



## **POLITICAL ECOLOGY OF THE GLOBAL SOUTH: THE AMAZON FUND**

*Ecologia política do sul global: o fundo Amazônia*

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### **ABSTRACT**

As a multidimensional field, development encompasses a variety of disciplines and schools of thought. It has been evolving throughout history with different definitions and approaches being utilized and continues to evolve as new elements are integrated. The environmental and temporal dimensions gained significant prominence in the 21st century, therefore the concept evolved to be also frequently mentioned as sustainable development. The following definition was used during the General Assembly of the United Nations in 2015: “Sustainable development recognizes that eradicating poverty in all its forms and dimensions, combating inequality within and among countries, preserving the planet, creating sustained, inclusive and sustainable economic growth and fostering social inclusion are linked to each other and are interdependent”. Political ecology is a scientific field closely connected to the development agenda, as its ultimate goal is to promote sustainable development. With a focus on participatory methods, stakeholder networks and root causes, it provides a systemic perspective to human-environment systems. Another important benefit is that it promotes the connection between science and policy-making. From the political ecology perspective, this paper analyses the Amazon Fund, an initiative implemented by the Brazilian Government in 2009 to promote sustainable development. In the following years after the implementation of the Amazon Fund, considerable decrease in deforestation was observed at the Brazilian part of the Amazon Forest, including a record low in 2012, indicating the effectiveness of the project. Among the main results, the paper calls for strengthened environmental governance, the promotion of adaptative and multilevel approaches to governance and data and information generation for sustainable development.

**Keywords:** Sustainable Development; Environmental Governance; Political Ecology; Sustainable Development Goals.

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## ECOLOGIA POLÍTICA DO SUL GLOBAL: O FUNDO AMAZÔNIA

*Political ecology of the global south: the Amazon fund*

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### RESUMO

Como um campo multidimensional, o desenvolvimento abrange uma variedade de disciplinas e escolas de pensamento. Ele tem evoluído ao longo da história com diferentes definições e abordagens sendo utilizadas e continua a evoluir à medida que novos elementos são integrados. As dimensões ambiental e temporal ganharam significativo destaque no século XXI, por isso o conceito evoluiu para ser também frequentemente mencionado como desenvolvimento sustentável. A seguinte definição foi utilizada durante a Assembleia Geral das Nações Unidas em 2015: “O desenvolvimento sustentável reconhece que erradicar a pobreza em todas as suas formas e dimensões, combater a desigualdade dentro e entre os países, preservar o planeta, criar crescimento econômico sustentado, inclusivo e sustentável e os fomentadores da inclusão social estão ligados entre si e são interdependentes”. A ecologia política é um campo científico intimamente ligado à agenda do desenvolvimento, pois seu objetivo final é promover o desenvolvimento sustentável. Com foco em métodos participativos, redes de partes interessadas e causas raízes, ele fornece uma perspectiva sistêmica para sistemas humanos-ambientais. Outro benefício importante é que promove a conexão entre ciência e formulação de políticas. Do ponto de vista da ecologia política, o artigo analisa o Fundo Amazônia, iniciativa implementada pelo Governo Brasileiro em 2009 para promover o desenvolvimento sustentável. Nos anos seguintes após a implantação do Fundo Amazônia, foi observada uma redução considerável do desmatamento na parte brasileira da Floresta Amazônica, incluindo uma baixa recorde em 2012, indicando a eficácia do projeto. Entre os principais resultados, o documento pede o fortalecimento da governança ambiental, a promoção de abordagens adaptativas e multiníveis para a governança e a geração de dados e informações para o desenvolvimento sustentável.

**Palavras-chave:** Desenvolvimento Sustentável; Governança Ambiental; Ecologia Política; Metas de Desenvolvimento Sustentável.

## INTRODUCTION

The development agenda has been gaining increasing attention ever since the 20<sup>th</sup> century, especially in its second half. Several events like wars, independence movements, environmental disasters and economic crisis brought up the questioning of how to address competing demands and at the same time generate higher living standards on a global scale. In the 21<sup>st</sup> century, the environmental agenda also emerged and became consolidated in this scenario as another key driver for the achievement of development. The understanding of progress became more complex and expanded then beyond simply economic growth to embrace also a variety of other issues such as poverty, education, hunger and the environment (Rogers, Jalal and Boyd, 2012).

