
Nature-based Solutions: miraculous weapon to save the climate or “final solution” for forests and their peoples?

This article shows what are the main programs and projects being promoted under the heading of Nature based Solutions (NbS), how they are related to REDD, who are the proponents and what are their interests. It also seeks to demonstrate that the change in discourse from REDD to NbS goes beyond a mere astute play by market environmentalists with the intention of promoting and disguising their private interests. The NbS discourse signals a totalitarization of the capitalist ideology, and a worsening of the antagonism between capital and nature.

This article is part of a collection of articles in Portuguese, called 'Green coup: false solutions to the climate disaster' ([available in Portuguese here](#)). This publication critically analyses the introduction 10 years ago of the ‘green economy’ in Acre, Brazil, as well as similar experiences in other states of the country.

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By Michael F. Schmidlehner*

“Actions to protect, sustainably manage and restore natural or modified ecosystems, which address societal challenges (e.g. climate change, food and water security or natural disasters) effectively and adaptively, while simultaneously providing human well-being and biodiversity benefits.” [1] This is the definition of the term “Nature-based Solutions” (NbS), established in 2016 by the International Union for Conservation of Nature (IUCN).

Since then, this international NGO has been highlighting this supposedly new concept as a key element of its programs. But, concretely, what might be these actions alluded to rather generically in the above definition?

It mentions protection, improved management and restoration of ecosystems, as well as actions to save energy, enhance technology, develop renewable energies, public transport, circular recycling etc. In sum, these would be “positive actions, ‘with no regrets’, since they bring combined benefits at the environmental, economic and social level”.

Propagated as a combined solution both for biodiversity and for the climate, the concept of NbS was rapidly adopted by other major conservationist NGOs. The Nature Conservancy (TNC), the largest of these organizations, talks about “natural solutions for the climate” and “the forgotten solution for the climate”. [2] NbS – and the idea of a supposedly new climate and environmental policy based on the “rediscovery of nature” – have gained momentum in recent years in the context of UN framework conferences on climate change (UNFCCC) and biodiversity (CBD).

Looking at the glossy brochures and websites of these organizations – with emphatic testimonies of NbS proponents – ordinary citizens get the impression that a fundamental change in thinking is taking place. Or that a new era is beginning in terms of dealing with the ecological crisis, when at last civil society organizations, governments and even companies are giving in to the demands of nature, learning from and making peace with it. That would be wonderful, right?

However, for more critical readers, so much positivity and enthusiasm raise suspicions. In the words of historian Paul Johnson, a euphemism generally is a human device to hide the horrors of reality.

But whoever followed the publications put out by these very same organizations in the years prior to the “discovery” of NbS notices that a certain expression does not appear even once in the abovementioned texts. The expression in question is REDD or REDD+, which means Reducing Emissions from Deforestation and forest Degradation. It had played a decisive role in previous programs of environmental protection NGOs. How can the sudden disappearance of the REDD acronym in the emerging discourse on NbS be explained?

I offer here an explanation for the sudden rise of the concept of NbS over the last five years and the concomitant silencing about REDD in the dominant discourse about climate and biodiversity.

In the first part, I will show what in fact are the main programs and projects being promoted under the heading of NbS, how they relate to REDD, who the proponents of NbS are, and what their interests are.

In the second part, I will seek to demonstrate that the change in discourse from REDD to NbS goes beyond a mere astute ploy by market environmentalists with the intention of promoting and disguising their private interests. I will argue that the NbS discourse signals a totalitarianization of the capitalist ideology, and a worsening of the antagonism between capital and nature.

Image

[Google Ngram Viewer](#) allows one to visualize the rise and fall of the expression “REDD” (upper graph) and the rise of “nature-based solutions” (lower graph) in publications between 2005 and 2019.

