UNIVERSIDADE ESTADUAL DE CAMPINAS
Instituto de Geociências

THAIS APARECIDA DIBBERN

THE ADOPTION OF THE SUSTAINABLE DEVELOPMENT GOALS BY THE SCIENTIFIC COMMUNITY: A STUDY ON THE SÃO PAULO RESEARCH FOUNDATION (FAPESP)

A ADOÇÃO DOS OBJETIVOS DE DESENVOLVIMENTO SUSTENTÁVEL PELA COMUNIDADE CIENTÍFICA: UM ESTUDO SOBRE A FUNDAÇÃO DE AMPARO À PESQUISA DO ESTADO DE SÃO PAULO (FAPESP)

CAMPINAS
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TESE APRESENTADA AO INSTITUTO DE GEOCIÊNCIAS DA UNIVERSIDADE ESTADUAL DE CAMPINAS PARA OBTENÇÃO DO TÍTULO DE /DOUTORA EM POLÍTICA CIENTÍFICA E TECNOLÓGICA

THESIS PRESENTED TO THE INSTITUTE OF GEOSCIENCES OF THE UNIVERSITY OF CAMPINAS TO OBTAIN THE DEGREE OF DOCTOR OF SCIENTIFIC AND TECHNOLOGICAL POLICIES

Orientadora/Supervisor: Profa. Dra. Milena Pavan Serafim

ESTE EXEMPLAR CORRESPONDE À VERSÃO FINAL DA TESE DEFENDIDA PELA ALUNA THAIS APARECIDA DIBBERN E ORIENTADA PELA PROFA. DRA. MILENA PAVAN SERAFIM

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Muito obrigada!

Thais

ABSTRACT

The aim of this research is to investigate and analyze the process of adoption of the Sustainable Development Goals (SDGs) by the Latin American scientific community, taking as a study the case of São Paulo Research Foundation (FAPESP). In other words, it seeks to understand the motivations that led to the incorporation of the SDGs by the Foundation, as well as the impacts on the scientific community of São Paulo, taking into account the recent context of the scientific community's performance in relation to the SDGs. Methodologically, the study is carried out based on bibliographic and bibliometric research, document analysis and, application and analysis of semi-structured interviews with professors-researchers who integrate the institutional structure of the Foundation. The theoretical framework used in this thesis is aligned with the Latin American perspectives of the Social Studies of Science and Technology, as well as the studies on the Geopolitics of Knowledge. As results, it is highlighted that the emergence of the SDGs topic within FAPESP is directly related to four main elements: i. the Foundation's attempts to justify its importance, relevance and impact before the São Paulo society; ii. the relationship between the application of the knowledge generated/financed by the Foundation in the formulation of public policies (considering that the SDGs agenda is more directed and aligned to a political/governmental and development agenda); iii. the international cooperations established between the Foundation and other agencies and institutions, as well as in relation to the recent performance of the international scientific community regarding the SDGs; and, iv. the adoption of the SDGs agenda by the Government of the State of São Paulo, as a way to follow a governmental directive (even though the Foundation has scientific and organizational autonomy). These elements offer an overview of the process of approach and alignment of FAPESP with the SDGs, reiterating the argument defended in this thesis: the adoption of the SDGs via the discursive dimension. In this aspect, a criticism is outlined regarding the simplistic, unrestricted and superficial use of the agenda, considering the lack of a critical perspective and its adaptation in relation to the local and regional context. It would be interesting if FAPESP would take advantage of this window of opportunity to hold a more in-depth debate on how to approach and measure the contributions of research projects to the 169 goals of the SDGs, emphasizing the fulfillment of national/local goals established by the Brazilian government.

Keywords: Sustainable Development Goals; Research; Scientific Community; São Paulo Research Foundation.

RESUMO

O objetivo desta pesquisa consiste em investigar e analisar o processo de adoção dos Objetivos de Desenvolvimento Sustentável (ODS) pela comunidade científica latino-americana, tomando como estudo de caso a Fundação de Amparo à Pesquisa do Estado de São Paulo (FAPESP). Em outras palavras, busca-se compreender as motivações que levaram a incorporação dos ODS pela Fundação, bem como os impactos à comunidade científica paulista, tendo em vista o contexto recente de atuação da comunidade científica em relação aos ODS. Metodologicamente, o estudo é realizado com base em pesquisas bibliográficas e bibliométricas, análise documental e, aplicação e análise de entrevistas semiestruturadas junto aos professores-pesquisadores que integram a estrutura institucional da Fundação. O marco teórico utilizado nesta tese alinha-se às perspectivas latino-americanas dos Estudos Sociais de Ciência e Tecnologia (ESCT), bem como os estudos sobre a Geopolítica do Conhecimento. Enquanto resultados, destaca-se que a emergência do tema dos ODS no âmbito da FAPESP está diretamente relacionada a quatro elementos principais, são eles: i. as tentativas da Fundação em justificar sua importância, relevância e impacto perante a sociedade paulista; ii. a relação entre a aplicação do conhecimento gerado/financiado pela Fundação na formulação de políticas públicas (considerando que a agenda das ODS está mais direcionada e alinhada a uma agenda política/governamental e de desenvolvimento); iii. às cooperações internacionais estabelecidas entre a Fundação junto a demais agências e instituições, bem como em relação à recente atuação da comunidade científica internacional perante os ODS; e, iv. à adoção da agenda dos ODS pelo Governo do Estado de São Paulo, enquanto forma de seguir uma diretiva governamental (ainda que a Fundação seja dotada de autonomia científica e organizacional). Tais elementos oferecem um panorama sobre o processo de aproximação e alinhamento da FAPESP junto aos ODS, reiterando o argumento defendido nesta tese: a adoção dos ODS via dimensão discursiva. Nesse aspecto, traça-se uma crítica relativa ao uso simplista, irrestrito e superficial da agenda, considerando a inexistência de uma perspectiva crítica e sua adaptação em relação ao contexto local e regional. Seria interessante que a FAPESP aproveitasse essa janela de oportunidade para realizar um debate mais aprofundado de como aproximar e mensurar as contribuições dos projetos de pesquisa às 169 metas dos ODS, enfatizando o cumprimento das metas nacionais/locais estabelecidas pelo governo brasileiro.

Palavras-chave: Objetivos de Desenvolvimento Sustentável; Pesquisa; Comunidade científica; Fundação de Amparo à Pesquisa do Estado de São Paulo.

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ORIENTADORA: PROFA. DRA. MILENA PAVAN SERAFIM

Aprovada em: 13/03/2023

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Profa. Dra. Milena Pavan Serafim – Presidente

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Prof. Dr. Hudson Pacifico da Silva

A Ata de Defesa assinada pelos membros da Comissão Examinadora consta no processo de vida acadêmica do aluno.

Campinas, 27 de julho de 2022.

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SUMMARY

INTRODUCTION

During my academic trajectory, I had contact with several discussions about the themes of human rights, outreach activities, university-society relationships, and science and technology. When I was finishing my master's degree, I started to see the emergence of a specific theme in the context of Unicamp, mainly in the scope of the Human Rights Observatory (in which I participated), that caused me a lot of interest. Besides the discussions about the democratization of access to public universities, the establishment of policies that valued aspects of tolerance, citizenship, diversity, equity, and democracy, there were also discussions about sustainable development, especially the Sustainable Development Goals in the university environment.

When I noticed the mobilization of some members of the Observatory, as well as Unicamp in relation to this theme (mainly by the project of the International Hub for Sustainable Development, the Sustainable Campus project and the launching of the University Master Plan guided by the SDGs), I started my studies on the subject. Among the readings carried out, I noticed the prominence of studies developed by authors from the Global North, especially Europe, on the topic in question. There was also a growing Latin American scientific production on the subject. In general, these studies shared optimistic approaches in relation to the adoption of this global development agenda by the various actors of the scientific community. Among the most identified types of studies were those dealing with specific experiences in the context of European universities, which incorporated this agenda through teaching, research, and outreach activities (in this case, referred to as "University-community engagement activities" or "outreach activities").

Allied to the literature on the role of universities in relation to the SDGs, there were also specific productions published by international scientific associations, which produced content directed to their peers and to other actors in society (such as governments and civil society organizations). In a timider way, there were also publications about the role of research funding agencies, especially about funding lines that presented as a mandatory requirement the adoption of the SDGs in the proposals to be submitted. As an example, we can cite the Horizon 2020 funding instrument of the European Union.

At the same time, I was studying the topic, I noticed a movement within the São Paulo State Research Support Foundation (Fapesp), which entered into partnerships and agreements with other funding agencies on the topic of sustainable development, with calls that explicitly indicated the SDGs as justification for the proposal. In addition to the agreements,

webinars were also held on the major themes of sustainable development, organized mainly by its Programs (BIOTA, BIOEN, and Climate Change). There was also the launching of the platform "Fapesp and the Sustainable Development Goals", which categorizes all projects and aid funded by Fapesp based on the 17 SDGs. From then on, I asked myself: Why has Fapesp been adopting this agenda? What are the motivations behind this adoption? How does this agenda adopted by Fapesp relate to Brazilian socioeconomic and environmental problems? How have the Brazilian and Latin American scientific communities adopted this agenda?

Considering this context and the discussions held at the Department of Science and Technology Policy, the thesis was taking shape. During the first two years of the doctorate, the research objectives and methodology were redefined based on the discussions presented in this text.

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As part of the agenda-setting context, the 17 Sustainable Development Goals (SDGs), approved in September 2015 by the United Nations heads of state and government, present a series of targets to guide decision-making for the next fifteen years. These announce the scale and ambition of a new global agenda guided by a balance between four dimensions: economic, social, environmental, and institutional.

According to Sachs (2012), the idea of the SDGs gained rapid global relevance due to the growing urgency for sustainable development. Among its various interconnected topics, the SDGs aim to combat hunger and poverty; promote gender equality; decent work; access to water, energy, and basic sanitation; the fight against climate change; the recovery of terrestrial ecosystems; among other goals and targets (UN, 2015).

It is, therefore, a global agenda that continues the commitments made by the 8 Millennium Development Goals (MDGs), differing in terms of its scope, objectives, construction process, and implementation. Thus, for this agenda to be achieved by 2030, several governmental and non-governmental actors are called upon to collaborate through its adoption. One of these actors refers to the scientific community (among Higher Education Institutions, research funding agencies, research centers, and laboratories), in view of its real possibilities in the production and dissemination of scientific knowledge, expertise, and institutional performance.