Political ecology is a scientific field closely connected to the development agenda, as its ultimate goal is to promote sustainable development. With a focus on participative methods, power networks and root causes, it provides a novel approach to understanding human-nature systems and the issues that arise in this relation (Forsyth, 2003).

In this context, this paper examines the Amazon Fund, an initiative created by the Brazilian government to protect and support sustainable development in the Amazon forest, an ecosystem that is highly important to maintain environmental stability on local, regional and global levels. As sustainability issues encompass a variety of stakeholders, this is a particularly relevant initiative from a political ecology point of view as it creates an opportunity for dialogue between stakeholders, extending beyond financial flows to entail dialogues that can result in less unbalanced power relations. As a result, a more fertile situation emerges for the consolidation of sustainable development.

## Methodology

This paper conducts a literature review using scientific and institutional publications in order to provide a critical reflection on the proposed study object.

## Development: concept and approaches

The definition of development is complex, with a variety of perspectives and elements interacting. While for most of the time the economic component has always played a central role in the development agenda, more recently environmental and social concerns have also been gaining significant focus (University of London, 2020).

The definition mentioned in the Resolution Adopted by the General Assembly of the United Nations in 1997 is: *“Development is a multidimensional undertaking to achieve a higher quality of life for all people. Economic development, social development and environmental protection are interdependent and mutually reinforcing components of sustainable development.”*

In the 21<sup>st</sup> century, the environmental and temporal dimensions gained significant prominence, so the concept evolved to Sustainable Development. While its most straightforward definition is *“meeting the needs of the present without compromising the ability of future generations to meet their own needs”* (International Institute for Sustainable Development, 2020), the following definition is also mentioned in the Resolution Adopted by the General Assembly of the United Nations in 2015: *“Sustainable development recognizes that eradicating poverty in all its forms and dimensions, combatting inequality within and among countries, preserving the planet, creating sustained, inclusive and sustainable economic growth and fostering social inclusion are linked to each other and are interdependent.”*

Comparing the aforementioned definitions utilised by the United Nations, it is possible to perceive that the concept of development evolved to include more elements and to become more detailed. The economic dimension specifically became more scrutinized, giving space for subcomponents like inequality and poverty, a sign of the increasing understanding that development goes beyond economic growth.

Despite different points of view, an innate characteristic of development is that it represents something positive, that involves a given system evolving to a superior situation in which better conditions are enjoyed

(Society for International Development, 2020). A frequent critique about development however is due to being highly connected to a Western perspective that calls for a permanent need for change. Some indigenous cultures in different locations such as Oceania and South America do not understand that change is necessary, therefore just wish to remain as their current situation is, even in conditions with significant proximity with nature in rural settings that could be perceived as poor. Potentially a hybrid view considering both perspectives could be highly beneficial, with higher living standards as advocated by the West on one side and at the same time an integration with nature on the other side, in line with sustainable development.

Among the current landmarks regarding development, the Sustainable Development Goals (SDGs) defined by the United Nations are of special importance. It consists of the following 17 objectives to be achieved globally in order to foster higher living and environmental standards:

- SDG 1: No poverty;
- SDG 2: Zero hunger;
- SDG 3: Good health and well-being;
- SDG 4: Quality education;
- SDG 5: Gender equality;
- SDG 6: Clean water and sanitation;
- SDG 7: Affordable and clean energy;
- SDG 8: Decent work and economic growth;
- SDG 9: Industry, innovation and infrastructure;
- SDG 10: Reduced inequalities;
- SDG 11: Sustainable cities and communities;
- SDG 12: Responsible consumption and production;
- SDG 13: Climate action;
- SDG 14: Life below water;
- SDG 15: Life on land;
- SDG 16: Peace, justice and strong institutions;
- SDG 17: Partnerships for the goals.