The magic formula of “Natural Climate Solutions” and the horrors of the reality concealed by it

“By working with nature, we have the potential to reduce emissions by more than a third of what is needed by 2030”. [3] Statements such as this, that currently circulate in UN debates about the climate and make NbS seem like a silver bullet, originate in a single study titled “Natural climate solutions” published in October 2017. [4] In this study, the authors, mostly TNC employees, stated that in order to reach the target of keeping global warming below 2°C, the most must be made of three main “natural pathway opportunities”: reforestation, avoided forest conversion and natural forest management.

The study projects the reforestation of no less than 678 million hectares, approximately the size of Brazil or Australia. Chris Lang, of the REDD-Monitor web platform, and Simon Counsell, ex-director of the Rainforest Foundation in the United Kingdom, carried out a detailed analysis of the study and showed that this endeavor is not feasible in practice. Any attempt at implementing it on the scale and time frame projected would bring about disastrous consequences in terms of conflicts over land. [5]

The authors of the original study did not say where such reforestation should occur, but the greatest potential, Lang and Counsell guess, obviously is to be found in the countries of the South, and much of it in Brazil. Reforestation of pasture land on this scale, as well as unfeasible in the current political setting, would also demand a radical reduction in meat consumption by much of humanity, and not just in countries that have historically consumed agro-commodities – since colonial times – but also in countries like China and India, where consumption continues to rise.

Absolutely impossible to execute in practical terms, the “natural pathway” of reforestation would guarantee more than 50% of the reductions planned by 2030, according to the study’s calculations. Lang and Counsell go on to point out countless other inconsistencies in this study grounding NbS, and conclude that it is “a combination of purely theoretical figures, disregard for political and historical realities, utterly implausible assumptions, magical thinking, and complete omission of key factors such as equity issues”.

Could it be that the researchers in question were really that naïve? This is certainly not the case. Ultimately, the interest of large environmentalist NGOs like TNC does not consist in formulating executable programs that might actually prevent or mitigate the climate collapse. These organizations, that nowadays are much more similar to multinational corporations than to civil society actors, above all need to create the appearance of “proposing solutions” aligned with the economic interests of their financial backers.

So who are the funders of projects implemented with the NbS label and what are their interests? TNC names 33 corporations with which it has partnerships to “invest in nature”. Among them we find the names of many of the world’s largest corporations: Shell, Amazon, Coca Cola, Nestlé, Cargill, Syngenta, BHP Billiton, Bank of America and American Express, among others. The partnerships of other big NGOs, like IUCN, Conservation International (CI) or WWF, for instance, follow a similar pattern.

The case of Shell: carbon credits and REDD illusions at the center of NbS

In order to understand the interests game behind the links between environmentalism and big capital, it is worth examining the case of the oil company Shell as an example. Having emitted 31.95 billion tons of CO₂ between 1965 and 2019, [6] and as such being among the biggest climate villains in the history of humankind, the multinational headquartered in The Netherlands is currently making an effort to salvage its public image, and convince society of its ambition to reduce its climate impact.

Image

Screenshot from the [video](#) "Nature-based Solutions and Shell".

Maintaining partnerships with IUCN (since 2000) and TNC (since 2009), Shell announced in 2019 a US\$300 million investment in NbS. Since then, it has been one of the leading players in publicizing the concept. This modest investment – relative to its 2018 revenues worth US\$23.9 billion [7] – together with the corporation's stated intention to reach "net zero emissions" via NbS by 2050, was not enough to avoid a negative verdict from the Dutch justice system in 2021. A civil court ruled that by 2030, Shell must reduce its net CO₂ emissions by 45%, relative to 2019 levels. [8]

Most of the news stories that celebrated the historic moment of the judicial condemnation of a major polluter omitted the adjective "net" that precedes the word "emissions". However, there is a big difference between "reducing emissions" and "reducing net emissions". This difference is crucial to the measures that Shell and other mega-polluters (that, we hope, will also be called to account legally in the future) will take or fail to take to legalize their situation.