Leal Filho et al. (2018) points out that, because it is an issue of global concern, several initiatives on the SDGs ended up emerging within the international scientific

community from various fields of knowledge, such as for example the "SDG Academy" educational platform, which offers online courses on the SDGs; the initiatives of the "International Science Council", which coordinates international actions on issues of great academic importance present in the SDGs; and the actions developed by the "Sustainable Development Solutions Network", which aim to promote projects that integrate the SDGs and the Paris Agreement on Climate Change through education, research and analysis of public policies, among others.

It refers, therefore, to a new global research agenda that is being incorporated through cooperation agreements between several actors that make up the scientific community. That is, it concerns "a common agenda [that] opens the door to more partnerships and different points of view on education and training," illustrating the growing influence by international organizations in the scope of national public policies in education and other areas of knowledge (AKKARI, 2017, p. 941).

Considering this context, the general objective of this thesis is to investigate the adoption of the Sustainable Development Goals (SDGs) in the agenda of the São Paulo Research Foundation (FAPESP) - one of the main agencies promoting scientific research in Brazil -, seeking to understand the factors that produced the incorporation of these and their impacts on inducing research. In other words, it seeks to understand why and how the SDGs were introduced into the Foundation's research agenda, the motivations, and the impact on the national academic community.

For specific objectives, we highlight:

1. Understand the process of construction of the Sustainable Development Goals and analyze the role attributed by these to the research community;

2. Identify and analyze the context and how the mobilization of international research associations around the SDGs occurs;

3. Analyze the context and the factors of insertion of the SDGs within the research agenda of Fapesp;

4. To map the cooperation/collaboration network between Fapesp and other actors of the national and, especially, international research community regarding the SDGs.

Therefore, the question that intends to be answered from this research concerns the factors that motivate the insertion of the Sustainable Development Goals in the agenda of the São Paulo Research Foundation. To achieve the general objective of this research, which has a qualitative-quantitative approach, bibliographic and documentary research activities are developed, as well as bibliometric analysis, and preparation and execution of semi-structured

interviews with nine professors who compose the senior management of Fapesp. The triangulation of methods was chosen due to the amount of information and detail that such procedures offer to the research.

It is important to highlight that the case of Fapesp was chosen due to its importance in relation to the Brazilian science and technology system, its role and influence in relation to the other agencies in the system, as well as its institutional autonomy regarding the São Paulo Government. As can be seen in the table below, Fapesp has a larger budget than the national agency CNPq, reinforcing the importance of its work not only for the Brazilian case, but also for the Latin American one.

Table 1. Budget of the Brazilian funding agencies

Brazilian funding agencies	**Budget (R$)**		
	2020	**2021**	**2022**
CAPES (Ministry of Education/Presidency of the Brazilian Republic)	3,08 billions	3,01 billions	3,84 billions
CNPq (Ministry of Science, Technology and Innovations/Presidency of the Brazilian Republic)	1,37 billions	1,23 billions	1,32 billions
FAPESP (São Paulo)	1,44 billions	1,78 billions	1,85 billions

Source: Author's elaboration according to the Portal da Transparência (Brazil).

In addition to its importance in terms of research funding, there is also the observation of the agency's direct alignment of the SDGs, as indicated previously. Preliminarily, the following is noted: besides the programs that are directly related to the sustainable development topic (Table 2), there is also the launching of the platform "Fapesp and the Sustainable Development Goals", with the categorization of each project and funding aid based on the 17 SDGs, the organization of events and the participation in research calls related to the SDGs. Such particularities will be addressed during the thesis.

Table 2. Fapesp's Programs

Programs	**Release Year**	**Aims**	**Total scholarships and grants (concluded and in progress)**
Research Program in Characterization, Conservation, Restoration and Sustainable Use of Biodiversity - BIOTA	1999	Its purpose is to map and analyze the biodiversity, including fauna, flora and microorganisms, but also to evaluate the possibilities of sustainable exploitation of plants or animals with economic potential and to subsidize the formulation of conservation policies for forest remnants. The projects are developed under the responsibility of a Principal Researcher linked to higher education	347

		and research institutions in the State of São Paulo. The selection is made by peer review.	
Bioenergy Research Program - BIOEN	2008	Supports research and development activities, using academic and industrial laboratories to promote the advancement of knowledge and its application in areas related to the production of Bioenergy in Brazil. The projects are developed under the responsibility of a Principal Researcher linked to higher education and research institutions in the State of São Paulo. The selection is made by peer review.	293
FAPESP Research Program on Global Climate Change - PFPMCG	2008	It aims to advance knowledge on the topic. The program's research results are expected to assist in scientifically informed decision making with respect to risk assessments and mitigation and adaptation strategies. The projects are developed under the responsibility of a Principal Researcher linked to higher education and research institutions in the State of São Paulo. The selection is made by peer review.	158

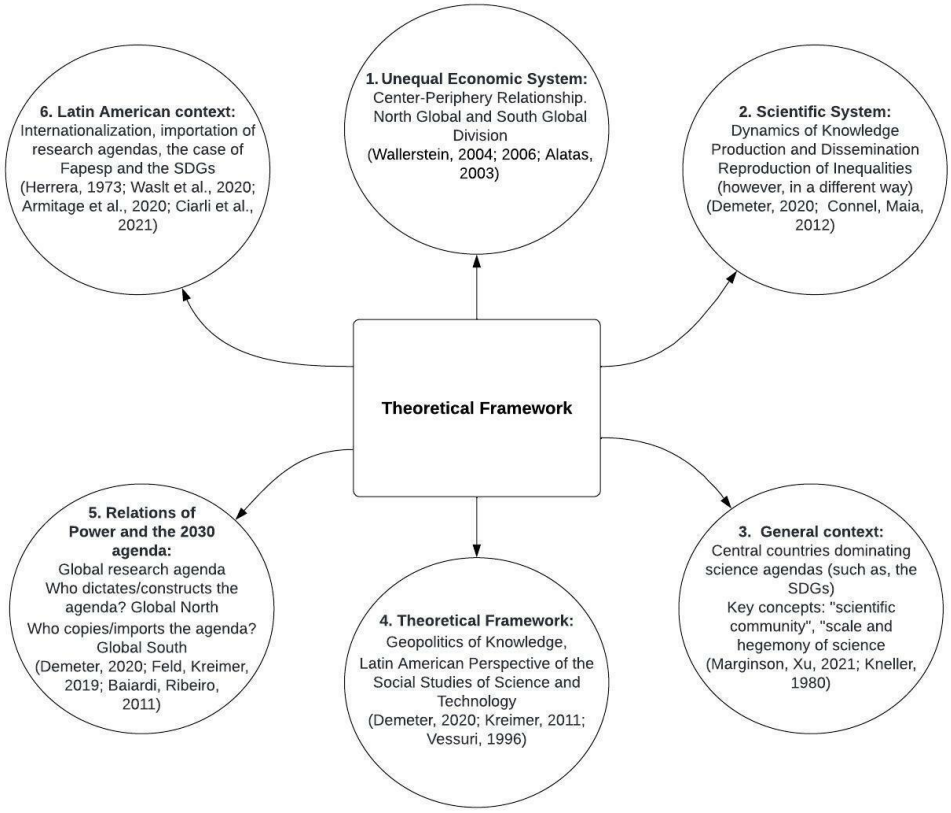
Source: Author's elaboration according to the Fapesp website.

As these programs were launched before the release of the SDGs, they signal that Fapesp and the São Paulo scientific community have an interest in the sustainability theme, attributing strategic importance to them. Considering this context and as for the theoretical framework, we have used the Latin American perspective of the Social Studies of Science and Technology, as well as studies on the Geopolitics of Knowledge. Therefore, the argument that is intended to be defended in this thesis goes through the following observation: there is a process of adoption/importation of the SDGs agenda by the scientific community of the global South and, considering our study on Fapesp, a simplistic and masked adoption of the agenda. Although the SDGs are not specifically a scientific theory as discussed in the first part of this thesis, this agenda has gained relevant dimensions when we consider the recent activities of the scientific community in general and, more specifically, in the global South (and, in our study, by one of the main research funding agencies in Brazil).

The SDGs refer, therefore, to a development and research agenda, being addressed and adopted in an increasingly constant way by this community. In this sense, the following lines of argumentation are outlined during this text: i. we will address the criticism arising from studies on the Geopolitics of Knowledge and the Latin American perspective of Social Studies of Science and Technology, as presented above; ii. besides, we will address the criticism related specifically to the adoption of the SDGs in the dimension of discourse, as well as its use as a way to legitimize and justify the relevance of the university and its social impact; and, iii. the lack of critical thinking related to the unrestricted and masked adoption of the SDGs by the

scientific community. It is important to emphasize that more emphasis will be given to our study on Fapesp.

Figure 1. Theoretical framework of the thesis



Source: Author's elaboration.

In general, this thesis has an exploratory and a quanti-qualitative approach, containing a total of three parts, as can be seen in the Table below. The article format was chosen for the presentation of the results, with the addition of a traditional chapter. Methodologically, the thesis was carried out based on literature and bibliometric review, document analysis, and the application/analyses of semi-structured interviews. Two software was also used, with a view to perform the bibliometric analysis (VOSviewer), as well as coding and analysis of the interviews (Atlas.ti).

Table 3. Thesis organization and methodologies

Part 1. Sustainable Development Goals and the Scientific Community *Main methods:* Literature review and document analyses

Chapter 1. Sustainable development goals and the scientific community: a systematic review of the literature and the research agenda (paper published in Research, Society and Development – ISSN: 2525-3409)
Chapter 2. The mobilization of the academic community towards the SDGs: Mapping the initiatives of international scientific associations (paper published in Current Research in Environmental Sustainability – ISSN: 2666-0490)
Part 2. Fapesp's performance in relation to sustainable development *Main methods:* Literature review and document analyses
Chapter 1. Fapesp's history, internationalization process and strategic programs
Chapter 2. The scientific community in support of the SDGs: the case of São Paulo Research Foundation
Chapter 3. The trajectory of international collaboration between FAPESP and Belmont Forum: a study based on themes of the sustainable development goals (paper published in Revista Tecnologia e Sociedade – ISSN: 1984-3526)
Part 3. The alignment of the São Paulo Research Foundation to the Sustainable Development Goals: an analysis from the Social Studies of Science and Technology and the Geopolitics of Knowledge (conventional thesis chapter) *Main methods:* Literature review, document analyses and application/analyses of semi-structured interviews

Source: Author's elaboration.