Of particular importance to this paper is SDG 17, that calls for partnerships for the goals. Under the political ecology perspective, partnerships are not only important as they strengthen sustainability initiatives, but also as they represent opportunities to assess current power networks in order to foster arrangements which are less asymmetric, so to facilitate the achievement of sustainable development. Considering that, the Amazon Fund represents a partnership for sustainable development and will be analyzed from a political ecology point of view.

Within SDG 17, the following target areas have been established: finance, technology, capacity-building, trade and systemic issues. Notably the financial dimension is important in international partnerships for sustainability initiatives, but it is also evident that it is not the only, nor should be the leading one. The other dimensions related to data, management and training are also important and they should all work together towards the objectives.

Another milestone in this scenario is the Paris Agreement, a document published in 2015 by the United Nations with the goal of promoting a common cause for ambitious efforts to combat climate change and adapt to its effects, with special attention to assist developing countries in doing so (United Nations Framework Convention on Climate Change, 2020). Its predecessor, the Kyoto Protocol, which was adopted in 1997 and after a complex ratification process entered into force in 2005, showed to be insufficient to adequately address the situation, therefore the Paris Agreement emerged (Rosen, 2015).

In the context of political ecology, the Article 6 of the Paris Agreement is of particular importance, as it aims at promoting integrated, holistic and balanced approaches that will assist governments in implementing their Nationally Determined Contributions through voluntary international cooperation. One of the main mechanisms of this Article for instance is the international carbon market, that would allow an overachiever in reducing

greenhouse gas emissions to sell reduction credits to a country that is struggling to reduce emissions (World Resources Institute, 2019). Therefore, global partnerships to achieve sustainable development are central elements in both the SDGs and the Paris Agreement, consequently there is significant momentum for projects such as the Amazon Fund to be undertaken.

The development agenda is closely linked with economics, power relations and globalization. As economies become increasingly more globalised, worldwide power networks become more common. A decision taken in one continent can affect lives of people in another, increasing the possibility of significantly unbalanced power networks. In this scenario, political ecology emerges as a key academic field that advocates for analysing such networks in order to understand the relations involved so to identify what are the ones that are possible and worthwhile interfering (Perrault, Bridge and McCarthy, 2015).

### **Political Ecology: new perspectives to Development**

Political ecology can be defined as the study of power relations and political conflict over ecological distribution and the social struggles for the appropriation of nature. It is a scientific field where power networks are analysed in order to deconstruct unsustainable modern rationality so to allow the construction of a sustainable future. It is a diverse field, integrating multiple disciplines from both the natural and social sciences, such as geography, anthropology, sociology and environmental studies, with the overall aim of better understanding nature-society relations in order to achieve a more just and sustainable development (Leff, 2015).

As analysed by Wisner et. al (2003), ecological modernization is the paradigm that has mostly prevailed regarding human-environment systems, a top-down and technocratic approach with a focus on technology to solve environment-related issues. However, towards the end of the 20<sup>th</sup> century, it became increasingly evident that a new perspective was necessary, mainly due to events such as over-population, social tumult against authoritarianism and economic crisis, which exposed that technology alone may not be the solution. A more comprehensive way of addressing such topics seemed to be necessary. Ecological democracy then emerged, a bottom-up paradigm highly connected to political ecology, as it involves a deeper understanding of the root causes of issues. In this context, political ecology significantly draws upon the ecological democracy point of view, as it calls for more participative initiatives to smoothen uneven power relations towards cooperation and dialogues. In this sense, political ecology is not just a scientific field but is also considered an epistemological project, as it calls for the promotion of a new approach in the analysis of nature-society relations (Perrault, Bridge and McCarthy, 2015).

