NO ACCOUNTING FOR TASTE: Natural Capital Accounting and the Financialization of Nature

Issue Brief • November 2013

Natural capital accounting is the latest effort to financialize our air, water, forests and land by putting a price on nature to save it. In the name of sustainable economic development, focusing on our natural capital, or environmental "assets," the theory claims that if private companies and countries account for environmental resources used in the production of other goods — accounting for their cost to the environment — we can better see the sustainability of our current economic path. The hope is that this knowledge will lead us to mitigate the chances of degrading natural resources beyond their renewable capacity.

We should not be fooled by the claims of natural capital accounting. It is not the solution it appears to be. Natural capital accounting is plagued with myriad problems. To implement it requires assigning a financial value to nature, privatizing it and commodifying it — bringing the environment under economic control. The implications of this are far-reaching and include serious consequences for sustainability, the governance of nature and important democratic processes. In effect, natural capital accounting will shift protection of the environment from the public to corporate and financial interests.

What Is Natural Capital Accounting?

Countries routinely track their income accounts, or national accounts, as well as their economic output, which is then reflected in economic indicators like gross domestic product (GDP). Private companies follow similar processes when accounting for their day-to-day operations. However, inputs from nature are often not accounted for when looking at overall economic health.[1] Oftentimes this is because "...the seemingly limitless scope, the range of uncertainty, and the degree of subjectivity involved in such measures of nonmarket activities limited the usefulness of, and interest in, these social indicators," such as natural capital accounting.[2]

In addition, measurements like GDP do not reflect the long-term sustainability of economic growth. The general thinking behind natural capital accounting is that by adjusting national accounts to incorporate the cost of degrading nature in the process of generating profit, then GDP will give a better picture of a country's overall wealth.[3] Subsequently, companies and governments alike will learn that environmentally destructive economic development does not improve GDP, and such behavior would be discouraged in the future.[4]

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Private companies champion natural capital accounting as a way to internalize the environmental impacts of their production processes, as well as a way to identify potential risks to their bottom line and to better mitigate future problems that could threaten their profitability.[5] Conservation organizations are even partnering with corporations and promoting natural capital accounting as a way to help their business; their key objective is pitching how such accounting will benefit corporations, but with little mention of how it will benefit the environment.[6] Natural capital accounting is seen as a way to keep growing the economy and at the same time appear to care about what happens to nature in the process.[7]

History of Natural Capital Accounting

Prior to the current trend of promoting economic solutions to environmental problems, a regulatory "command and control" approach was the primary way of addressing many environmental problems throughout the 1970s and 1980s. Polluters were told to stop polluting without exceptions. Events like the 1989 Exxon Valdez oil spill, however, fueled the call for a different approach to environmental management, such as full-cost accounting.[8] Such a method would account for the full cost of destroying nature as a result of economic development.[9] The Exxon Valdez spill caused so much widespread devastation that it brought attention to the fact that environmental destruction is not accounted for in national accounts and GDP.[10]

In the 1990s, there was a shift away from environmental regulations toward artificial economic solutions to managing the environment. This included mechanisms like payments for ecosystem services (PES), taxes, emissions trading, natural capital accounting and other economic initiatives. In 1992, the first United Nations Earth Summit in Rio de Janeiro, Brazil, also marked some of the first efforts to price nature and implement natural capital accounting frameworks.[11]

Implementation of natural capital accounting has been difficult. To help with this, the United Nations developed the System of Environmental-Economic Accounting (SEEA) in 1993 to streamline the process.[12] The SEEA provides a database of statistical data and creates measures for various natural resources.[13] Its main purpose is to build on the current System of National Accounts (SNA) — which accounts for the economic output of a country — and to incorporate the relationship between the environment and the economy.[14]

In 2010, building on the push to develop and implement the SEEA, the World Bank began an initiative called Wealth Accounting and the Valuation of Ecosystem Services (WAVES).[15] The goal of this program is to implement natural capital accounting and promote its use globally.[16] Another recent initiative, the Natural Capital Declaration, also began in 2010 and gained traction at the Rio+20 conference in 2012.[17] The declaration is a commitment by many countries, private companies and financial institutions to incorporate natural capital accounting into their operations and to account for natural assets.[18]

Fundamental Problems of Natural Capital Accounting

Even though the concept of natural capital accounting has been developed and promoted as a policy solution, it is little more than a theory that cannot become reality. The process of converting nature into natural capital and then incorporating it into national accounts and the economy is entirely counterproductive to better environmental management and sustainability.

