Natural Capital: initiatives and research gaps

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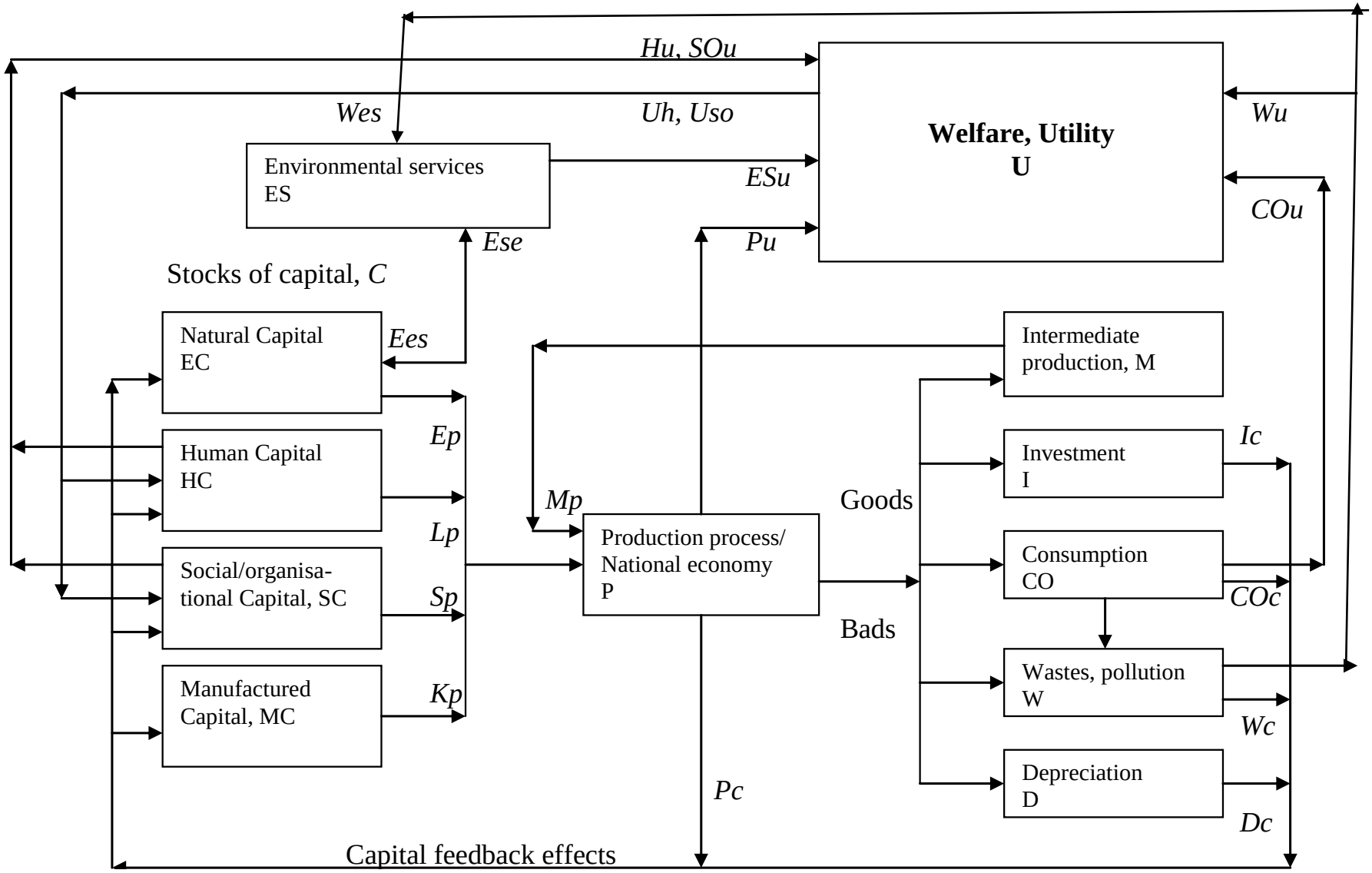
Professor Paul Ekins OBE
Professor of Resources and Environmental Policy
Director, UCL Institute for Sustainable Resources
University College London

University of Ottawa October 29th 2018

The natural capital concept

- Natural capital has been defined as “the elements of nature that directly and indirectly produce value or benefits to people, including ecosystems, species, freshwater, land, minerals, the air and oceans, as well as natural processes and functions” (NCC, 2014, p.21).
- Need to identify and characterise the benefits
- Need to identify the natural capital that produces them
- Need to find some way of assigning ‘value’ to the benefits
- Need to identify the links to policy