From the ecological modernization paradigm, considering for instance a local population in a rural setting causing considerable environmental degradation, the causes for this situation could be pointed as over-population or lack of knowledge. That is, the reasons for this situation could be understood simply as due to an unexpected increase in the number of people, what demands more natural resources and generates more degradation, or a lack of knowledge about the relevance of the degradation being caused. The blame then is solely assigned to the local population for causing the problems and the solution proposed most likely would be a technological one. This is a shallow perspective however, that does not consider the root causes of the problem. From the ecological democracy approach, which is the paradigm in which political ecology builds upon, a deeper analysis would be necessary, in order to identify social and economic patterns that influence the situation. If the population lacks knowledge, a wider analysis then would have to be undertaken in order to understand why they are not having access to adequate education, what could also be beneficial in terms of group planning in order to avoid exaggerated population growth.

As a result, root causes represent a key element in political ecology. In order to have a clear view of all relevant relations in a power network, it is necessary to have a broad view of the situation in a variety of dimensions, including time and space. The conventional paradigm prevailing currently in most sectors when analyzing problems is largely influenced by immediatism, a characteristic that calls for straightaway answers. While resolving situations as soon as possible is certainly important, it is also relevant not to overlook important factors influencing the situation, that can seem at first not to be directly connected to the situation but that actually even indirectly do play an important role (Bryant, 2015).

Another important element of political ecology is that it also aims to narrow the gap between science and politics, as it considers important that ecological aspects are better integrated into decision-making processes. It acknowledges that ecological science and politics may not always be sufficiently integrated, being necessary to analyze how they co-evolve and integrate them, in order to support sustainable development (Forsyth, 2003).

Political ecology considerably builds on the Marxist perspective. As pointed out in Marx's critical theories about society, economics and politics, capitalism develops essentially through an abusive class struggle, with the exploitation of the working class by those who control the means of production, being a crisis-prone system. Likewise, political ecology builds on the view that the current trajectory under global capitalism can be not only socially, but also environmentally disastrous, as often the governance of environmental resources take place in considerably asymmetric power networks (Bryant, 2015).

As analyzed by Eguavoen et. al (2015), political ecology is closely linked with climate change adaptation. Ever since the end of the 20<sup>th</sup> century, it has become increasingly evident that mitigation is not enough to address climate change, being necessary to focus also on adaptation. Due to the amount of greenhouse gases already released in the atmosphere, even in the hypothesis of mitigating emissions to zero, changes in climatic patterns would still occur, making it also necessary to focus on adaptation to such changes. This can be observed also for instance in the focus of the Kyoto Protocol that was on mitigation, and then later the focus of the Paris Agreement on adaptation. A considerable challenge that arises in this situation is that adaptation requires more changes in power balances than mitigation. The authors highlight the emergence of climate change adaptation arenas, a situation in which a variety of stakeholders are involved in order to promote adaptation to climate change but at the same time also bring bias related to particular interests. If not carefully considered, this scenario could even lead to a Green New Deal, a new profit frontier that instead of properly addressing climate change adaptation demands could generate disturbed initiatives aimed mainly at generating profits for specific groups than properly generating overall sustainable development.

An example of how uneven power relations can affect development of communities is what is called by Eguavoen et. al (2015) of Politics of Rain. The authors highlight the innate human need to assign blame regarding what people understand to be unfortunate situations, such as lack of rain that can affect food production and trade. There is the necessity of assigning blame, they argue, as this means understanding the situation. This can happen without any proper scientific support, however, generating misinformation and wrongly justified conflicts. Local communities hence can become susceptible to manipulation of local leaders that can persuade them to behave and perform tasks accordingly with private interests. Through a political ecology perspective, one possible solution to diminish the asymmetry in this power network could be for instance education, in order to inform people about how the hydrological cycle works as well as about how periodic anomalies may happen. Additionally, promoting the diversification of food production and trade options would make people less vulnerable to this kind of situation.

In order to overcome this situation, the authors call for multilevel and adaptive governance, two approaches to governance which are essentially participative and multidimensional and are focused on enhancing power networks towards more democratic practices. Multilevel governance represents a solution to current sustainability issues in different scales as it works in an upwards manner and as it advocates that the distribution of political power and responsibility across multiple jurisdictions can achieve better results when dealing with the complex problems societies face nowadays than the classical monocentric state governance. Moreover, nowadays there are an increasing number of governance elements emerging in different spatial scales, such as new regulations, mechanisms and organizations. In a digitalized world, this happens in a particularly rapid pace. Consequently, concomitantly with multilevel governance, it is also fundamental to promote adaptive governance, an approach that highlights the importance of institutional flexibility in order to adapt initiatives as the results of managing complex socio-ecological systems provide valuable learning experiences (Eguavoen et al, 2015).

