How can a price be placed on “environmental services”, and who benefits?

How can the price of environmental services be established? How can it be determined, for example, what the “storage” and “production” of water is worth, or the pollination “work” done by insects? This has been a major obstacle for those who have sought to promote environmental services and their “trade”.

Two initiatives were of key importance in finding ways to price these “services”:(12)

The Millennium Ecosystem Assessment (http://www.maweb.org), supported by the UN and published in 2005, involved the work of over 1,300 researchers. The study concluded that over half of the world’s environmental services are in decline or are being used unsustainably. The assessment (13) resulted in an exponential increase in studies on how to price environmental services and put this subject on the agenda of biodiversity preservation.

The Economics of Ecosystems and Biodiversity (TEEB) (http://www.teebweb.org) was another crucial initiative in the framework of the “green economy” initiative launched by the United Nations Environment Programme (UNEP) in 2008. TEEB was aimed at creating a means, a methodology, for determining the economic value of biodiversity. It attempts to resolve what is considered as merely a “market failure”, that is, the destructive treatment by free-market capitalism of the “common goods” of nature in search of profits up until then. In economic terms this is called the “externalization” of environmental costs. The way in which nature is treated within the capitalist system could lead to its total destruction, in line with Garrett Hardin’s reasoning, as discussed earlier. However, this new proposal, developed within the same market logic, is not merely aimed at the preservation of nature, but rather at turning it into a business and even a means of justifying destruction in other places. TEEB and its logic were well received in the Convention on Biological Diversity (CBD) Strategic Plan for the period 2011-2020, which includes targets for the protection of different ecosystems (14).

The TEEB study leader was not a biologist or an environmentalist, but rather a banker, Pavan Sukhdev, an executive from the Deutsche Bank of Germany, who also addressed the question of the economic valuation of biodiversity for the World Economic Forum in Davos (15). He has referred to biodiversity as “a new million-dollar market” (16).

The main logic underpinning the monetization of environmental services is that payments for these services can compensate for so-called “opportunity costs”. This economic term refers to the cost of something in terms of an opportunity foregone(17). For example, defenders of environmental services suggest that the cost of the preservation of a forest area as a national park could be established on the basis of the price of the timber that cannot be sold if the choice is made to preserve the forest. What is striking is that, in this example, the “next best alternative” foregone is an “alternative” that forms part of the prevailing system of production and consumption, as well as one of the direct causes of the destruction of rainforests.

But while the cost of timber can be rather easily calculated within the logic of the market, it is obvious

that the costs of the “production” of water by forests, the “shelter” offered by the forest to certain species, or the “creation” of the beauty of a river or landscape are much more difficult or even impossible to calculate. Even the defenders of environmental services recognize this.

Up until now, the so-called environmental service in which the greatest advances have been made by proponents of the idea, and which is best known, is the “service” of carbon storage, which has already led to the creation of the phenomenon known as the “carbon market”.

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12 - Information gathered from the Glossary prepared for the EJOLT course on Ecological Economics and Political Ecology, coordinated by the Autonomous University of Barcelona.

13 - The report on this assessment addresses nature in terms of the language of “environmental services”, dividing them into “provisioning services” (food, water, timber, fibres, etc.), “regulating services” (climate regulation, water regulation, etc.), “supporting services” (soil formation, nutrient cycling, etc.), and “cultural services” (non-material benefits such as recreation and spiritual enrichment). The aim is to financially quantify increasingly scarce services in order to motivate their preservation, while creating new marketable “assets”, and thereby, economic growth.

14 -Terra de Direitos, “Pagamento por ‘Serviços Ambientais’ e Flexibilização do Código Florestal para um capitalismo ‘Verde’”, www.terradedireitos.org.br, August 2011

15 - An annual meeting of powerful capitalist business and political leaders that led, more than ten yeas ago, to the organization of the World Social Forum as an anti-capitalist counterpoint

16 - Riberio, Silvia, “As novas fronteiras da mercantilização da natureza”. In: LeMondeDiplomatiqueBrasil, 5: 53, December 2011

17 - pt.wikipedia.org/wiki/Custo_de_oportunidadeEm cacheSimilares

The “marketing” of carbon

The signing of the Kyoto Protocol in 1997 officially ushered in the market for the environmental service of carbon storage. Under the Protocol, the industrialized countries that are required to meet emissions reduction commitments were given the option of continuing to pollute while “offsetting” their carbon emissions by contributing to emissions-reduction projects in so-called “developing” countries of the South, under the Clean Development Mechanism (CDM). On the basis of the Kyoto Protocol, in 2005 the European Union established the Emissions Trading Scheme (EU ETS).