Reduction of net emissions includes the possibility of a polluter "offsetting" part of the emissions it causes instead of actually reducing them. Such offsets take place via the acquisition of carbon certificates originating from projects that remove greenhouse gases from the atmosphere or that supposedly avoid their emission. Thus the interest behind NbS is explained: to provide cheap carbon credits that allow maximum exploration of oil and gas within legal limits. Differently from its partner NGOs, Shell clearly reveals the true purpose of NbS projects: "Carbon credits are at the center of

A critical reading of Shell's NbS projects confirms the same suspicion that had already emerged from analyses of the TNC proposal: the two "natural pathway opportunities" – avoided forest conversion and natural forest management – are in fact nothing more than the old REDD. The analysis by Counsell and Lang concludes that

'Natural climate solutions' is largely a re-branding of what has been known for the last ten years as 'reducing emissions from deforestation and forest degradation', or 'REDD'. [...] Roughly three-quarters of the claimed mitigation potential for what's now called 'natural climate solutions' is in fact in the form of trees and forests, so is essentially the same as REDD+

The two main projects to generate Shell's carbon credits are located in Peru and Indonesia. They exemplify all the main defects and disastrous impacts of the REDD mechanism, which have been pointed out for a long time and have made the concept end up becoming discredited.

In Peru, the Quichua community of Puerto Franco is currently suing the promoters of the REDD+ project in the *Parque Nacional Cordillera Azul*, from which Shell buys credits. [9] The accusations made by the indigenous community there range from the absence of consultation on the project, to the prevention of recognition of their lands, all the way to exclusion and criminalization of their traditional land use. [10] And from the beginning this has been the "elephant in the room" of discussions about REDD: within the logic of "emissions avoided", any interference with the "ecosystemic service" (in the case of REDD, the service of carbon sequestration) by human beings – through subsistence agriculture or the use of wood to make houses or canoes – should be avoided. In other words, it would be better if the peoples and communities that traditionally coexist with the forest did not live in it, so that the forest might "do its job" better, i.e., generating credits for polluters more efficiently.

The Katingan Mentaya project in Indonesia, which sells carbon credits to various large companies besides Shell – including Volkswagen and British Airways – claims to avoid, by means of the conservation of peat forests, "the release of greenhouse gases equivalent to 447,110,760 tons of carbon dioxide over the course of 60 years". [11] This would make it the biggest avoided forest carbon emissions project in the world, with a total climate impact equivalent to France's annual emissions.

An analysis of this project by Greenpeace, in October 2020, reveals the most typical failures and paradoxes of REDD projects. [12] One is mainly dealing here with problems referent to three technical aspects, which in the conservationist jargon are called *additionality*, *leakage* and *permanence*.

Additionality means that the promoter of the project must "prove", in a scenario without the REDD project, how many tons of carbon would theoretically be emitted owing to deforestation and forest degradation. The difference between this hypothetical scenario without the project and the real scenario with the project allows one to then calculate the emissions "additionally" avoided by the project, and determines the amount of credits that can be sold. Obviously, the interest of the promoter is to make this hypothetical scenario as negative as possible, and this was detected by Greenpeace in the Katingan Mentaya project. The organization concluded that "it is highly probable that the forest would have stored comparable amounts of CO₂, even without the project".

So called *leakage* consists in the simple fact that in general the banning of deforestation in one area

implies an increase in deforestation in nearby areas. In the words of Greenpeace's report about the Katingan Mentaya project, the "destruction of forest cover that may have been prevented in the project area is taking place elsewhere".

Permanence regards the promise of the seller of credits: the carbon would remain stored in the project's forests for its whole duration – 60 years, in the case of Katingan Mentaya. However, there always are circumstances that the project promoter cannot foresee, let alone control. At the project in question, in recent years there were forest fires and deforestation in surrounding areas, as well as illegal deforestation inside the area, which impacted the ecosystem.

The various "make believe" maneuvers found in this project are general characteristics of all REDD projects, and have made a growing number of organizations – mainly those that do not accept money from corporations, like Greenpeace – reject this mechanism, considering it to be a major farce. The Greenpeace report summarizes the illusion: "While buyers of the carbon credits continue to release CO₂ into the atmosphere, where it will impact our climate for about 100 years, it is far from certain whether the forest will still be standing in 20 or 50 years".