As pointed out by Swyngedouw (2009), currently natural patterns should rather be perceived as hybridized socionatural patterns, considering the magnitude of anthropic interference nowadays. Consequently, insisting on the separability of the social and physical aspects is an inadequate approach to addressing environmental issues. He argues that the hydrological cycle is rather a hydro-social cycle, and that by acknowledging this, policies in the field would provide better results, instead of only focusing on technological solutions that address the physical component alone.



Furthermore, as stated by Bryant (2015), exploiting natural resources is inevitably a matter of governing people. In this context, there will naturally be hierarchies, with layers at the top more focused on designing the strategies and layers at the bottom more focused on implementing them. While it is unlikely that hierarchies will cease to exist, the promotion of adaptive and multilevel governance in the context of political ecology becomes highly relevant, in order to promote participative and well-informed decision-making towards sustainable development.

### The Amazon Fund through a Political Ecology perspective

The Amazon Fund is a global multistakeholder platform that aims to foster sustainable development in the Amazon forest. It began in 2009 in Brazil and later evolved to consider also international cooperation in the region. It works by collecting financial resources and applying them to generate information and deploy environmental management best practices towards sustainable development (Brazil, 2020).

The Amazon rainforest is one of the most important biomes in the world, playing a fundamental role for overall environmental quality that sustains life on Earth. It is the largest tropical rainforest in the world, housing approximately 10% of the world's biodiversity and 15% of its freshwater in 6,7 million km<sup>2</sup>, equivalent to 1% of the planet's surface. It provides ecological services that are important for the whole globe, affecting ecological patterns on a planetary level. Brazil contains 65% of the Amazon and the following countries also have the forest in their territories: Peru, Colombia, Bolivia, Ecuador, Venezuela, Suriname, Guyana and French Guyana (Yale Global Forest Atlas, 2020). Image 1 shows the location of the forest.