Four-capitals model



Weak and strong sustainability

- Weak sustainability assumes broad substitutability between different capitals/elements of sustainability or sustainable development
- Strong sustainability supposes that the different capitals may be only partial substitutes, or not at all, or may even be complements
- An empirical question with considerable implications – not least that the benefits from substitutable natural capital can in principle be given a monetary value, those from non-substitutable natural capital cannot

Weak sustainability indicators

- Assumes substitutability between different capitals/elements of sustainability or sustainable development
- Methods
  - Calculate changes in the total capital stock to show net saving/maintenance of the capital stock (Genuine/Adjusted Net Savings, Inclusive Wealth)
  - Add or subtract quantities from GDP to make it a better indicator of welfare/well-being (Index of Sustainable Economic welfare [ISEW], Genuine Progress Indicator [GPI])

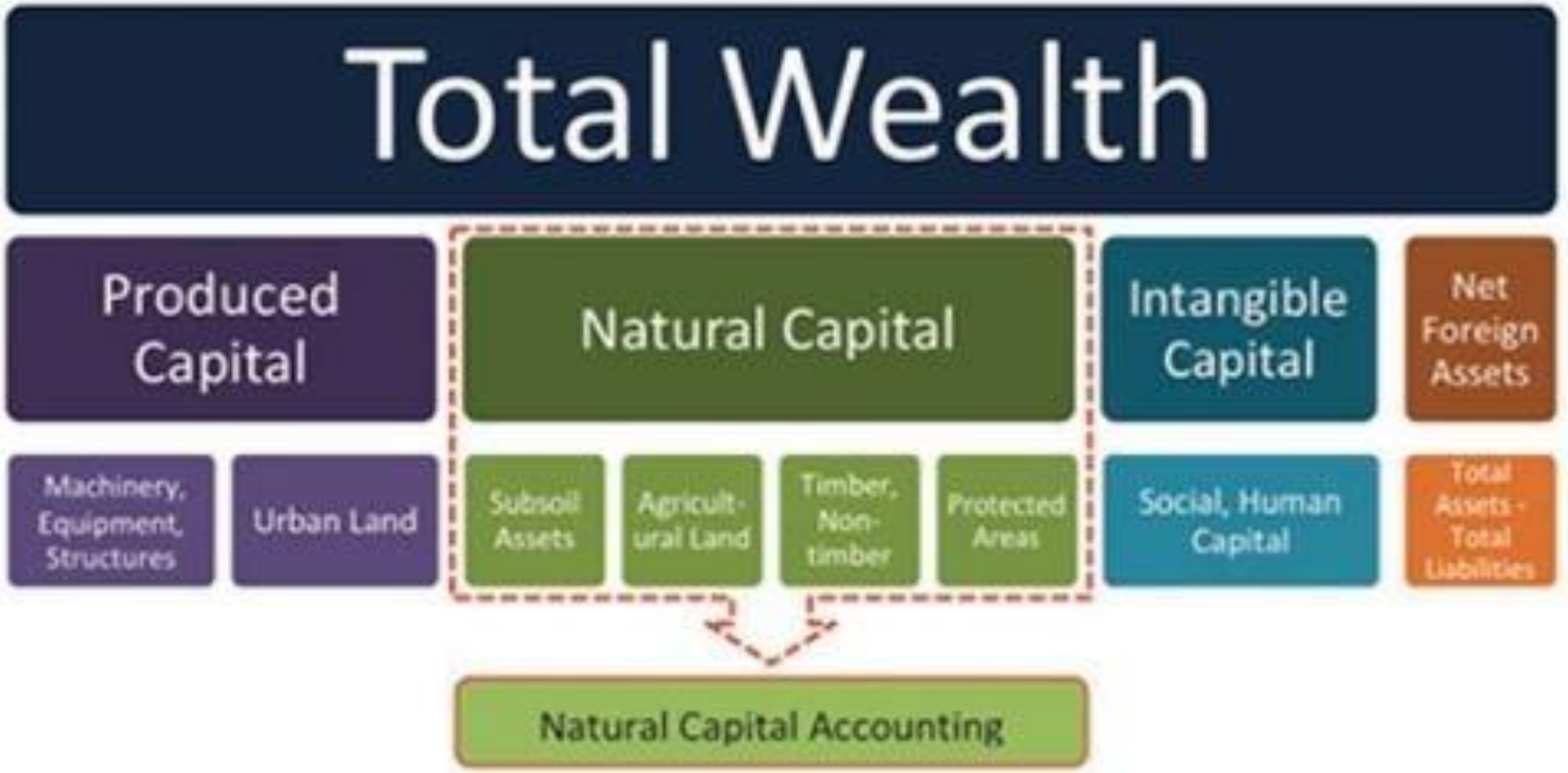
Strong sustainability indicators

Indicators of environmental sustainability

- **Planetary boundaries/Safe Operating Space:** global cycles and environmental processes under change or stress
- **Ecological footprint**: converts different demands for planetary resources to common unit – global hectares; carbon emissions computed as number of (hypothetical) global hectares that would be required to absorb them, amount to over 60% of eco-footprint
- **Living Planet Index**: calculated using time-series data on more than 7000 populations of over 2,300 species of mammal, bird, reptile, amphibian and fish from all around the globe. The changes in the population of each species are aggregated and shown as an index relative to 1970, which is given a value of 1. The LPI can be thought of as a biological analogue of a stock market index that tracks the value of a set of stocks and shares traded on an exchange
- **Sustainability Gap (SGAP)**: calculate environmental pressure, set sustainability standard, calculate SGAP, normalise to standard, calculate trend over some period, project SGAP into future at trend to give Years-to-Sustainability – see example

Comprehensive Wealth Accounting

FIGURE 1. COMPREHENSIVE WEALTH COMPOSITION



Leading research efforts (1)

- The Wealth Accounting and Valuation of Ecosystem Services (WAVES) Global Partnership Program: World Bank
- 8 core implementing countries: Botswana, Colombia, Costa Rica, Guatemala, Indonesia, Madagascar, Philippines, Rwanda.
- Accounting for:
- 1. Manufactured capital such as buildings and public infrastructure;
  2. Human, social and institutional capital, such as a country's level of education, rule of law and governance; and