However, information like that in the Greenpeace report or from the Peruvian association of the Quichua community rarely reach end consumers. To the latter, the company reinforces the lie through advertising campaigns that guarantee that by filling up at Shell gas stations, they will be driving "carbon neutral" cars thanks to the company's NbS projects.

Image

Shell billboard in London: “Make the change, drive carbon neutral. Shell Go+ members are now driving carbon neutral, helping to protect and replant forests. Join them today!” Photo: Reuters

The paradox of “corporate social responsibility” and the myth of “private sector engagement”

Shell, like any other corporation, was created to provide its shareholders with the maximum profit possible. It will always choose to meet or circumvent legal obligations with the best possible cost-benefit ratio. It would be greatly naïve to ascribe to it (or to any other corporation) any commitment to the environment or climate issues. In his book *The Corporation*, Joel Bakan [13] summarizes why this kind of promise by corporate representatives is necessarily false:

The law forbids any motivation for their actions, whether to assist workers, improve the environment, or help consumers save money. They can do these things with their own money, as private citizens. As corporate officials, however, stewards of other people’s money, they have no legal authority to pursue such goals as ends in themselves – only as means to serve the corporations own interests, which generally means to maximize the wealth of its shareholders. Corporate social responsibility is thus illegal – at least when its genuine.

The above notwithstanding, under growing pressure from lobbies, UN agreements about the climate and biodiversity have placed higher and higher bets on “private sector engagement”. In other words, they are handing over the fate of our planet to the corporate logic of maximizing profits.

In this regard, solutions “compatible with the market” promoted at the UN level – like REDD or NbS – manage to be worse than nothing, since as well as giving a free rein to the accelerated destruction brought about by corporate greed, they prevent society from having a clear perception of the problem. They obfuscate the real causes of the problem. And unlike the words written by Shell on its billboard (“make the change”), policies like NbS and REDD delay or make impossible the radical systemic change that is necessary, obscuring the true causes of the contradictions that befall us.

The horrible reality that euphemisms and greenwashing seek to cover up, but that inevitably reaches us, is the following: after nearly 30 years of the existence of climate and biodiversity agreements, with the climate collapse beginning, the fossil fuel business has never done better. Since the adoption of the Paris Agreement in 2015, global banks have lent fossil fuel corporations US\$2.7 trillion, with the annual amount increasing every year since 2016. [14, p. 71]

The totalization of the logic of capital and the myths of “miraculous weapons”

Counsell and Lang suggest that the “scientific” study about “natural climate solutions” amounts to no more than magical thinking and fantasy. The replacement of the discredited acronym REDD by the NbS euphemism is mere propagandistic rascality. But are they not being too soft? The audacity and ferocity with which polluting corporations and NGOs with an ecological veneer have obfuscated and distorted reality in recent years signals something even more fundamental.

In order to make matters clearer, one needs to highlight some stages in the social perception of the ecological crisis since the 1970s. From that decade, when the “energy crisis” entered the agenda of industrial society for the first time, two publications are worthy of note. The first is the scientific study by Nicholas Georgescu-Roegen, titled *The entropy law and the economic process*. [15] In this work,

the Romanian physicist applied thermodynamic theory to show that all natural resources are irreversibly degraded when put to use in economic activity, and that the economies of modern industrialized society, geared as they are to growth, accelerate this process dramatically. Georgescu-Roegen concluded that to avoid economic and ecological collapse, negative economic growth would be necessary.

One year later, the report *The Limits to Growth* [16] – resulting from a study commissioned by the Club of Rome – used computer simulations to make the prognosis that without substantial changes in the consumption of resources, a sudden and uncontrollable decline both of population and of industrial capacity would be inevitable. Both studies immediately met with resistance from economists and business people. However, the fundamental contradiction between infinite economic growth and finite natural resources was made explicit from that moment on.