**Image 1** – Amazon Forest location in South America

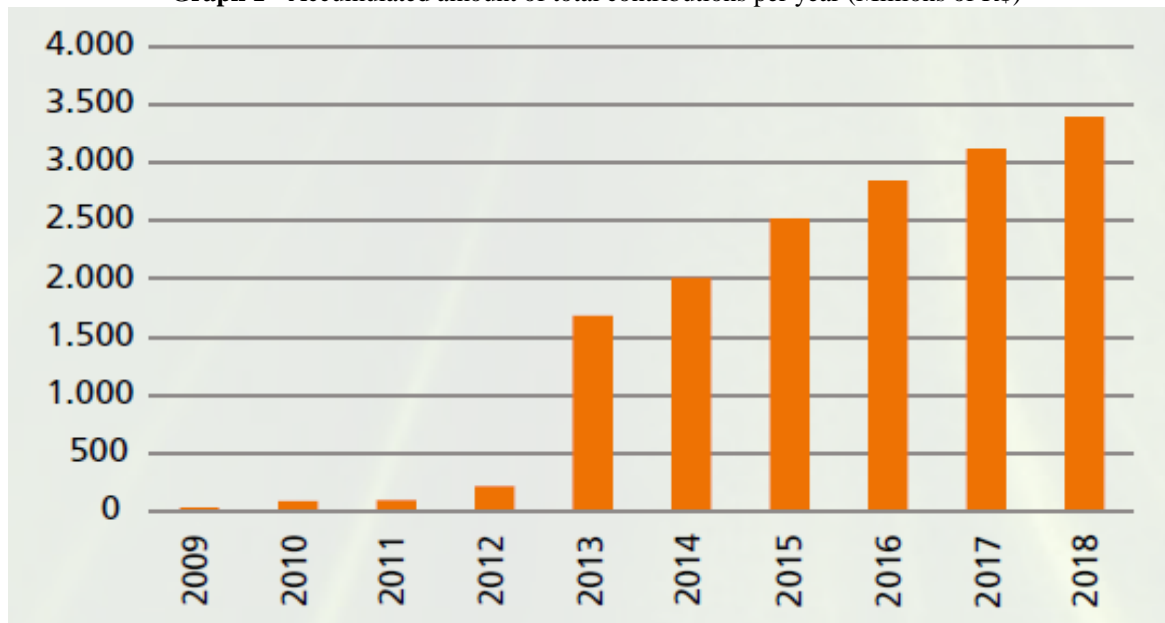


Source: Adapted from National Geographic, 2020.

Considering the global importance of the forest, the Fund represents an important initiative to combine global efforts towards sustainable development. It accepts financial resources from stakeholders in different sectors, such as from governments and private companies, making it a diverse platform. The region is fully composed of developing countries therefore the lack of financial resources is often a barrier for environmental protection.

The focus of this project is to promote sustainability, therefore the financial intakes do not accrue financial results. Until the end of 2018, the total amount received by the Fund in local currency is R\$ 3.400.000.000,00 (or around 750.000.000,00 euros) and approximately 55% of this value has been spent in over 100 projects in the region, in four different categories: science, innovation and economic instruments; monitoring and control; land use planning and sustainable production. Of this total value, the government of Norway contributed with 93,8%, the government of Germany contributed with 5,7% and the Brazilian oil company Petrobras contributed with 0,5%. Graph 1 show the accumulated amount of total contributions per year in millions of the local currency, the Brazilian Real. It is possible to see that as the contributions have been increasing, the project carries significant potential as well as satisfactory governance standards.

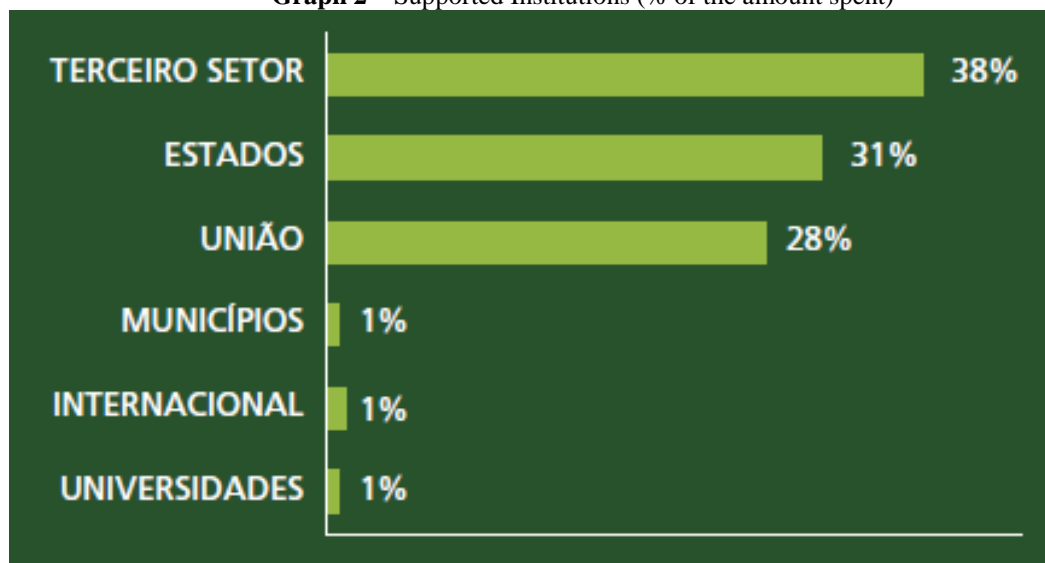
**Graph 1** - Accumulated amount of total contributions per year (Millions of R\$)



Source: Brazil, 2019.

From Graph 2, it is possible to see that most of the supported projects are linked to organisations in the third sector, states or with the federal government, whereas only a few to municipalities, international and universities. For better results, it is important to focus as well on these latter three categories, specially to achieve results on the local level as well as results connected to academia.