Many problems exist, from inaccurate information and inaccurate valuation, to the significant loss of values from converting nature into monetary terms. If it actually were possible for natural capital accounting to occur in reality, the subsequent process of commodification required to incorporate nature into the economy creates several more problems. From the idea that ecosystems can be separated into individual products and commodities, to the fact that nature would have to be privatized and property rights would need to be granted in order to become commodities, natural capital accounting in fact becomes a front for the financialization, privatization and marketization of nature.

Valuing the Incommensurable

While the intended purpose of natural capital accounting is to capture the value of nature used in economic activities, the method of doing this is to apply "monetary values" to "non-monetary values."[19] In other words, it attempts to create monetary values where none existed previously — thus placing the burden on nature to solve the problems created by the very economic actors seeking to subsume nature into economic terms.[20]

Creating a monetary value for nature from all of its non-monetary values requires assessing each and every aspect of nature. But who decides what is valuable and how much it is worth? It is a subjective process filled with inaccurate information and prejudices. It allows for numerous scenarios regarding what value can be assigned.[21] Because of its subjective nature, there likely will be disagreement over what value to choose, with each stakeholder group picking one that best fits their needs, regardless of whether that value is best for the environment and public.[22] Unfortunately, the lower and more conservative value is often chosen, which would grossly misrepresent something as invaluable as the environment.[23]

A great deal of uncertainty is also involved in deciding the monetary value of nature.[24] To begin with, biodiversity is evaluated in scientific terms that are not readily translated into monetary values.[25] Evaluating something like a marsh requires identifying all plant and animal species present at the site and assigning a value.[26] Or else, the value of the marsh will be reduced to the replacement cost of artificially treating the water treated by the marsh. That value must then be translated into monetary terms.[27] Then imagine repeating this process millions of times over in order to price all environmental processes; it simply cannot be done. There is too much incomplete information, and any judgments made with what information is available will be inaccurate.

Moreover, proponents of natural capital accounting fail to realize that an immense amount of value is lost by consolidating all of the non-monetary characteristics of nature into standardized monetary units.[28] If a standard price were assigned to all houses in the United States, the public would take issue. Monetary value is not the only value with meaning when it

comes to biodiversity: "...narrowing down the complexity of ecosystems to a single service has serious technical difficulties and ethical implications on the way we relate to and perceive nature."[29] Social, cultural and ecosystem values are all of great importance as well, not just monetary value.

Reducing the value of nature into singular exchange values, or monetary values, allows for it to be traded with anything of an equivalent dollar value, regardless of any additional non-monetary values. This has very severe implications because it assumes complete substitution between economic goods and nature — it assumes equivalency.[30] Not only is there a loss of non-monetary values by reducing nature to a single monetary value, but there is also a significant loss of non-monetary value in exchanging nature with economic goods that do not (and cannot) have equivalent non-monetary values unique only to nature — creating a net loss of the incommensurable non-monetary values of nature.

Worthless Valuation

Willingness to pay is often suggested as a method for assigning monetary value to nature. This method surveys an individual's willingness to pay for something, be it a public service or protecting wetlands, and a value is then assigned based on how much the surveyed individuals are willing to pay for the item in question.[31] If the consensus of a survey shows that people are willing to pay $5 for a round-trip public transit bus pass, that price might get adopted.