The three parts of the thesis are connected to each other, with the first part presenting a more general overview of the research topic and the other two specific parts to the case studied. The first part of the thesis is composed of two papers and seeks to discuss the process of constitution of the SDGs agenda and its relationship with the scientific community, considering the demands directed to this community. I this part, we conducted a bibliometric analysis of what has been produced by the international community on the topic in question. Also in the first part, we present how some international scientific associations have acted and have been mobilized in relation to the SDG agenda, with special emphasis on the Sustainable Development Solutions Network (SDSN), the International Science Council (ISC) and the Global University Network for Innovation (GUNi). In methodological terms, it was developed based on literature reviews as well as documentary analysis.

From a general analysis of the topic, we move on to the specific study on Fapesp. The second part is composed by a traditional section of a thesis and two papers, dealing with the history of the constitution of the São Paulo Research Foundation (Fapesp), considering its strategic research areas, creation of the BIOTA, BIOEN and Climate Change programs, as well as its International Cooperation Policy. Additionally, this part includes the presentation of the mapping of the cooperation and collaboration networks between Fapesp and other actors in the research community regarding projects and research involving the SDGs. As a data source, we consulted Fapesp's institutional website, especially Fapesp's Virtual Library, which contains information about projects funded and being funded by the Foundation, using selected

keywords. Moreover, this part includes the presentation of the relationship between Fapesp and the Belmont Forum since it is configured as one of the main agreements established by the Foundation in relation to the theme of sustainable development and the SDGs. Like the previous part, it was developed based on literature reviews and document analysis, especially considering the case of Fapesp.

Finally, the third part is a traditional chapter and seeks to discuss the theoretical framework of the research, taking into account the Social Studies of Science and Technology and the Geopolitics of Knowledge; as well as the context and the factors of insertion of the SDGs in the scope of Fapesp's research agenda. This chapter is organized in three main parts: the first one aims at presenting an overview of the global and, more specifically, Latin American context in relation to the dynamics of scientific production; the second part addresses the actors that are behind the legitimization and construction of the research agenda on sustainable development and, more specifically, on the Sustainable Development Goals (SDGs). Methodologically, it was written based on literature review activities, given the theoretical frameworks considered. The third part is expected to answer the main question of this research, that is: "what are the factors that motivate the insertion of the Sustainable Development Goals (SDGs) in the research agenda of the São Paulo Research Foundation?". In addition, other questions can be considered, such as: "How were the SDGs introduced into Fapesp's research agenda?"; "Which actors are involved in this incorporation (that is, who are the professors-researchers involved? Which areas of knowledge?)? Methodologically, this part was developed through bibliographic reviews, access, and analysis of the institutional website and of official documents published by Fapesp, as well as through the elaboration and execution of semi-structured interviews with the professors-researchers that compose superior/deliberative/technical-scientific councils of the Foundation. The research was approved by the Research Ethics Committee, in April 2021, under CAAE number 42615121.5.0000.8142.

Some concepts are mobilized during the thesis, such as "scientific community", "scientific agenda" and "symbolic agenda". The first one refers to the “association of people who are not bound together by laws or chains of command, but by the communication of information - through peer-reviewed journals, conferences, informal discussions and other channels” (KNELLER, 1980, p. 182). The second concept - “scientific agenda” -, refers to the topics defined as priorities by a scientific institution in view of its strategic objectives. The term "symbolic agenda" is inspired by the theoretical framework of public policy analysis and consists in the understanding that a certain agenda has been adopted/implemented/legitimized

in a "protocol" manner, permeating only in a discursive dimension. In other words, without any practical changes deriving from its adoption.

The research seeks to answer the following question: are the Sustainable Development Goals part of a symbolic agenda at São Paulo Research Foundation (Fapesp)?. In other words, we seek to confirm if the Foundation adopts the agenda only in the discursive scope, with the intention of establishing partnerships between foreign agencies and educational institutions. In essence, it is believed that there is a process of adaptation of the SDGs agenda by the researched Foundation.

PART 1. SUSTAINABLE DEVELOPMENT GOALS AND THE SCIENTIFIC COMMUNITY

This part aims to discuss the process of the establishment of the Sustainable Development Goals (SDGs) agenda and its relationship with the scientific community, considering the demands directed to this community. In addition, it presents how some international scientific associations have acted and have been mobilizing regarding the implementation of the SDGs agenda. In this sense, the chapter is organized based on two papers: the first one, entitled "The Sustainable Development Goals and the role of the scientific community: a systematic review of the literature and the research agenda", was carried out through bibliographic review activities and bibliometric analysis on the topic in question; the second paper, "The mobilization of the academic community towards the SDGs: Mapping the initiatives of international scientific associations", attributes special emphasis to the performance of three international scientific institutions (Sustainable Development Solutions Network (SDSN), International Science Council (ISC) and Global University Network for Innovation (GUNi)), in view of their activities developed on the SDGs and the scientific community.

Chapter 1. Sustainable development goals and the scientific community: a systematic review of the literature and the research agenda[1]

Introduction

The 17 Sustainable Development Goals (SDGs), launched in 2015 by the heads of state of the United Nations, incorporate a series of issues related to the social, economic, and environmental dimensions of sustainable development. It is a global development agenda that requires the involvement of various actors so that its implementation and materialization can be achieved by 2030. Therefore, the SDGs require the performance of the scientific community in general, to produce knowledge about the SDGs.

In this sense, the objective of this paper is to discuss the process of the constitution of the agenda of the 17 Sustainable Development Goals and, by extension, how the scientific community has been collaborating with its adoption and implementation. In other words, we

[1] DOI: https://doi.org/10.33448/rsd-v11i2.26241.

will explore and contextualize the 2030 Agenda and its relationship with the scientific community. The questions that underlie this article are: i. in what way the SDGs agenda was constituted; ii. in normative terms, how can the scientific community collaborate with the implementation of the SDGs; and, iii. in terms of scientific production, what is the status of research on the SDGs? And, what are the main topics of interest to the community?

Methodologically, the article is carried out through bibliographic review activities, in addition to conducting a bibliometric analysis of the scientific productions that address the SDGs, Higher Education Institutions, funding agencies, and the research community in general. As a form of organization, the article is divided into three sections, in addition to this introduction and final considerations.

The first section aims to present the history of the constitution of the 17 SDGs, in addition to discussing how the scientific community is required to act to achieve the SDGs. The second section presents the methodological procedures carried out in the mapping activities and bibliometric analysis. Finally, the last section aims to present and analyze the results obtained through the aforementioned activities.

The process of constitution of the SDGs and the role of the scientific community

The concept of "sustainable development" emerged (and started to be disseminated) in 1987 through the discussions held by the World Commission on Environment and Development, through the publication of the Brundtland Report (or "Our Common Future"), considering it as the one "that meets the needs of the present without compromising the ability of future generations to meet their own needs" (BRUNDTLAND REPORT, 1987, p. 41).

For this concept to be formulated and validated at the international level[2], a series of events related to the perception of the environmental crisis took place, going a long way to the emergence of the Sustainable Development Goals. Although we do not aim to trace a history of this process, we highlight some episodes that mark the origin of this idea: i. the first refers to the initial perceptions of the scientific community about a global environmental risk marked by nuclear pollution, especially during the 1950s (MACHADO, 2005; DO NASCIMENTO, 2012); ii. the second moment refers to the publication of the book "Silent Spring" by biologist Rachel Carson in 1962, which denounces the environmental crisis caused by using pesticides

[2] It is noteworthy that this concept, despite being the most widely accepted internationally, does not include all the meanings in the scientific literature. Moreover, it is necessary to emphasize the existence of critical perspectives to the concept, which will be addressed throughout this article.

and chemical insecticides in the United States (CARSON, 1962); iii. The third moment refers to the approval and realization of the Stockholm Conference in 1972, which sought to reconcile the growth of economic activities with environmental preservation (DO NASCIMENTO, 2012); iv. still in 1972, we can highlight the publication of the Report of the Club of Rome - Limits to Growth, which suggested a process of "slowing down industrial development in developed countries and population growth in underdeveloped countries" (DO NASCIMENTO, 2012, p. 53; MEADOWS et al., 1972).

Such historical events mark the mobilization of different actors (governmental and non-governmental) in relation to the growing concerns with the environmental issue, in view of the warnings concerning the dependence on natural resources, as well as the existing possibilities in relation to their depletion. The Brundtland Report, therefore, being the first major effort to reconcile economic growth and environmental preservation, made the definition of the term "sustainable development" classic, suggesting its recognition as a guiding axis for international economic and political activities (DO NASCIMENTO, 2012; VIZEU et. al, 2012). It is, therefore, a definition that has become the subject of major debates at the international level, both positively and negatively, considering the critical perspectives that analyze its conception.

Besides the events mentioned above, we highlight the United Nations Conference on Environment and Development in 1992, popularly known as "Rio-92", "ECO-92" or "Earth Summit", with the participation of representatives from 172 countries. Taking place 20 years after the first Stockholm Conference, ECO-92 resulted in the creation of the Convention on Biodiversity and Climate Change (which led to the Kyoto Protocol), the Rio Declaration on Environment and Development, and Agenda 21 (UNITED NATIONS, 1992).

Specifically on Agenda 21, it is configured as a planning instrument or action program aimed at achieving changes for a new development model for the 21st century, based on "sustainable development". It is, therefore, a document consisting of 40 chapters, which seek to guide governmental (and, by extension, non-governmental) actions through priority themes (such as deforestation, waste, climate, soil, water, biotechnology, among others), considering bases for action, objectives, activities and means of implementation (UNITED NATIONS, 1992).

It was only in September 2000 that the heads of state of the United Nations gathered at their headquarters to adopt the UN Millennium Declaration, also known as the Millennium Development Goals (MDGs). It was through these goals that nations committed themselves to a new global development agenda, based on a series of eight goals to be achieved by 2015. The

MDGs had as their main objective to combat extreme poverty, as well as to provide universal primary education, especially in the contexts of countries considered to be developing (mostly countries of the Global South).

Despite being a global agenda, the MDGs were focused on low- and middle-income country settings, not contemplating goals that applied to all nations. In this sense, because it is a limited agenda, it did not gain full notoriety by developed countries. Nevertheless, it achieved positive and significant results in certain contexts, as in the Brazilian case (FERNANDES et. al, 2015; MARINHO et. al, 2020).

In view of the discussions regarding the continuity of the sustainable development agenda at the global level, as well as considering the debates concerning the concept itself, we can check its emergence as a predominant framework as of the "Rio+20" Conference in June 2012, which creates the task of developing the Sustainable Development Goals (SDGs) (FUKUDA-PARR, MUCHHALA, 2020; CABALLERO, 2019).