**Graph 2** – Supported Institutions (% of the amount spent)

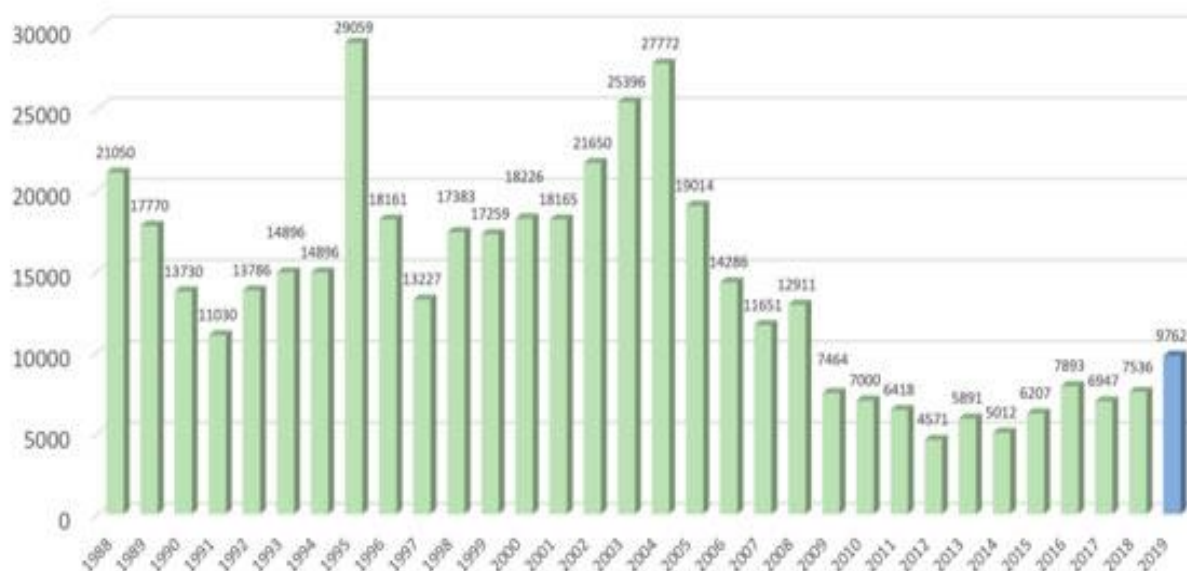


Source: Adapted from Brazil, 2019.



From graph 3, which shows the deforestation rate in the Brazilian Amazon in km<sup>2</sup> per year, it is possible to notice that from 2009, when the Amazon Fund started operating, until 2018, the deforestation was kept to a minimum (below 8.000 km<sup>2</sup>/year) when compared to the previous two decades, indicating the effectiveness of the Fund and its supported projects. In 2012, the record low of 4571 km<sup>2</sup> was recorded, and in 2019, a significant increase took place.

**Graph 3** – Deforestation rate in the Brazilian Amazon (km<sup>2</sup>/year)



**Source:** National Institute for Space Research, 2019.

This initiative has a connection with political ecology as by fostering a multistakeholder approach it is possible to integrate different points of view from local, regional and global levels in order to negotiate and dialogue about different perspectives. For instance, one of the goals of the initiative is to foster sustainable production, by utilising sustainably products provided by the forest that could have a commercial value in order to generate income for local communities. So far, 162000 people have been benefited from local sustainable production practices (Brazil, 2019). This is an opportunity for the local people to have a say and add their knowledge about the place to the conversation, differently from the common approach that an external stakeholder arrives to make profit out of the forest with inadequate environmental standards and without consulting the local population. This is an opportunity therefore for sustainable development to be implemented in a participative manner.

The Fund has also so far contributed in the region to register 746000 properties that lacked adequate registration, has supported 687 ground inspections, has contributed with 190 conservation units and has fostered 465 scientific or informative publications (Brazil, 2019).