One of the main problems with this alleged “offset” mechanism is that while the carbon dioxide molecules emitted through the burning of fossil fuels by industries in the North may perhaps be identical to the carbon dioxide molecules stored in, for example, a tree plantation

in Africa, they are climatologically different. The carbon dioxide emitted by the burning of fossil fuels in the North increases the total amount of carbon being exchanged between the atmosphere, the biosphere (trees, plants, soils) and the oceans. The end result is more carbon and thus the exacerbation of the environmental and climate crises. The carbon market has therefore emerged as a major distraction from the real problem, thus further delaying a real solution: leaving oil and other fossil fuels underground, since their extraction and burning is by far the main cause of the problem (18). Moreover, in the European Union, for example, although a target was set for the first phase of the EU ETS (2005-2007) of a one to two percent reduction in emissions, emissions by the industrial sector actually increased by 1.9 percent during that same period (19).

In parallel to official initiatives in the framework of the Kyoto Protocol, a so-called “voluntary” carbon market has also developed, involving initiatives between two parties, for example, companies that plant trees in the South, and companies in the North interested in purchasing credits generated through the carbon supposedly stored by these trees.

With regard to forests specifically, the 2007 international climate conference in Bali saw the official launch of the REDD (Reducing Emissions from Deforestation and Forest Degradation) mechanism, which was subsequently followed by REDD+ and REDD++. This is another mechanism linked to the environmental service of carbon storage by forests, created as a supposed solution to the current climate crisis. But REDD, like the CDM, is based on the “offsetting” of emissions and the sale and purchase of carbon credits. As a result, REDD projects not only fail to provide a solution to the climate crisis, but also provoke serious impacts on local communities, including restrictions on their use of the forests and even their expulsion from their territories (20).

Another problem with REDD and CDM projects is that the monitoring and “accounting” of the “assets” involved – the amount of carbon stored – require increasingly larger sums of money, benefiting a handful of consulting firms who supposedly measure something that is impossible to measure precisely (21).

The “carbon market” has developed more than markets in other environmental services due to the relative importance placed on the climate crisis internationally. This is reflected in the large number of conferences held to address the climate, primarily the meetings of the Conference of the Parties to the UN Framework Convention on Climate Change, or COPs. The latest of these meetings took place in Durban, South Africa late last year. However, as experience has shown, the “carbon market” is highly problematic and will not contribute to resolving the climate crisis, but rather, quite the opposite.

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18 - WRM, “From REDD to HEDD”, www.wrm.org.uy

19 - Kill, Jutta et al, “Carbon Trading: how it functions and why it is controversial”, FERN, http://www.fern.org/sites/fern.org/files/tradingcarbon_internet_FINAL.pdf, 2010

20 - www.wrm.org.uy . See the section on REDD

21 - http://noredd.makenoise.org/wp-content/uploads/2011/09/NOREDD-letter_21sept.pdf

In practice, we find different forms of payments for environmental services or PES arrangements. Supriya Singh presents the case of two communities in India as an example of PES “from the bottom-up”. In this case, the villages of Kuhan and Ooch, in the Indian Himalayas, reached an agreement on the environmental service of water. To ensure the supply of water for their farming activities, the residents of Kuhan had built a small dam on a creek running through the village, but the reservoir soon began to fill up with silt, greatly decreasing its capacity. It was determined that most of the silt was coming from the village of Ooch, located upstream, and was caused by the soil erosion resulting from intensive cattle grazing. Under the agreement reached between the two communities, the village of Ooch banned cattle grazing on its common land for eight years, and in return, the village of Kuhan paid them for this sacrifice, and also paid for the planting of tree saplings to combat erosion. In both villages, the entire community participated in the process, and the agreement was discussed by everyone (22). Unlike the studies mentioned earlier, which are aimed at the quantification and valuation of environmental services, in this case there was no need to calculate the “units” of the “service” provided. Instead, there was a mutual agreement aimed at the recovery of water resources through the solution of an environmental problem impacting one of the two villages. It is quite likely that this type of mutual arrangement at the local level is nothing new in the history of human settlements and their use of nature.