According to Fukuda-Parr & Machhala (2020), although the SDGs emerged out of a narrative that encompassed the MDG agenda, the SDGs were also created to transcend its limitations. In this sense, in addition to continuing the MDG agenda with some modifications (MDG+), the SDGs also incorporate a broader and more ambitious vision for addressing problems related to poverty, inequality, violence, climate change, among others.

Their creation and development process derives from the Rio+20 Conference, mentioned above. On this occasion, an individual delegate from Colombia, Paula Caballero Gómez, proposed the idea of developing the SDGs. Then, from resolution 66/288 - The future we want, of July 27, 2012, the UN General Assembly, together with the heads of state, decides to continue the global development agenda, with a view to establishing an Open Working Group (OWG) that would oversee constituting a proposal for the consideration of the Sustainable Development Goals.

According to resolution 66/288, item 248 (UNITED NATIONS, 2012, p. 47), the General Assembly:

> resolve to establish an inclusive and transparent intergovernmental process on sustainable development goals that is open to all stakeholders, with a view to developing global sustainable development goals to be agreed by the General Assembly. An open working group shall be constituted no later than at the opening of the sixty-seventh session of the Assembly and shall comprise thirty representatives, nominated by Member States from the five United Nations regional groups, with the aim of achieving fair, equitable and balanced geographical representation. At the outset, this open working group will decide on its methods of work, including developing modalities to ensure the full involvement of relevant stakeholders and expertise from civil society, the scientific community and the United Nations system in its work, in order to provide a diversity of perspectives and experience. It will

> submit a report, to the Assembly at its sixty-eighth session, containing a proposal for sustainable development goals for consideration and appropriate action.

It was, therefore, a differentiated process in relation to the development of the MDGs. In this sense, when analyzing the documents about its development, it is possible to observe the following: i. a total of 30 members participated in the OWG, representing their countries and regions[3]; ii. the members of the OWG elected as Co-chairs Csaba Kőrösi (representative of Hungary) and Macharia Kamau (representative of Kenya); iii. The OWG process and timeline followed the following steps: "1. Election of officers; 2. Adoption of the agenda and other organizational matters; 3. Follow-up to the outcome of the United Nations Conference on Sustainable Development, relating to a proposal for sustainable development goals; 4. Other matters; 5. Adoption of the report" (UNITED NATIONS, 2014, p. 4); iv. 13 sessions were held in order to discuss and create the SDGs between 2013 and 2014; v. among the 13 sessions, 8 were held in order to discuss topics considered relevant to the OWG members (with the participation of other members and stakeholders through thematic clusters); vi. From these sessions, the SDGs were discussed and negotiated, being informally presented through an early version on December 4th, 2014, by UN Secretary-General Ban Ki-moon to UN member states; vi. Officially, the SDGs were approved and adopted on September 25, 2015, during the United Nations Summit on Sustainable Development in New York.

Since their approval, the SDGs have been in force from 2016 to 2030, constituting a global agenda that seeks to guide both the political action of Heads of State and the actions and activities developed by other actors in civil society (such as public and private companies, the scientific community, non-governmental organizations, civil society associations, as well as the behavior of the population in general). It is important to emphasize, however, that such an agenda does not make it obligatory for a country, state, or other stakeholders to adopt and

[3] African Group: 1. Algeria / Egypt / Morocco / Tunisia, 2. Ghana, 3. Benin, 4. Kenya, 5. United Republic of Tanzania, 6. Congo, 7. Zambia/Zimbabwe; Asia-Pacific Group: 1. Nauru / Palau / Papua New Guinea, 2. Bhutan / Thailand / Viet Nam, 3. India / Pakistan / Sri Lanka, 4. China / Indonesia / Kazakhstan, 5. Cyprus / Singapore / United Arab Emirates, 6. Bangladesh / Republic of Korea / Saudi Arabia, 7. Iran (Islamic Republic of) / Japan / Nepal; Latin America and Caribbean Group: 1. Colombia / Guatemala, 2. Bahamas / Barbados, 3. Guyana/Haiti/Trinidad and Tobago, 4. Mexico / Peru, 5. Brazil / Nicaragua, 6. Argentina / Bolivia (Plurinational State of) / Ecuador; Western European and Other Groups: 1. Australia/Netherlands/United Kingdom of Great Britain and Northern Ireland, 2. Canada / Israel / United States of America, 3. Denmark / Ireland / Norway, 4. France / Germany / Switzerland, 5. Italy / Spain / Turkey; Eastern European Group: 1. Hungary, 2. Belarus / Serbia, 3. Bulgaria / Croatia, 4. Montenegro / Slovenia, 5. Poland / Romania (UNITED NATIONS, 2013).

comply with it. It is, in fact, an optional commitment of an ethical, political, and diplomatic nature.

The SDGs, with the motto "leave no one behind", are organized into 17 goals, containing a total of 169 targets to be met by 2030. As a form of organization, we can consider that they are distributed through four dimensions: social, environmental, economic, and institutional, interconnected among themselves. The social dimension incorporates the SDGs related to poverty eradication (SDG 1), zero hunger and sustainable agriculture (SDG 2), health and well-being (SDG 3), quality education (SDG 4), gender equality (SDG 5), and reduction of inequalities (SDG 10). The environmental dimension is about clean water and sanitation (SDG 6), clean and affordable energy (SDG 7), responsible consumption and production (SDG 12), action against global climate change (SDG 13), life on water (SDG 14), and terrestrial life (SDG 15). Within the economic dimension, the SDGs related to decent work and economic growth (SDG 8), industry, innovation, and infrastructure (SDG 9) and sustainable cities and communities (SDG 11) are highlighted. Finally, regarding the institutional dimension, we consider the SDGs related to peace, justice, and effective institutions (SDG 16) and partnerships and means of implementation (SDG 17).

As a way of monitoring, the SDGs have a set of 231 indicators, distributed in relation to the goals that comprise them, providing clearer guidelines regarding the means of implementation (such as the need for mobilizing financial resources, developing capacities and establishing partnerships between different actors, the role of technology and its dissemination among nations, as well as the institutional development of such goals and targets).

Despite having been developed differently from the MDGs, as well as sharing a more holistic approach to the main issues to be addressed by the international community, some criticisms can be attributed to the agenda, as well as to the concept of "sustainable development" itself. Specifically in relation to the SDGs, we can observe from the literature that there are positive expectations in relation to their achievement (especially related to the elimination of preventable deaths among newborns and children under 5 years old, as well as the access of children to primary education). However, the SDGs fall short in critical areas, such as those related to poverty, agricultural production and environmental sustainability, climate protection, and biodiversity loss. The main reasons are lack of funding, lack of data on some indicators, the consequences generated by the Covid-19 pandemic, as well as disagreement between some SDGs (for example, the balance between GDP growth and its impact on climate).

Regarding the term "sustainable development," the literature presents a vast number of studies that address its contradiction (RATIU, ANDERSON, 2014; HICKEL, 2015;

SANKOWSKI, HARRIS, 2018, among others). We highlight, therefore, the perspective of Vizeu et al. (2012) that, by glimpsing its ideological essence, argues about the existence of a false understanding about the harmony between the ecological issue and the capitalist system. The study by Freitas et al. (2012) also corroborates this view, problematizing the productive relations alienated from nature, in force in the current model of capitalist production. Similarly, we can say that, despite proposing a transformation in certain areas, the SDGs do not propose a structural change in the system, since they attribute the achievement of the goals to global economic growth.

In the words of Chomsky et. al (2015, p. 1),

> we must be clear that they [SDGs] do not represent the best interests of the world's majority -- those that are currently exploited and oppressed within the current economic and political order (…). It is possible to overcome poverty in a way that respects the Earth and helps tackle climate change. The planet is abundant in wealth and its people infinitely resourceful. In order to do so, however, we must be prepared to challenge the logic of endless growth, greed and destruction enshrined in neoliberal capitalism. It is time to envision a new operating system, based on social justice and symbiosis with the natural world. As currently formulated, the SDGs merely distract us from addressing the challenges we face.

The strong criticisms of the above authors further reinforce the argument that the SDG agenda refers to a hegemonic agenda, adopting the existing problems as universal, as well as "erasing" the power relations present in the international arena, especially between the countries of the Global North and South. There is, therefore, an idea that if everyone cooperates, we can solve the problems indicated on the international agenda. This, in turn, has become mandatory in certain contexts, as is the case of access to sources of funding for research abroad, especially in European countries. The Horizon 2020 program of the European Commission, for example, is based on the SDGs framework, with a mandatory requirement to mention the SDGs in proposals submitted to certain calls (EUROPEAN COMMISSION, 2021).

Specifically on the scientific community (considering Higher Education Institutions, research funding agencies, centers, centers, and research laboratories), the SDGs demand a performance focused on the production and dissemination of knowledge and technologies, considering the narratives related to the concepts "mission-oriented Science", "mission-driven research", "knowledge-based transformation" and "action agenda for Science".

Such demands make the scientific community as an important actor responsible for the creation of new knowledge regarding the achievement of the SDGs, with several studies and documents dealing with this commitment (GRANO, PRIETO, 2021; COLLADO et. al, 2019; LEAL FILHO, 2020; LEAL FILHO et. al,2021, among others). Considering such studies, we can highlight that the scientific community has been mobilizing regarding its adoption, for

example, through the actions of international scientific associations (DIBBERN, SERAFIM, 2021), as well as through activities within HEIs and development agencies (ISC, 2020; 2021).

In a normative way, that is, as a form of collaboration in relation to what this community must accomplish, the studies deal with the performance of HEIs through the performance of teaching and research activities, as well as activities and actions aimed at community engagement (and, complementarily, outreach projects) and internal management of the institutions. As far as teaching is concerned, this is mainly focused on issues related to the adoption of Education for Sustainable Development as one of the subjects that must be offered to students/university students (DISTERHEFT et. al, 2013; SATO et. al, 2020; ISCN, 2018; UNESCO, 2017; GUNi, 2019). In terms of conducting research, there is demand for advancing knowledge in individual disciplines (such as those related to health, demography, governance, digitalization, and urbanization), as well as conducting interdisciplinary research in order to integrate knowledge generated in a disciplinary manner, with a view to creating new knowledge (RUIZ-MALLÉN, HERAS, 2020; GUNi, 2019). Among the areas indicated in the report "Transformations to achieve the Sustainable Development Goals (IIASA, 2018), researchers from around the world have been researching the existing links between poverty, hunger, and health; health, sanitation, and inequalities; poverty and climate. Research is also encouraged around issues concerning the "effects of poverty on health and economy, of education on inequalities, renewables on cities, climate mitigation on the oceans, and of cities on water, economy, governance and infrastructure" (IIASA, 2018, p. 100).