Willingness to pay has a fatal flaw: the results are biased because they depend on the incomes of those surveyed — on their ability to pay.[32] As a result, the values determined from this method are not democratically representative of the public.[33] A low-income individual has a reduced ability to pay for extra services, while an individual with a higher income has a greater ability to pay for additional services.[34] What this means is that those with a greater ability to pay have a greater say in decisions about how much something is worth.[35] If this is applied as a method for valuing nature, decision making will be tied to income and ability to pay, not democratic processes.[36]

The Commodification of Nature

In order to account for nature as individual assets on a company's balance sheet or in a country's national accounts, it has to be in the form of a capital asset. In other words, nature has to be made into commodities: tangible standardized units that can go on balance sheets.

However, the financial institutions, private companies, conservation organizations and countries that support natural capital accounting continue to get it wrong by thinking that nature can be separated out into individual commodities. No species exists independently without relying on another environmental function for its existence; it is simply not possible.[37] As such, nature cannot be compartmentalized into individual units without completely ignoring the highly interconnected and interdependent nature of its parts.[38]

Another problem arises in the need to privatize and assign property rights in order to make a commodity out of nature. Environmental "goods" are not comparable to manufactured commodities; they are public and common goods, not privately owned commodities. For something to be a commodity, it must have specifically defined boundaries and property rights.[39] However, because environmental services are not private goods, "it is often not possible to demarcate them in that way and treat them as something to which discrete property rights could be assigned."[40]

Nature — the air, land and water — belongs to no one person and to everyone. It is a public and common good upon which all life depends. If the environment is transformed into private goods and commodities, that would forever change its meaning and worth, as well as exclude the public from its shared use.[41]

Examples of Natural Capital Accounting

Natural capital accounting has had some attention since the late 1980s and early 1990s, but only recently have there been instances of it being implemented. The following examples illustrate how natural capital accounting has been carried out — and the serious flaws of these initiatives — in the United States and the United Kingdom. The main problem with accounting for natural capital is that in its attempt to protect nature from the impacts of economic development, nature is actually absorbed into economic spheres and redefined by economic values; nature is incorporated into the very thing that is wiping it out.

United States: The Integrated Economic and Environmental Satellite Accounts

In 1992, the U.S. Bureau of Economic Analysis began developing what it called the integrated economic and environmental satellite accounts (IEESAs).[42] The IEESAs were meant to be supplemental accounts representing the interaction of the economy and environment, and they were modeled after the United Nations System of Environmental and Economic Accounts (SEEA).[43] This initiative gained further traction in 1993 when President Clinton emphasized the development of Green GDP measures.[44] However, Congress suspended the IEESA in 1994 "to obtain an external review of environmental accounting."[45]

Although the initiative was suspended, a framework for environmental accounting was created. It followed a basic cost-benefit analysis approach and used various methods to arrive at values for environmental assets, including market pricing, contingent valuation and maintenance costs.[46] However, this initiative gets it wrong several times over. First, it makes the mistake of viewing the environment as an input to market processes; but the environment is not a production input, it is the foundation of our existence and future.

The report states, "It is impossible to separate economic development issues from environmental issues — the realization, in other words, that many forms of development erode the environmental resources upon which they are based, and that such environmental degradation can undermine economic development."[47] The real issue should be how economic development causes environmental degradation, not how environmental degradation affects economic development.

Second, when the IEESA framework was applied to account for environmental assets, no real valuations were achieved because of significant limitations. In many cases, an estimate could not be obtained because of nonexistent data and information needed to assign a monetary value.[48] And, when there was a significant absence of information, the framework instead extended economic values for produced, human-made, assets to environmental assets.[49]

The most egregious problem with the IEESA framework is that it could not accurately account for environmental renewable assets; it could only account for "produced" assets like farm products, cattle, corn, wheat, soybeans and fish stocks — assets that are already economic goods.[50] The framework failed in application to "developed natural assets" and non-produced environmental assets like biodiversity, water, air and pollution management, among others.[51] Moreover, the IEESA study even points out that estimates for environmental assets are very uncertain, and most of the measurement results for renewable natural resources are labeled "n.a." or "not available."[52]