  3. Natural capital such as land, forests, fish, minerals and energy

Leading research efforts (2)

- Natural Capital Project: partnership between **Stanford University**, the Chinese Academy of Sciences, the University of Minnesota, The Nature Conservancy, and the World Wildlife Fund
- Works with a wide range of partners in many countries on Sustainable Coastal Development, Securing Freshwater, Sustainable Cities and National Ecosystem and Corporate Planning

Leading research efforts (3)

- Natural Capital Coalition
- Some 250 organisations, including many businesses
- Evolved from The Economics of Ecosystems and biodiverisity (TEEB) for Business
- Administers the Natural Capital Protocol "standardized framework [for businesses] to identify, measure, and value impacts and dependencies on natural capital"

GREEN GROWTH
Knowledge Platform

Steering Committee

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Joining as Steering Committee in Q4 2018

UNIDO / GIP Green Industry Platform

Knowledge Partners

Knowledge Management

- *3000+ Knowledge Resources on ggkp.org*
- *33 Sector and Theme pages*
- *400,000+ page views per year*
- *138,000 data points*

Knowledge Sharing

- *6 Flagship GGKP Annual Conferences, 1000+ Participants*
- *6000+ newsletter subscribers*
- *25 world-leading green growth experts available to policy makers on Expert Connect*

Knowledge Generation

- *60 leading IOs, research institutions and think tanks*
- *100 experts addressing knowledge gaps*
- *37 Publications produced to date*

Leading research efforts (4)

- GGKP Natural Capital project: 5-year project funded by MAVA Foundation
- Research programme on:
  - Data and Metrics
  - Indicators
  - Policy

GGKP Data and Metrics

- *Activity 1 – Scope out a clear set of use cases for natural capital metrics and data
- *Activity 2 – Scope out a complete set of data layers, platforms and tools
- Activity 3 – Proposal for improving natural capital metrics and data

GGKP Natural Capital Valuation

- Activity 1 – Scope out a comprehensive list of natural capital valuation databases, strengths and weaknesses
- *Activity 2 – Scope out a complete set of natural capital methodologies, their strengths and weaknesses
- Activity 3 – Develop criteria for state-of-the-art valuation studies

GGKP Integrated Policy Frameworks

- *Activity 1 – Scope out the elements of an integrated policy framework for natural capital and green growth
- *Activity 2 – Scope out a methodology for assessing countries' existing policies and incentives mix
- Activity 3 – Design and test a methodology for assessing countries' natural capital needs to meet the SDGs

Questions?

Thank you

p.ekins@ucl.ac.uk
www.bartlett.ucl.ac.uk/sustainable