Political ecology advocates for the assessment of power networks in order to identify what relations to interfere. While donors to the Fund can not interfere in Brazilian politics, they can interfere indirectly by blocking financial contributions. In 2019, the first year of a presidential administration in Brazil that is inclined towards low environmental standards, approximately 65 million euros to the Amazon Fund were suspended by the governments of Norway and Germany, that would donate half of this amount each, due to a significant increase in the deforestation rate compared to the previous year (Reuters, 2019). In this power network, Brazil has authority on the politics and initiatives undertaken in the country, whereas the contributors have authority on the financial intakes they provide. However, while blocking the funding sends a message about the importance of sustainable development and is intended to influence Brazil to pursue sustainable practices, the situation consists in a paralysation of sustainable development. Therefore, it is important that this dialogue evolves through the

production of knowledge and studies to become more than simply about financial resources, but rather on how nations can work collectively towards global sustainable development.

While financial contributions are meaningful at the moment, the Fund should evolve to work with other organisations in the Amazon region to work as a space for dialogue, where involved parties can have an opinion and contribute with ideas. Whereas the financial aspect is important, it does not bring solutions without proper data, information, management and knowledge. Consequently, it is crucial that the environmental governance as a whole in the region is strengthened, considering in an integrated manner the different types of mechanisms, organisations and regulations. It is also fundamental, under the concept of climate change arenas, that sustainable development remains as the most important goal in the region, avoiding the interest of specific groups to prevail. The concepts of multilevel and adaptative governance are of special importance in this scenario. The local communities with local knowledge of the region can contribute upwards to the design of sustainable development strategies. Likewise, adaptative governance can be highly beneficial in this context. Over a 100 project have been supported by the Fund, each one representing a learning opportunity for the governance in the region to be continuously strengthened.

## CONCLUSION

The Fund analysed in this work was created with the primary idea of collecting financial resources for the protection of the Amazon forest. While financial contributions are important in the region, it is fundamental in order to achieve better results that this project also evolves beyond financial matters, focusing significantly as well in the generation of data and in the implementation of environmental management best practices. Financial intakes may eventually not be necessary anymore or its demand may be significantly reduced in the future, therefore the importance of the financial dimension will be diminished whereas the importance of the data and management dimensions will grow. The fact that despite being called a Fund the project does not accrue financial results also indicates a trend in this direction towards a management organisation. Moreover, it is fundamental that the concepts of multilevel and adaptative governance as well as climate change arenas are taken into consideration.

This initiative is important to support sustainable development in the region, but it is also important highlighting that for strengthened environmental governance in the region it is important that it works in connection with other alike mechanisms and organisations. As stated by Abessa, Famá and Buruaem (2019), there has been recently a systematic dismantling of Brazilian environmental laws in order to promote economic growth. While economic growth is important for the country, it is also important that it happens in alignment with environmental aspects in order to achieve sustainable development. Economies rely on natural patterns to operate, such as the hydrological and other biogeophysical cycles, consequently a pure focus on economic growth without considering the foundations on which it happens may generate gains on the short-term but difficulties on the long-term. In this context, it is also important highlighting that neglecting environmental concerns over economic ones is not a new phenomenon nor is restricted to one location. Consequently, the integration between these two sides should also be a global agenda in order to achieve worldwide sustainable development.

Moreover, the Fund represents an important opportunity for the implementation of adaptative and multilevel governance in the political ecology context, being significant to attenuate asymmetries in power relations in order to promote dialogues and cooperation. Consequently, it is important to steadily encourage the participation of a variety of stakeholders from different sectors that can have a meaningful contribution on the matter. So far, the contributions have been sent from governments on the federal level and a small portion from the private sector, but there is potential to receive contributions from other sectors such as academia and others government levels.

Strengthening this project can be highly beneficial for sustainable development both in the region and globally. Through international and multistakeholder cooperation, the countries in the region can make better informed initiatives to protect the Amazon forest in their territories. As the forest encompasses different countries, there is the opportunity that one can learn from the other as the results are generated. Similarly, the results of this Fund can inform analogous initiatives globally aimed at protecting and bringing sustainable development to this type of forest, especially in tropical areas such as in Central Africa and South East Asia.

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