Regarding the dimension of community engagement and outreach activities, we can observe studies that deal with the social commitment of these institutions in relation to their external community, taking into account the local, regional, national and international context (GUNi, 2019; MACEDO et. al, 2019). In terms of management and governance, the literature presents the adoption of the SDGs as a strategic policy to be incorporated by these institutions, enabling the establishment of collaborations and partnerships among various actors (GUNi, 2019; ISC, 2020).

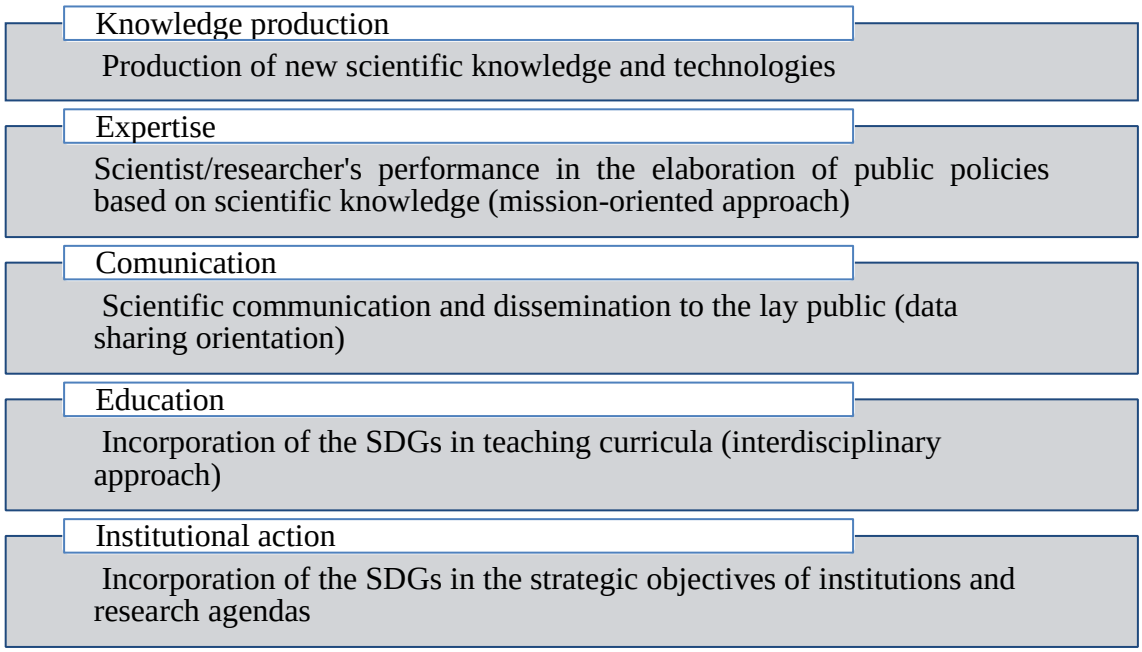
In general, we can say that in the scope of HEIs, contributions are expected in terms of: i. mobilization of existing knowledge, as well as generation and dissemination of new knowledge and technologies; ii. integration of disciplines through the adoption of an interdisciplinary approach, in addition to the adoption of the premises related to Education for Sustainable Development in the teaching curriculum of higher education courses; iii. establishment of cooperation and partnerships among universities, government, companies and civil society; iv. construction of networks among experts and policymakers, aiming at the

implementation of political actions guided by scientific knowledge; and, v. scientific communication, considering the dissemination of scientific knowledge to the lay community.

Research funding agencies are asked to do the following: given the full potential of science in support of the SDGs, collaborative approaches to research funding are essential, "moving away from individual to collective action. Together, science funders are in a powerful position and can achieve a longer-term impact at a scale beyond what any one actor could achieve alone" (ISC, 2020, p. 3). Therefore, in order to accelerate the implementation of the SDGs, a number of research funding agencies[4] joined the discussions promoted by the ISC to address issues such as the potential and responsibility of funding agencies, the impact of investments in science related to the SDGs, building networks and collaborative research alliances for the SDGs. In these opportunities, the "Decade of Global Sustainability Science Action (2020-2030)" was launched through the events of the Global Forum of Funders between the years 2019 and 2020 (ISC, 2020).

In other words, we can list the forms of contribution of this community from five categories:

Figure 2. Forms of contribution of the scientific community to the SDGs



Source: Author’s elaboration.

[4] Such as the Swedish International Development Cooperation Agency (Sida), National Science Foundation (USA), the Belmont Forum, International Development Research Center (Canada), the Science Granting Councils Initiative in Sub-Saharan Africa, the National Research Foundation (South Africa), UK Research and Innovation, the International Institute for Applied Systems Analysis (Austria), Future Earth, and the Volkswagen Stiftung.

Therefore, considering the roles assigned by the SDG agenda to the scientific community in general, in the next sections of this article we present a bibliometric review of what the scientific community has been doing in the field of knowledge production about the SDGs.

Methodological Procedures

The methodological procedures used in this article are based, above all, on bibliographic review and bibliometric analysis. Specifically regarding bibliometric analysis, it is important to highlight that this refers to a method that has gained greater popularity in recent years, since it enables the exploration and analysis of a large volume of scientific publication data on certain topics and areas of knowledge (ELLEGAARD, WALLIN, 2015; ZIEGLER, 2009; DONTHU et. al, 2021).

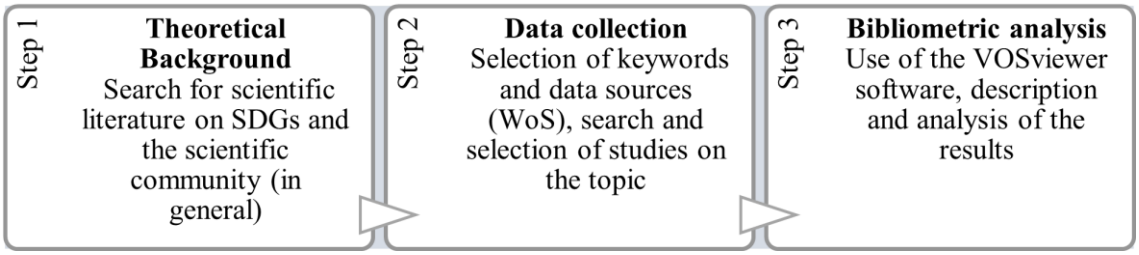
In the words of Donthu et. al (2021, p. 285),

> (…) bibliometric analysis is useful for deciphering and mapping the cumulative scientific knowledge and evolutionary nuances of well-established fields by making sense of large volumes of unstructured data in rigorous ways. Therefore, bibliometric studies that are well done can build firm foundations for advancing a field in novel and meaningful ways—it enables and empowers scholars to (1) gain a one-stop overview, (2) identify knowledge gaps, (3) derive novel ideas for investigation, and (4) position their intended contributions to the field.

In this sense, its popularity can be attributed through two aspects: the first refers to the availability of access to software that perform this type of analysis, such as VOSviewer and Gephi, among others, as well as through access to scientific databases that index a large volume of data, such as Scopus and Web of Science. The second aspect that justifies the increased use of this method relates to the handling of a large volume of data, coupled with the production of a high impact on scientific research in the defined area (DONTHU et.al, 2021).

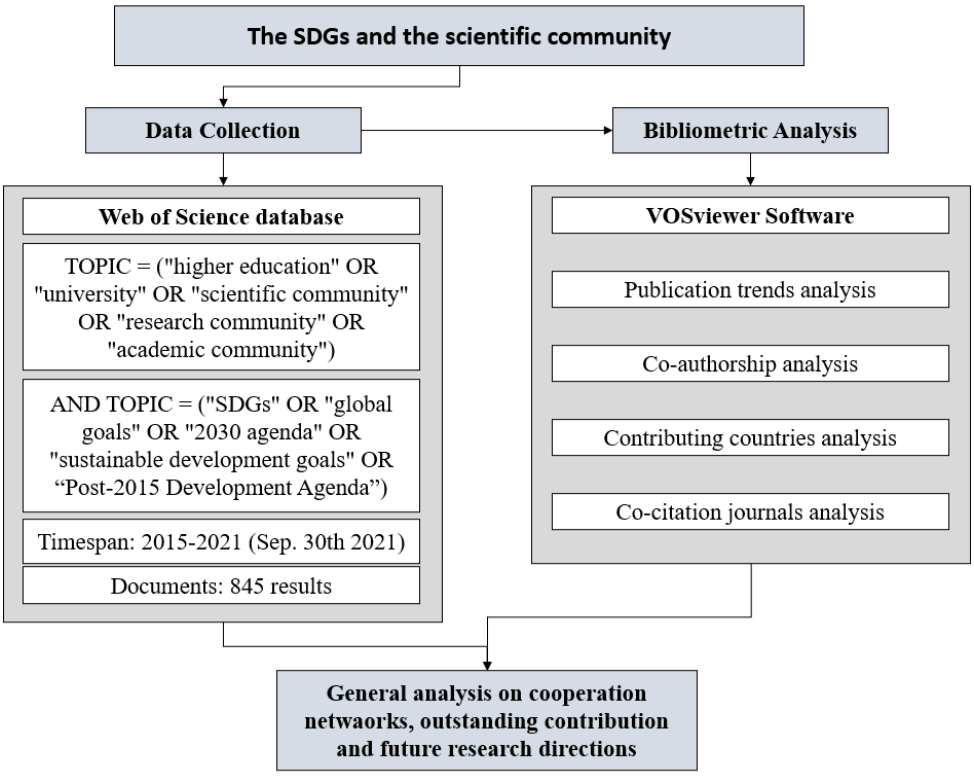
That said, the first step in this research consisted of conducting a bibliometric survey of the literature related to the Sustainable Development Goals (SDGs) and their relationship with the scientific community, considering the activities developed within Higher Education Institutions (HEIs), universities, research centers and laboratories. In this sense, Figures 3 and 4 present the stages and design of the research conducted. Figure 5 presents the filter performed as to the selection of documents that fit the survey's objective.