What is new is the emergence in recent years of environmental services projects involving trade in environmental services on a global scale. These do not directly involve local communities, but rather other actors, such as companies, consulting firms, private banks, investment funds, large conservationist NGOs, and even governments, which view this as a new “business” opportunity and profit-maker. In these cases, the guarantee of the “provision of environmental services” is outsourced to a bank, a conservationist NGO or a private firm, which preserves a determined area and thus determined environmental services, which can then be sold to other investors or companies, or used to justify destruction elsewhere. The underlying logic is that the money helps to preserve forests but is also an investment. The way in which the profits will be divided is established in an agreement (23).

One example is the Malua Wildlife Habitat Conservation Bank (MWHCB) in Malaysia, which was granted a 50-year licence for conservation rights to a forest reserve. The Bank resolved to split the area up into 100 m2 blocks and began to sell “Biodiversity Conservation Certificates”. The saleable “asset” under this scheme is thus “100 m2 of rainforest restoration and protection”. According to the bank, the sale of certificates is intended to “make rainforest rehabilitation and conservation a commercially competitive land use.” It is projected that the initial 10 million U.S. dollars invested in the rehabilitation of the reserve over the first six years will be recovered through the sale of the certificates, and will also endow a trust fund, the Malua Trust, to finance long-term conservation management over the remaining 44 years of the contract. Any profits from the sale of the biodiversity certificates are to be shared between the Bank and the investor. In this case, the preservation of this forest area does not constitute an offset against rainforest destruction elsewhere, as is the case with “carbon market” projects (24).

22 - Singh, Supriya. “Payments for Ecosystem Services (PES) in India from the bottom-up”. Published in DowntoEarth, CSE’s fortnightly online magazine.

23 - It is important to note that companies that offer environmental services also account for something referred to by economists as “transaction costs”, which are the costs required to “measure” whether the services being “marketed” are in fact being conserved and can thus be “delivered”. In the case of the environmental service of carbon storage, these are referred to as monitoring, evaluation, reporting and verification costs, and they tend to be high, since they involve

specialized technicians and technologies.

24 - Sullivan, Sian, “Green Capitalism, and the Cultural Poverty of Constructing Nature as Service Provider”. In UpsettingtheOffset, Böhm, Steffen and Siddhartha Dabhi (eds.), London, MayFlyBooks, pp. 255-272

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“Payments for environmental services” – An offset mechanism? A speculative activity?

At first glance, PES initiatives might appear to be different from carbon trade mechanisms like CDM and REDD+, in the sense that they do not necessarily serve to “offset” environmental degradation or pollution elsewhere. Perhaps this is why PES is widely considered a “nice” approach, because it “recognizes” the “efforts” of nature and does not seem to involve trade, or destruction and pollution in other places.

However, it is becoming increasingly evident that this approach will in fact involve trade mechanisms, and that the resources needed for PES projects will be largely mobilized through (multinational) companies that practice destructive activities and either want to or are obliged to do something to offset that destruction. If these companies acquire areas of land on which they plan to conserve nature and sell environmental services such as biodiversity, they could use these “marketable” services to compensate for their own destructive activities, like mining or oil drilling, and/or sell them in the form of “credits”. In fact, the previously mentioned TEEB itself considers the possibility – or in business jargon, the “opportunity” – for using environmental services as an offset mechanism for environmental destruction.

In order to manage this new “business”, a whole new profession has been created: “commercial conservation asset managers” (25). The legal foundations for PES as an “offset” mechanism are being created in numerous countries. In Brazil, for example, the Congress is currently debating reforms to the Forest Code, the law that regulates forest management, which could include an amnesty for landowners who have illegally deforested areas on their own properties under the stipulations of the current Code. In return for this amnesty, they would be required to compensate for this deforestation through the protection of intact forests. In the meantime, the first transactions on the new Bolsa Verde or Green Exchange in Rio de Janeiro will be negotiated during Rio+20. The initiative is being headed up by Pedro Moura Costa, a consultant with many years of experience in the carbon markets sector. While the new exchange will initially be devoted to the trade of “carbon credits”, the idea is to eventually include other “assets” such as “reforestation”. Moura Costa has commented: “The Forest Code is obliging landowners to meet the requirements for legal reserves (areas of forest that must be preserved on private landholdings). Will it be cheaper to create the reserves or to buy credits on the exchange?” (26)

