

Towards a Holistic Approach to the measurement of Nature: the Complementary Accounting Network (CAN)

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Abstract

The System of National Accounts (SNA) and the System of Environmental-Economic Accounting – Ecosystem Accounting (SEEA EA) frameworks have advanced efforts to integrate environmental information into economic measurement. However, both frameworks remain constrained by the principle that all measures must be expressed in monetary exchange (market) value terms, thereby overlooking other forms of value, including ecological, socio-cultural, and welfare values.

To address this gap, this study examines the co-evolution of environmental ethics, ecosystem services, and ecosystem accounting from the nineteenth to the twenty-first century. The paper traces the historical development of key concepts related to nature valuation, environmental ethics, ecosystem services, and ecosystem accounting, culminating in the emergence of accounting frameworks.

Building on this analysis, the study introduces the Complementary Accounting Network (CAN) framework as a parallel accounting system that integrates economic, ecological, and socio-cultural indicators within a common temporal framework. The paper highlights the strengths of CAN in accommodating non-monetary values and complementing SEEA EA, while also identifying limitations related to data availability, methodological consistency, and indicator harmonisation. Overall, the CAN framework offers a more inclusive approach to capturing nature–economy interactions and broadening the representation of plural values in environmental accounting.

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