Figure 3. Steps in bibliometric analysis



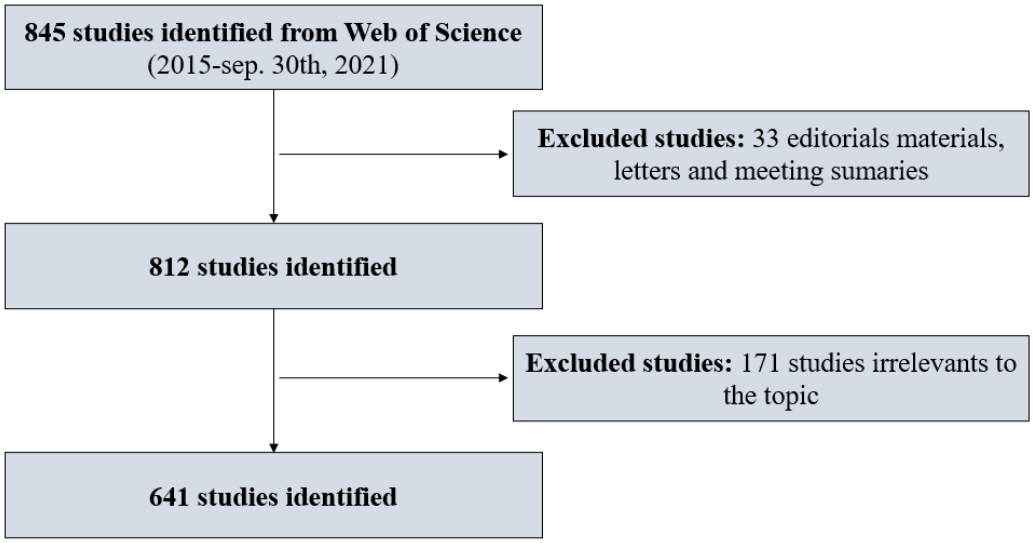
Source: Author's elaboration.

Figure 4. Research framework on SDGs and the scientific community



Source: Author's elaboration.

Figure 5. Selection of relevant studies for the bibliometric analysis



Source: Author's elaboration.

In this sense, to perform the bibliometric analysis, we used as database the Web of Science (WoS) platform, by using the following keywords: ("higher education" OR "university" OR "scientific community" OR "research community" OR "academic community") AND ("SDGs" OR "global goals" OR "2030 agenda" OR "sustainable development goals" OR "Post-2015 Development Agenda"), as topics (considering title, keywords and abstract). This search obtained a total of 845 results, including 654 articles, 125 conference papers (scientific events), 48 early access articles, 37 review articles, 31 editorial materials, 1 letter, and 1 meeting abstract. The search was conducted on September 30, 2021, and a temporal filter was established for publications made between 2015 and the date of the documentary search.

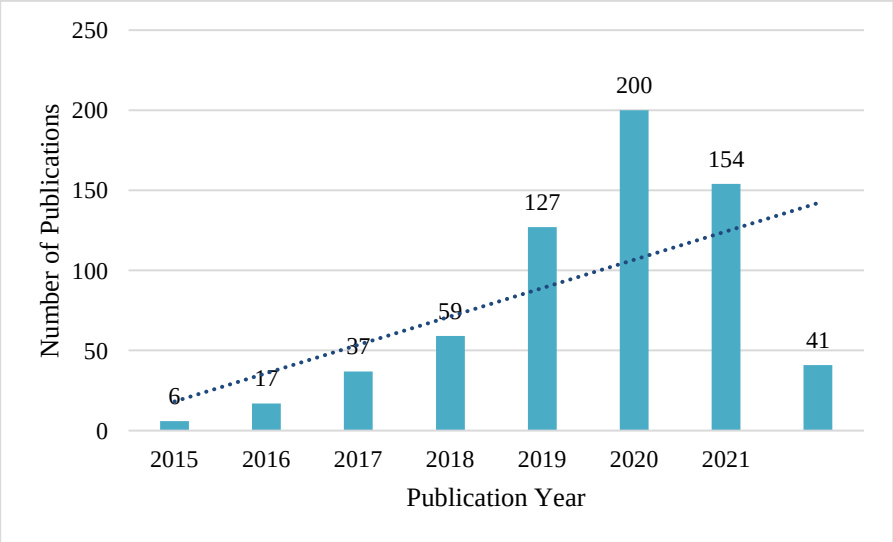
As for performing the analysis, we considered the following types of documents: articles, conference papers, advance articles, and review articles (total of 812 results) and, for a valid result for the bibliometric analysis, we filtered the studies that did not match the proposed theme (considering the title, abstract, and keywords of each study), resulting in a total of 641 studies for performing the analysis. In addition to using the Web of Science Platform, we applied the VOSviewer software, in view of the possibility of presenting visualization networks of the content addressed. In the words of Xia et al. (2021), the "VOSviewer is an optimal approach to analyzing the correlation of highly cited publications with productive authors", and can be used to build maps of authors, journals, keywords, considering data regarding co-citation

and co-occurrence. In addition, the software classifies keywords into different clusters, considering the results of co-occurrence and frequency analysis (XIA et. al, 2021).

Results and Discussion

The results, obtained through the bibliometric analysis conducted via WoS, show a significant growth in relation to the number of publications over the years (from 2015 to September/2021) in relation to scientific production on the SDGs and the scientific community in general. In this sense, from Figure 6, we can highlight the years 2019, 2020 and 2021, which hold a greater number of published articles on the topic.

Figure 6. Publication Year related to SDGs and the scientific community (2015-September/2021)



Source: Author's elaboration.

Regarding the Journals that have the largest number of published articles on the topic, "Sustainability" (149 results), "International Journal of Sustainability in Higher Education" (61 results) and the "Journal of Cleaner Production" (13 results) stand out. Table 4 displays the total number of publications from the top 11 journals publishing on the topic. However, it should be noted that the Web of Science platform is limited by not indexing all existing journals in its database and, therefore, presents results from journals that mostly publish articles in English, not covering all publications indexed in other databases (such as Scopus, Scielo, Google Scholar, among others).

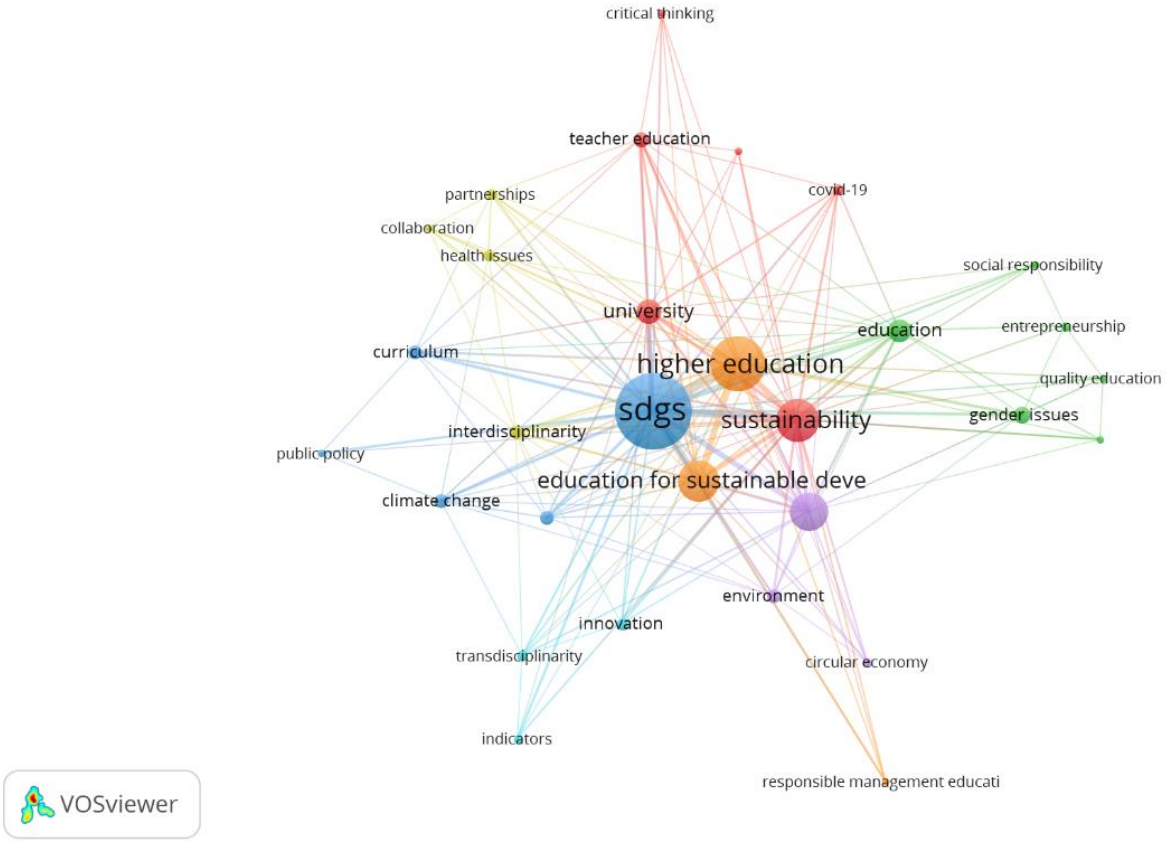
Table 4. Top 11 productive mainstream Journals in SDGs and the scientific community (2015-September/2021)

#	**Journal**	**Number of Publications**
1	Sustainability	149
2	International Journal of Sustainability in Higher Education	61
3	Journal of Cleaner Production	13
4	International Journal of Management Education	11
5	International Journal of Environmental Research and Public Health	10
6	Higher Education	9
7	European Journal of Sustainable Development	8
8	Education Sciences	8
9	Journal of Chemical Education	5
10	Revista Universidad y Sociedad	4
11	Sustainability Accounting Management and Policy Journal	4

Source: Author’s elaboration.