During the two following decades, marked by the gradual consolidation of neoliberalism, governments had to present plans to tackle the environmental and climate crises, which could no longer be ignored. The concept of “sustainable development”, which ended up guiding the conventions created at the Rio-92 summit, was based on the assumption that economic growth and environmental preservation could in principle be made compatible “if industrialized nations can continue the recent shifts in the content of their growth towards less material- and energy-intensive activities and the improvement of their efficiency in using materials and energy”. [17, p. 55] In this conception, the opposition between growth and preservation was timidly recognized, but the possibility of a “middle position” that might reconcile the two was affirmed.

In the new millennium, financial capitalism dominated the world economy and led it to the crisis of 2008. Since then, capital has found new bases for its accumulation in the accelerated financialization of common goods like water and of public services like education and health. And the financialization of nature – i.e., its redefinition as “natural capital”, already proposed by economists Herman Daly and Robert Costanza [18] in the 1990s – is now offered up as a solution for the imminent collapse of the economy. Ecological processes like carbon sequestration, conservation of biodiversity and of water sources, among others, now redefined as ecosystemic services, are offered as profitable economic assets inasmuch as they become scarce or threatened. In other words, the crisis becomes a business opportunity.

Reinvented, virtualized and capitalized nature no longer opposes growth. On the contrary, it needs economic valorization and investments to be “saved”. This logic started becoming dominant especially after 2012, when during the Rio+20 conference the Green Economy was propagated and the main representatives of the financial sector launched the Natural Capital Declaration. [19] It was from this moment on that the discourse of “solutions” and “win-win” situations began to obfuscate more and more the debate about the need to reduce activities that harm the environment and the climate. It is in this context that Nature-based Solutions fit.

In the face of increasing emissions, of the unbridled race to economic growth and of the ever more disastrous consequences of climate change, we cannot reduce these discursive constructs to mere astute euphemisms or marketing tricks. We are dealing with deadly delusions, with the complete loss of grasp of reality, given that the totalization of the logic of capital over nature and the absolute imperative of economic growth have led to a direct denial both of reality and of the urgent and immediate necessity to radically reduce emissions and leave fossil fuels in the ground.

It is not an exaggeration to compare this delirious war that capitalism is fighting against life on Earth (and that can only be lost) with the Nazi war for world domination and their loss of grasp of reality that

marked its final stage. High-ranking officers fueled the fantasies of “miraculous weapons” and sustained among people the illusion of a “final victory” for them to remain obedient. Today, corporations, banks and big NGOs maintain the illusion of fantastical environmental and climate solutions to maintain the capital flows that sustain them.

NbS – “final solution” for the Amazon forest and its inhabitants?

The first victims of this war are the peoples of the forest. Divided among themselves in the face of green capitalism’s proposals, some are succumbing to the promises of NGOs like TNC and IUCN. In IUCN’s presentation of the “Amazon 2.0” project, the following may be read:

The project in Brazil is implemented by IUCN-Brazil and operates in 3 territories (Alto Purus and Mamoadate Indigenous Lands; Chandless State Park) and with 4 indigenous (Kaxinawa, Madjá, Manchineri and Jaminawa) and community peoples in Chandless Park, Acre state. The work area is one million hectares and has the peculiarity of being a cross-border place, because it borders Peru, creating a context with unique challenges. [20]

A project formulated by the Pro-Indigenous Commission of Acre (CPI-Acre, local partner of IUCN) for community work [21] has as its main objective “strengthening the models of forest governance in the territories”. In the 65 pages of the document, the words “carbon”, “REDD” or “REDD+” do not appear even once. However, IUCN’s web page reveals that the specific objectives of the project include the “application of REDD+ safeguards” and an “emphasis on following up national REDD+ strategies”. [22]

Not by chance, this IUCN program, funded by the European Union, chose the state of Acre as its doorway into Brazil. For two decades, the state government – self-styled the “government of the forest” – created a vast institutional and legal framework to make feasible the sale of carbon certificates and other “environmental services” based on its extensive forests.