United Kingdom: The Ecosystem Approach

Since 2007, the U.K. Department of Environment, Food and Rural Affairs (DEFRA) has been promoting what it calls the Ecosystem Approach.[53] Under this initiative, DEFRA seeks to develop a holistic approach to incorporating the value and services of ecosystems into decision making and public policy.[54] More broadly, DEFRA seeks to achieve better sustainability and management of natural resources.[55]

DEFRA based most of its work on the U.K. National Ecosystem Assessment (NEA). This served as a foundation for much of the work toward incorporating natural capital accounting into U.K. policies. Work began on the assessment in 2007, and since then a conceptual framework has been created. The next phase is determining how to value the environment and then applying this to perform valuations.[56]

In July 2013, the NEA completed a valuation of marine protected areas based on the input of divers and fishermen.[57] Using a "travel cost choice experiment method" and willingness to pay, the divers and fishermen who interact with marine protected areas were surveyed to determine recreational use and non-use values.[58] The assessment "estimated aggregate costs at present value over a 20-year time scale for all 127 recommended Marine Conservation Zones at £227-821 million, including costs to the renewable energy sector, the fisheries sector, oil and gas, commercial shipping, recreation, and implementation, management and enforcement costs."[59]

The contingent valuation method used to arrive at these monetary values, however, is a weak and flawed method of valuation.[60] As mentioned earlier, willingness to pay is tied to a person's income, and this method leads to unrepresentative and undemocratic valuations.[61] Those with the greatest ability to pay also have the greatest say in the final value that is agreed upon.[62] Subjective analyses based off of assumptions are an unacceptable way to measure and manage nature.

Even worse, the U.K. analysis resulted in conservative value estimates — meaning that the estimates are an undervaluation of the true value of marine protected areas, and the analysis was incapable of assigning an accurate and representative value.[63] Invaluable environmental resources cannot depend on subjective, flawed valuation methods that are not representative of their inherent value. This valuation of Marine Conservation Zones carries little weight, and it poses a significant liability if used in policymaking because the results are biased and based off of unscientific information.

The Implications of Natural Capital Accounting

Converting nature into natural capital would have pervasive and devastating effects on how the public can interact with the environment, its management and ultimately its future existence. Economic theory is not the solution to the world's environmental management problems, when neoliberal economic policies and economic development are in fact the causes of environmental exploitation and degradation.[64] In a natural capital accounting scenario, the fox is guarding the hen house.

Not only is the market ill-equipped to manage resources that are inherently public and common goods, but also it cannot do so democratically. The market is not accountable to the public, only to private stakeholders. Moreover, the fictitious claims that natural capital accounting would put the economy on a more sustainable track with regard to the environment shows a weak interpretation of sustainability; policies to ensure environmental sustainability should cater first to the environment and future generations, not the market.

If Economic Values Are the Problem, How Can They Be the Solution?

The push for natural capital accounting is occurring not because the private sector feels remorse for its disregard of nature. It is happening because the private sector realizes that in order to maintain production and profits at current levels, it needs greater control over nature, as a means of risk management.[65] The only way to do this is by converting nature into economic terms — taking the environment out of public control and privatizing it.

The means of protecting nature from the effects of economic activity is to extend "economic values" over "non-economic

values." In other words, natural capital accounting extends the domain of economic activity and seeks to create economic values where none exist. Natural capital accounting must calculate these values for something that currently stands outside these evaluations. These values will then be presented as costs or prices of nature. Only now they will no longer be non-economic — they will be part of a renewed and expanded market.