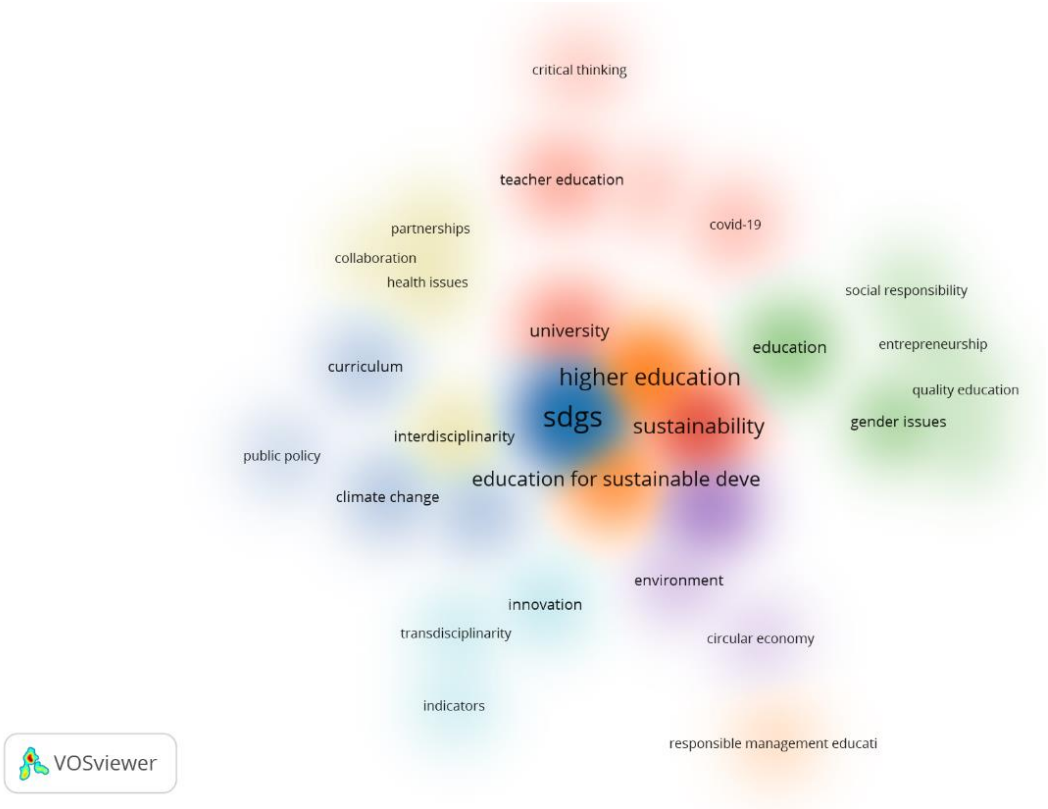
Considering the analysis performed via VOSviewer software and, considering that the minimum number of occurrences per term was 6, we will now present the co-occurrence word networks generated through the sample obtained via WoS. The result of this analysis can be seen in Figure 7, showing the terms "SDGs" and "higher education". The clusters generated by the software can also be visualized through Figure 8, which presents the density analysis of the key terms.

Figure 7. Co-occurrence network related to SDGs and the scientific community



Source: Author's elaboration. Data generated from VOSviewer.

Figure 8. Co-occurrence network related to SDGs and the scientific community, considering density analysis



Source: Author's elaboration. Data generated from VOSviewer.

From these figures it is possible to note the following: cluster 1 (red) presents the most frequent publication topics in relation to the SDGs and the scientific community. As can be seen, the terms "sustainability," "university," "teacher education," "inclusion," and "covid-19" are most prominent. Among the studies that address these themes, we can mention Al-Jaber & Al-Ghamdi (2020), which analyze the impact of remote education in times of the Covid-19 pandemic in Qatar, in relation to the quality of education (SDG 4); Garcia-Rico et. al (2021), which addresses the pedagogical model of teaching programs for physical education teachers in view of the SDGs; and Weber et. al (2021) which provides an outline of an interdisciplinary training workshop on the SDGs to be implemented within higher education.

The remaining clusters (green, blue, yellow, purple, light blue, and orange) expose publication topics that are emerging in the literature, i.e., have been gaining greater notoriety by the academic community in recent years. Cluster 2 (green) aggregates the topics related to "education", "gender issues", "social responsibility", "entrepreneurship", "quality education", and "engineering". As an example, we can cite the studies by Fabrega et. al (2020), which analyzes the relationship between business and entrepreneurial skills and environmental

commitment as sources of mobilization and action of university students toward sustainable development; as well as the study by Reverter (2020), which addresses the issue of gender equality in the university environment.

Cluster 3 (blue) highlights the studies related to the "SDGs", "climate change", "curriculum", "public policy", and "university students". Among these, Perkins et. al (2018) makes its contribution through its study on Education for Sustainability and the social context of climate change, considering data from interviews conducted with academics from several countries. Other studies can also be highlighted, as is the case of the paper produced by Salvia et. al (2020), which analyzes energy sustainability in the scope of university education, and Leal Filho et. al (2021), which seeks to bridge the gap in the literature regarding the inclusion of SDGs at the university level, in view of teaching and research activities.

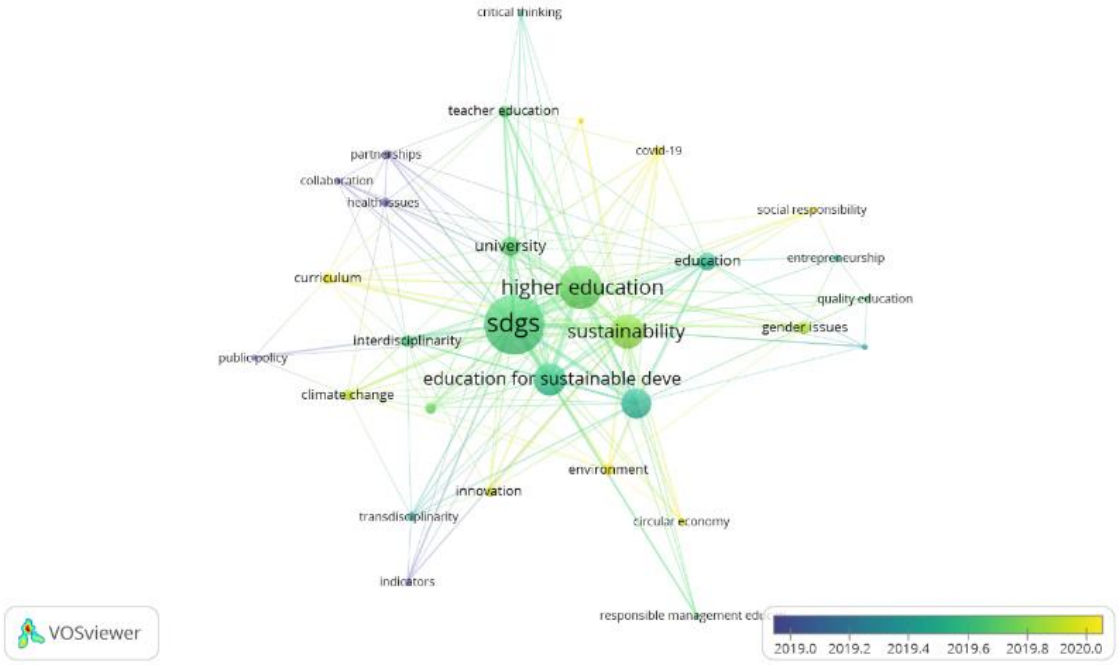
Cluster 4 (yellow) emphasizes the studies that deal with the establishment of "collaborations" and "partnerships", as well as those that deal with the "interdisciplinary" approach and "health issues". As a highlight, Kuo et. al (2020) analyzes the role of community culture in food product innovation courses considering the SDG agenda. Regarding the interdisciplinary approach, this can be found in the studies by Broo et. al (2021) and Ruiz et. al (2019), among others. As for studies on establishing collaborations and partnerships, we can highlight the papers by Sugandhar & Chaudhary (2017) and Moon et. al (2018).

Cluster 5 (purple) indicates the topics "sustainable development", "environment" and "circular economy", and the studies produced by Owojori et. al (2020), Gonzalez-Dominguez et. al (2020) and Erallina & Szymoniuk (2021), among others, can be highlighted. Cluster 6 (light blue) highlights studies on "innovation," "transdisciplinarity," and the development of "indicators," such as those produced by Renn et. al (2020), Maruyama et. al (2020), and Leal Filho et. al (2019), among others. Finally, cluster 7 (orange) pervades over the topics of "higher education," "education for sustainable development," and "responsible management education," such as the studies by Fernandez-Izquierdo et. al (2017), Zizka (2019), Avelar et. al (2019), and Molthan-Hill et. al (2020), among others.

Figures 9 and 10 present the average publication date of the documents in which the terms presented in Figure 7 appear. In this, in 2019, the most prominent sub-themes centered on discussions about establishing collaborations, partnerships, data and indicator generation, as well as governmental issues, related to public policy and health issues. The dimensions of education for sustainable development, interdisciplinarity and transdisciplinarity, and quality of education were also in vogue. And, as of late 2019 and early 2020, the research agenda began to incorporate other issues, particularly on the Covid-19 pandemic, gender and inclusion issues,

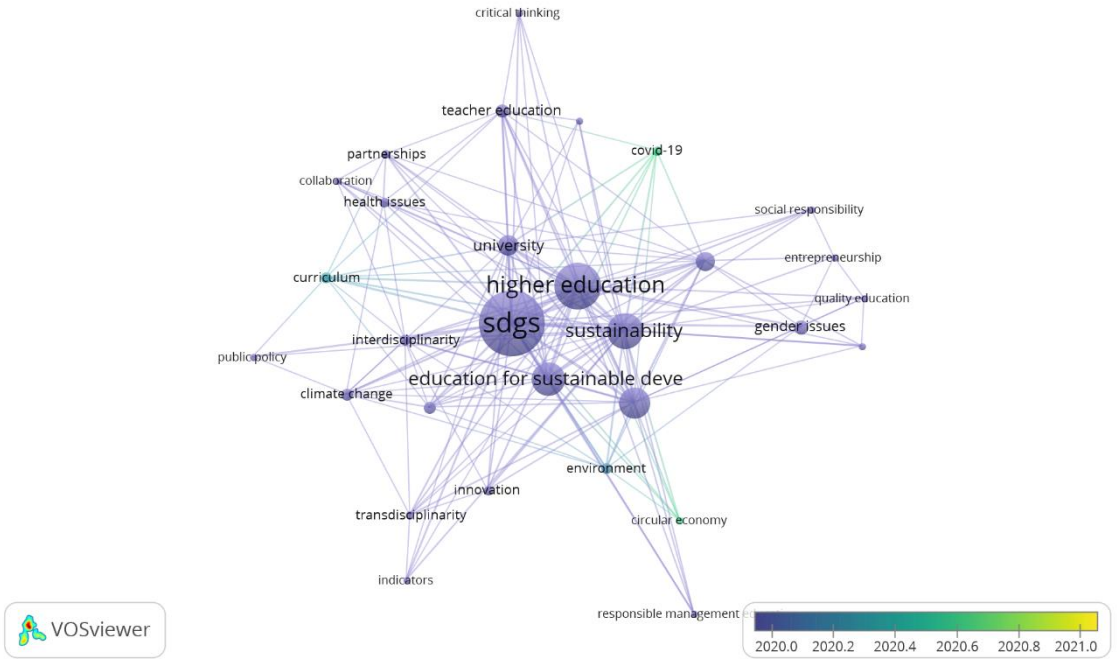
climate change, curriculum, social responsibility, innovation, environment, and circular economy.