Land invasions by loggers and ranchers – currently facilitated by the Bolsonaro government –, as well as the planned highway from Pucallpa (Peru) to Mâncio Lima (Acre), will serve to further valorize the carbon stocked in these forests, since the project will have greater “additionality”, given the threat of deforestation related to a megaproject that neither REDD nor NbS aim to prevent.

At the same time, a growing number of indigenous people, riverine populations, *quilombolas* and other forest dwellers are worried about the threat of the green coup that aims to transform the Amazon region into a carbon sink. Ultimately, this is what the vision of Amazon 2.0 boils down to. In the Letter in Defense of the Amazon and Mother Earth (reproduced in full in this dossier), written during a gathering in May 2021, with the participation of representatives of three of the four peoples mentioned by IUCN, we read:

We denounce that we are besieged by direct violence as executed by illegal loggers, plantation and ranch owners and mega projects, exacerbated by the Brazilian fascist and genocidal government policy, and by indirect, yet no less severe, violence of “green capitalism” with its projects and programs – REDD+, REM, PSA and “Nature-based solutions”.

A REDD project in the lands of the Munduruku people made headlines in 2012, when irregularities in the agreement with the “Celestial Green” company were exposed. Cases such as this contributed to the ever greater discrediting of the REDD mechanism. The 2015 ad for ethno-tourism in Munduruku communities (image above) expresses the self-representation that indigenous peoples are being led to take on in the current capitalist context: “If you want to take care of the forest, you need to invest in us – Indigenous Peoples – because no one takes better care of the forest than we do”. Image: Law in Action

The two types of violence – direct and indirect – are motivated by the same capital accumulation interest and, at the end of the day, the former makes the latter possible. Inasmuch as the government fails to protect the peoples of the forest against invasions, or even encourages them, these are forced to ally with polluting corporations and serve their offset interests. Direct threats to the territory play in favor of polluters, since, according to the logic of “additionality”, they increase the value of the non-emitted carbon. With these schemes for the financialization of nature, as already glimpsed by anthropologist Arturo Escobar in the late 1990s, communities are “finally recognized as the owners of their territories (or what is left of them), but only to the extent that they accept viewing and treating territory and themselves as reservoirs of capital”. [24, p. 335] Euphemistically “recognized” and presented in propaganda material as “guardians of the forest”, they will have their traditional practices and relation with the land restricted or vetoed as a function of coveted “ecosystemic services”.

The process of separation of self-sufficient communities from the land so that it can be submitted to a regime of capital accumulation is a fundamental and permanent condition for capitalist growth – as described by Karl Marx [25] and Rosa Luxemburg [26]. This so-called primitive accumulation arrives at its full effect as soon as the ecological crisis is transformed into a business. In the letter resulting from the gathering mentioned above, we read:

During the great flood that occurred in Acre in March 2021, many Indigenous Peoples’ communities, and fields and homes of peasants and riverside communities were destroyed, and many are still unable to adequately feed their families. Community hunting and wood use prohibitions and the environmental inspection systems in our territories have exacerbated the food and housing crises.

We do not know whether we have already passed the point of no return of the Earth system, neither do we know if a major climate and ecological collapse is something inevitable. But perhaps no less urgent is the following question that emerges from this situation: who are we as a society? Are we so decadent that we want to let ourselves be blinded as to the causes of our world’s destruction? How would we answer the question that will be asked in a few decades’ time: how could people let this happen?

We can still provide answers, we can still react! Before anything else, we must recognize that UN conferences on climate and biodiversity have already been appropriated by economic interests to a point where we can no longer expect actual changes to flow from them. COP-15 on biodiversity and COP-26 on climate, both held in the second half of 2021, further consolidated the policies of green capitalism.

We must unite, start taking action and answer the call of the indigenous peoples, quilombolas, riverine populations and small-scale farmers who decided to fight:

We appeal to Brazil and the world’s civil society who are in solidarity with our struggle for survival, for

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