capital. If we can show a change over time of these capital stocks then we can model if we consume more than is available or produced. Sustainable development, using inclusive wealth, means that net (weighted) capital stocks stay the same or increase over the specified period of time (1990 - 2000).

A sustainable measure of inclusive wealth means that we have used our resources in a pattern that has enabled all people to have as many assets at the end of our measured time period as at they did at the beginning.

Research Objectives

Specific project objectives include:

- Progressing a sustainable development measurement framework based on inclusive wealth
- Developing holistic production functions for key goods and services in each region
- Exploring the measurement of different types of capital
- Incorporating issues of critical capital, weak vs strong sustainability, and resilience into assessment measures
- Exploring ways to assign relative values to capital stocks.

Testing the Model

A prototype model will be developed and tested in the Goulburn Broken Catchment (Victoria) and the Murrumbidgee Valley (NSW). A parallel project in the Stockholm region, Sweden, will also allow us to compare and investigate urban issues.

Project Collaboration

This project is being undertaken in collaboration with many participants including: Environment Australia, Treasury, AFFA, Bureau of Rural Science, ABS, ABARE, Productivity Commission, various universities, the Joint Australian Academies Committee on Sustainability, Goulburn-Broken Catchment Management Authority and the Pratt Water Project Office. It is being funded through the CSIRO Social and Economic Integration Emerging Science Program.

The project team brings together expertise from across the social, economic and biophysical sciences and includes researchers from CSIRO Sustainable Ecosystems and LaTrobe University.

Further Information

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Social and Economic Integration

CSIRO EMERGING SCIENCE