

## THEME 01

# Accounting for natural capital

NATURAL CAPITAL

SUSTAINABILITY

ECONOMICS

Globally, we consume more natural resources than the planet can regenerate. With deteriorating ecosystems, the capacity to support human wellbeing and sustainable economic growth is decreasing. Natural capital pertains to the idea that natural resources can be valued in economic terms. Methods to account for natural capital are getting more attention. Can viewing natural assets as capital, thus as scarce, valuable goods, help us to integrate long-term sustainability thinking?

## Our observations

- [The Natural Capital Coalition](#) (2016) defines natural capital as “the stock of renewable and non-renewable natural resources (e.g., plants, animals, air, water, soils, and minerals) that combine to yield a flow of benefits to people”. Natural capital is increasingly becoming a critical asset, especially for developing countries where it makes up a significant share (36%) of total wealth. Recently, [Uganda](#) launched the Natural Capital Accounting Program led by the World Bank.
- Natural capital accounting is a method to collect information on natural capital and its associated flows. In a national context, this means, for example, systematically recording a country's information on biological and mineral assets (natural capital) and the associated flows from these assets ([ecosystem services](#) such as providing us with food and water) to society, in a meaningful, consistent, and comparable way.
- A recent [study](#) finds that the economic benefit of the Brazilian Amazon Forest ecosystem services (e.g. food production, raw material provision, greenhouse gas mitigation, climate regulation) is \$8.2 billion a year if it's conserved. It shows that the economic benefit far outweighs the short-term gain of tearing the forest down.
- The [UN Inclusive Wealth Index](#) suggests that natural capital declined for all 140 countries between 1992 and 2014, while many countries recorded GDP growth. The limited representation of natural capital is [regarded](#) as a major limitation of GDP. GDP considers total income a measure of economic performance and says little about the quality of the assets that generate this income. For example, countries that account for timber from forestry might ignore the carbon sequestration and air filtration that is also generated in the production process.
- In recent years, natural capital approaches have gained more prominence in multiple countries, but national natural capital assessment and accounting are [far from being fully developed globally](#). On the other side, the costs of not accounting for natural capital are increasingly being calculated. For instance, the FTSE100 firms whose production processes have high material dependence on nature collectively face losing [\\$1.6 trillion](#) of market capital if they fail to assign monetary value to natural resources and adopt the natural capital approach. Traditionally, natural capital has not been addressed in financial reporting standards.



## Connecting the dots

Over the past few years, the concept of natural capital and the practice of natural capital accounting have increasingly begun to be taken seriously among national governments and businesses. If a country is using its natural resources, such as minerals, forests, fisheries, wetlands, agricultural land and water resources, in an unsustainable way, it is actually depleting wealth. Growing awareness about this is driving ways to include natural assets in decision-making and financial reporting. However, the concept has roots earlier in history. In 1973, the term “natural capital” was coined by Ernst Friedrich Schumacher as an economic concept for the world’s natural resources — such as air, water, and soil — capable of flowing into goods and services. Currently, the idea of describing natural resources as “capital” subject to depletion coincides with growing awareness that natural resources are disappearing faster than they can be replenished. A step towards recognizing the interrelation between our (economic) wealth and the state of the environment, is standardizing natural capital approaches. In 2012, the [System for Environmental and Economic Accounts \(SEEA\)](#) was adopted. It offers an internationally agreed upon framework for the recording of a comprehensive and integrated set of environmental data. Natural capital approaches consider a wider ranging set of environmental issues on potentially larger scales than traditional environmental assessments have been able to. Furthermore, natural capital accounting applies more quantitative methods to measure natural capital stocks and flows and hence account for them. For example, green GDP or adjusted gross domestic product, takes into account aspects of a country’s production of goods and services (e.g. the environmental degradation and natural resource depletion that are relevant to sustainability) that would not otherwise be included in the conventional GDP. According to the [World Bank](#), because of these detailed statistics, natural capital accounts can support better management of the economy. For instance, natural capital accounts can support biodiversity-rich countries to maximize their contribution to economic growth while balancing tradeoffs among ecotourism, agriculture, subsistence livelihoods and other ecosystem services such as flood protection and ground-water recharge.

However, criticism of natural capital accounting is also becoming louder. Opponents state that natural resources are reduced to economic commodities, so that their value is described only in monetary terms. However, speaking of natural capital merely in quantitative terms is impossible, because we could never fully capture and express its value. Our dependency on natural resources is too complex. A more qualitative and holistic assessment of nature is thus needed. Opponents furthermore propose bearing with concepts of the commons, which concern communal resources that are (or rather could be) managed collectively without identified ownership but with shared responsibility. This method has been used for centuries by local communities living in and off their environment and offers a potential remedy for the commodification, commercialization and privatization of natural resources. Recent [research](#) titled “The tragedy of the commons – minus the tragedy” found cases of people successfully sharing and sustainably using resources under certain conditions all over the world.

As the idea of natural capital gains ground, technologies to regenerate or sustainably produce natural resources are becoming more valuable. For instance, regenerative agriculture is on the rise as technologies that support it are advancing. For instance, ultra-light tractors could help eliminate soil compaction problems and precision farming technologies such as robots that can work to a 2cm accuracy could optimize irrigation and improve biodiversity and yields. Another example comes from [Skysource](#), the company that developed a water generator that extracts a high volume of water from the atmosphere using renewable energy, at low cost. These cases are of growing importance in a world where only 1% of the water is drinkable, with much of that becoming increasingly polluted by substances ranging from microplastics to antibiotics, and where there is more water in our atmosphere than in all our rivers combined. In the long run, water generators could reduce the dependence on centralized water systems and thus become an asset of the commons again. In combination with better management of natural resources, smarter methods to deal with earth’s valuable assets might help us to at least prevent earth’s balance sheet from further becoming out of balance.

## Implications

- Although natural resources are hard to regenerate, similarities to the debate on natural capital can be drawn to the debate on data. In our current economy, data is highly valuable but not priced accordingly. Should data be in the hands of the commons or be priced and seen as a commodity? As decentralized platforms are arising to facilitate data commons, best practices can be adapted to the field of natural capital. For instance, [blockchain applications](#) could offer a way to manage our global environmental commons.
- Accounting for natural capital in governmental and corporate decisions could provide a chance for economically right-wing parties to include long-term sustainability thinking in their programs.