As the logic of “offsetting” destruction through trade comes to play an increasingly greater role around environmental services, this could easily lead to perverse schemes in which financial profit always prevails. For example, a mining company could, on the one hand, hold “shares” in nature conservation through PES or REDD+ projects, which impact on forest peoples by restricting their access to areas designated for “providing services” under PES and REDD+ requirements. On the other hand, the same company could continue with its destructive mining activities in the same region where these forests are located, thus generating even further impacts on the forest peoples, and yet be able to advertise that it is

"compensating" for its environmental impacts through forest conservation. Finally, the company could also sell any "carbon credits" or "environmental services certificates" that are "left over" after doing the "accounting" of its preservation versus destruction. These credits or certificates could be sold to another company in, or example, the United States or Europe, which in turn needs to "offset" an increase in its polluting activities – activities that negatively affect nearby communities, who are often from sectors of the population that face the most precarious living conditions, such as indigenous peoples or black communities in the United States and Canada.

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25 - Ibid

26 - http://radarrio20.org.br/index.php?r=site/view&id=229995

To capitalize on this growing wave of trade in environmental services, numerous specialized firms have emerged in recent years, with names like Ecosystem Marketplace, Species Banking and Canopy Capital. In 2008, the Canopy Capital investment firm and a related environmental alliance known as the Global Canopy Programme (GCP) signed an agreement with the Iwokrama International Centre for Rainforest Conservation and Development in Guyana. Under this agreement, Canopy Capital will pay for the protection of a rainforest area for five years in exchange for "ownership" of forest ecosystem services and a claim in any future profits. The "saleable assets" include carbon values or certificates and possibly rainfall, water storage, soil conservation, biodiversity, climate buffer and watershed values. This project is meant to serve as a "best practice" model for Canopy Capital, which could eventually lead to the creation of a profit-driven "global market in ecosystem services". What is not clear is how benefits will be shared between Canopy Capital, Iwokrama and local communities, as the agreement remains confidential (27).

A number of major global conservation NGOs have also become key actors in the promotion of these new business markets. Organizations like Conservation International (CI), The Nature Conservancy (TNC) and the World Wide Fund for Nature (WWF) defend PES as a necessary means of generating and distributing the finance needed for conservation activities. CI, for example, has launched a web-based technology called ARIES (Artificial Intelligence for Ecosystem Services) offered to users worldwide to "assist rapid ecosystem service assessment and valuation at multiple scales, from regional to global." (28)

In order for trade in environmental services to function properly, legal regulations will be needed to define the rules of the game. In some countries of the North, such as the United States and the United Kingdom, there are already regulations for certain areas (29). In different countries of the South, laws and programmes are being developed, often with the assistance of "development cooperation" agencies and banks, like USAID, KfW and GTZ in the case of Ecuador (30), as well as international NGOs. In the state of Acre, Brazil, internationally recognized for its advances in the introduction of trade in environmental services, Law 2.308 was passed on November 22, 2010 by the state legislative assembly, with no public input whatsoever. Drafted with the assistance of the U.S.-based NGOs Woods Hole Research Center and Forest Trends (31), the law established the System of Incentives for Environmental Services and various incentive programmes for these "services". The first article of the law states that it is aimed at "promoting the maintenance and expansion of the supply" of environmental services, such as carbon storage, conservation of natural scenic beauty, biodiversity, water, etc. Article 6, sole paragraph, foresees instruments to "establish a

stable institutional arrangement” in order to ensure a “climate of trust for investors.” Legislation to regulate trade in environmental services is also being studied at the national level in Brazil.

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27 - Griffiths, Tom. “Seeing ´REDD´? : Forests, climate change mitigation adn the rights of indigenous peoples and local communities”, updated version, May 2009. Forest Peoples Programme

28 - Sullivan, Sian, “Green Capitalism, and the Cultural Poverty of Constructing Nature as Service Provider”. In ´Upsetting the Offset´, Böhm, Steffen and Siddhartha Dabhi (eds), London, MayFlyBooks, pp. 255-272

29 - Tricarico, Antônio, “The ´financial enclosure´ of the commons´, http://www.un-ngls.org/gsp/docs/Financialisation_

natural_resources_draft_2.pdf, 2011.

30 - http://www.accionecologica.org/servicios-ambientes/documentos

-de-posicion-de-a-e/1411--redd-significa-perdida-de-derechos-colectivos

31 - Governo do Acre, “Sistema de Incentivo a Serviços Ambientais”, http://www.ac.gov.br/wps/wcm/connect/fc02fb0047d011498a7bdb9c939a56dd

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