So the answer to the depletion of non-market values (destruction of forests, pollution of water, etc.) caused by the overweening power of the market is to *expand* the market to include those values. As such, corporations and financial interests will allocate the newly created commodities based on market "efficiency," e.g., the ability to pay. An example from water markets proves the point: in 2012, natural gas companies seeking water for hydraulic fracturing outbid Colorado farmers, freezing out farms.[66]

Placing monetary values on the environment sends the message that a dollar value is the most important value above all other social, cultural and environmental values.[67] Assigning prices to nature actually legitimizes and condones the very processes that caused environmental degradation beyond sustainable limits.[68]

There Is No Democracy in Natural Capital Accounting

The attempts of natural capital accounting to bring nature under economic control create serious problems with governance and democratic processes. It would undo public participation and control by circumventing democratic processes to manage nature, ultimately perpetuating the root causes of environmental problems.[69] Allowing economic control of the management of nature through natural capital accounting reaffirms corporations and financial interests as the decision maker, rather than the public.[70]

This means that decision-making power over nature would lie in the hands of Wall Street and be subject to the world of finance, speculation and futures markets. If private sector financiers become the ones governing nature — instead of the public — the goals for environmental management would be tied to investment finance and market outcomes.

The world's environmental resources are common goods that should be shared by the public, and while economists falsely argue that the market can behave democratically, in reality economically controlled environmental resources would be managed by those with the most purchasing power.[71] There would not be an equal share in decision making, nor would decisions be representative of the public. Natural capital accounting is a direct threat to democracy — it puts profits over people.

The consequences of natural capital accounting reach further than its dismantling of democratic processes. Sending the signal that the private sector and nations will only protect nature if it has a price on it and is part of the economy would reinforce that nature is only worth protecting when it has a dollar value.[72] Douglas McCauley argues, "To make ecosystem services the foundation of our conservation strategies is to imply — intentionally or otherwise — that nature is only worth conserving when it is, or can be made, profitable."[73] This is a dangerous message to send, and it negates the incommensurable value of nature that cannot be reduced into a single dollar value.

Natural capital accounting would have further effects on access and equity with regard to the shared use of common resources. "Commodification turns ecosystem services that in principle were in open access, public or communal property into commodities that can be accessed only by those having purchasing power."[74] Natural capital accounting effectively creates an enclosure of the commons that would exclude the public from accessing common and public resources, further exacerbating existing social inequalities and environmental injustices.

Natural Capital Accounting Is the Opposite of Sustainable

Aside from the primary goal of natural capital accounting to assign a monetary value to nature and incorporate it into the economy, it also pretends to be a tool to achieve greater environmental sustainability. The thinking goes that if the private sector and countries know what nature is worth and then account for it in their system of accounts, better management will ensue; if nature is treated as an asset, it will be used wisely and not exploited.

However, the very concept of natural capital accounting clashes with any legitimate definitions of sustainability — it can at best achieve very weak sustainability, if at all.[75] This is because the feigned sustainability of natural capital accounting assumes that manufactured capital is a perfect substitute of natural capital.[76] A strong stance on sustainability views natural capital and manufactured capital as complements to each other, at best.[77]

The problem with viewing natural capital as equivalent to and exchangeable with manufactured capital is that it completely ignores the fact that for a great deal of our natural resources *there is no substitute*: "For many ecological services, there is simply no possibility of technological substitution."[78] There is no substitute for water, oceans, trees and most other natural resources. To put it frankly, you can't drink money — there is no manufactured substitute for water.

A true view of sustainability is one that considers future generations, and assigning monetary value to nature does nothing for future generations — it only makes it more sustainable for the market to have continued profits.

Conclusion

Natural capital accounting must not stand. The implications of allowing economic control of nature will be truly widespread and devastating. Natural capital accounting puts the burden on nature to correct for the problems created by financial institutions and private corporations. It would serve to protect continued profits, while taking nature away from the public for private gain — putting profits over people and nature. Natural capital accounting, in its attempt to protect nature from the impacts of economic development, places nature under the control of the very actors that are destroying it. The only way to equitably manage nature is through direct government regulation.

Nature's incommensurable value is not equivalent to a single economic monetary value, and never will be. Nature is an invaluable public and common good that cannot be left to the irresponsibility of financial markets and corporate greed.

Endnotes

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