Figure 9. Average date of terms presents in documents analyzed with the frequency of co-occurrence greater than 6 (2019-2020)



Source: Author's elaboration. Data generated from VOSviewer.

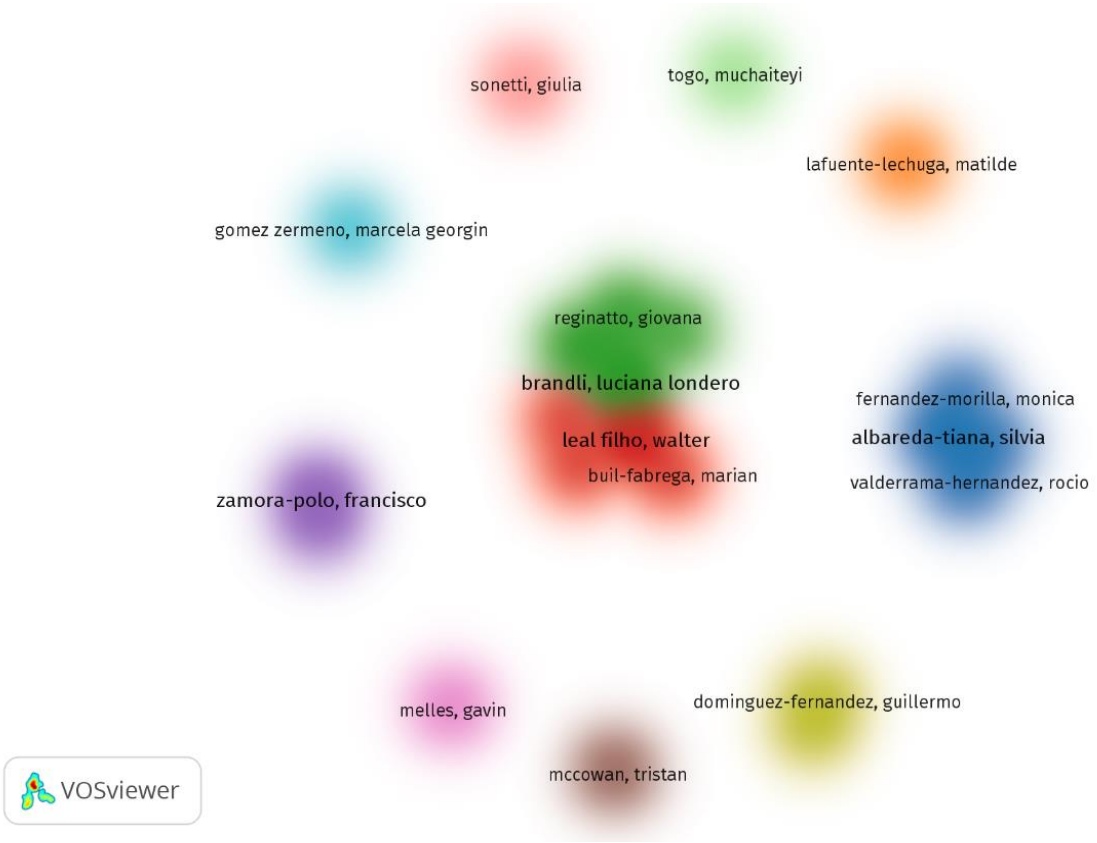
Figure 10. Average date of terms presents in documents analyzed with the frequency of co-occurrence greater than 6 (2020-2021)



Source: Author's elaboration. Data generated from VOSviewer.

A total of 2,111 authors and co-authors were identified through the analysis performed. In this sense, Figure 11 presents the visualization of density among these, assigning greater emphasis to three groups of authors who produce studies jointly (red, green and blue clusters).

Figure 11. Density visualization map of co-authorship on SDGs and the scientific community

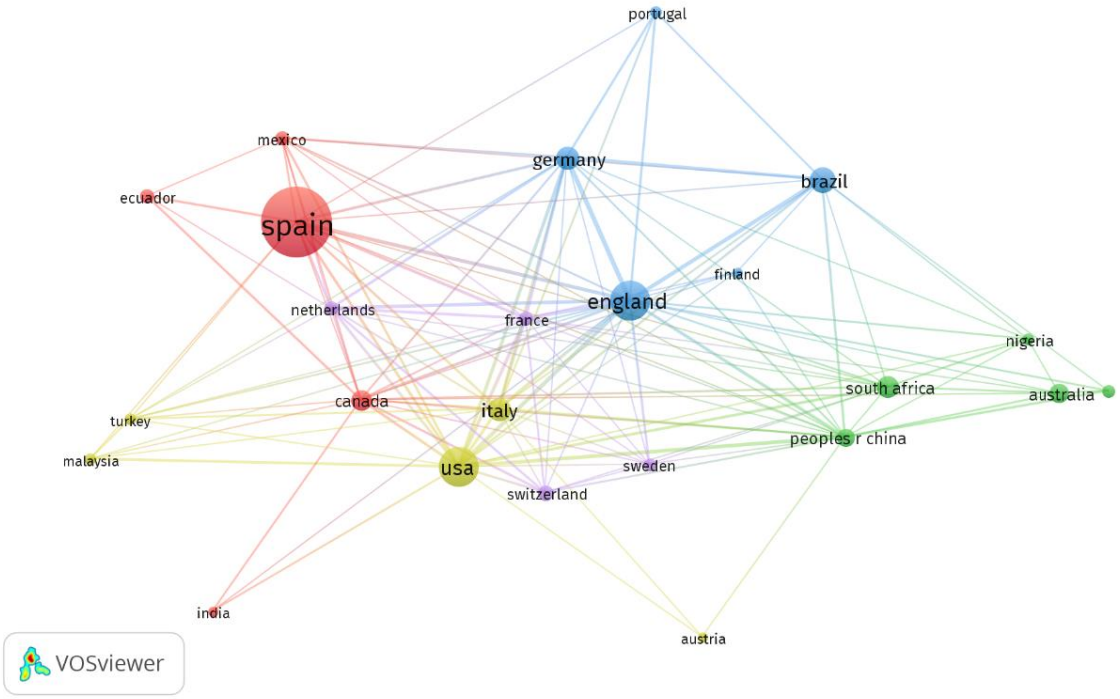


Source: Author's elaboration. Data generated from VOSviewer.

Regarding the origin of the verified productions, we could identify a total of 107 countries involved in the production of knowledge. Figure 12 exposes the 24 countries that present the greatest number of studies produced on the topic, highlighting the red, green and blue clusters. Thus, it is notable for a higher rate of articles produced in countries of the Global North, especially Spain, England, Germany, and the United States. We should also highlight the countries of the Global South that also stand out in relation to the production of knowledge on SDGs and the scientific community: Brazil and South Africa. It is noteworthy again that the

data obtained through the WoS platform are mostly published in English, tending to favor a greater volume of publications originating from the Global North. However, it is possible to observe that the other countries of the Global South are also trying to insert themselves into this research agenda.

Figure 12. Country/regional collaboration network on SDGs and the scientific community



Source: Author's elaboration. Data generated from VOSviewer.

Final Considerations

Despite being a global agenda, the SDGs do not share an approach that seeks to transcend the prevailing capitalist production system, contradicting its goals and objectives. However, it has gained a lot of popularity worldwide and has become a mandatory requirement in certain contexts.

Within the scientific community, the SDGs demand a series of actions such as the adoption of the agenda by Higher Education Institutions and research funding agencies. The adoption of the SDGs in teaching, research, outreach (and engagement activities with the external community), management and governance processes, as well as through the establishment of partnerships and collaborations among community players for the funding of research on the SDGs, stand out as planned activities.

To identify how this community has been collaborating with the implementation of the SDGs, we conducted an exploratory bibliometric analysis of the scientific production indexed on the Web of Science platform (2015-September/2021). In this, we identified the following: i. most of the studies published in the consulted period and platform originate from North-Global countries, such as Spain, England, United States and Germany; ii. there was a quantitative growth in relation to the number of publications made in the consulted period on the subject of the SDGs and the performance of the scientific community, especially between the years 2019-2021; iii. as the types of studies identified, case studies on experiences implemented in the university environment stand out, as well as studies that address the social commitment of this community in relation to the SDGs and studies that present research results that the scientific community can appropriate to achieve them; iv. Regarding research collaboration, there is a greater predominance among countries of the Global North, with sporadic collaborations between countries from the Global North-South and Global South-South; v. regarding the main themes identified, we highlight those related to the areas of Education, Science and Technology, and Biodiversity and Conservation.

Although the research carried out presents important results about the production of knowledge in relation to the performance of the scientific community in favor of the SDGs, it is limited due to some aspects: by using the Web of Science platform, we were able to identify articles produced in English, not corresponding to the totality of articles produced on the subject in other languages; and, the search carried out is exploratory in nature, therefore, it does not correspond to the totality of studies carried out on the subject.

Therefore, it is encouraged that other studies be conducted with the purpose of identifying the state of the art of the production on the SDGs by the scientific community in general. Questions to be answered include: i. in what way have research funding agencies been incorporating this agenda; ii. how does this differ in relation to the incorporation by North-Global and South-Global agencies; iii. what are the prioritized themes in the establishment of partnerships between agencies and other players in the scientific community? iv. in what way are these themes related to local, regional and national problems of the institutions that incorporate them? v. considering local and regional databases, what is the status of research on the SDGs and the scientific community within the Global South? considering the Latin American particularities, in what way has the regional scientific community been positioning itself in relation to this agenda? and to what extent is this adoption/legitimization of the agenda not a way to guarantee research funding?

Chapter 2. The mobilization of the academic community towards the SDGs: Mapping the initiatives of international scientific associations[5]

Introduction

The Sustainable Development Goals (SDGs), launched in 2015 by the Heads of State of the United Nations, share an approach that integrates four dimensions: environmental, economic, social, and institutional. This new agenda, differentiating itself from the Millennium Development Goals (MDGs), seeks the performance of various actors so that it can be achieved by 2030. In other words, it is a broad global agenda that addresses not only the challenges to be overcome by developing countries, but also by those already developed.

Unlike the MDGs, the SDGs have a broader scope, sharing a more holistic perspective on the issues surrounding sustainable development. By considering means of implementation and strategic issues, the SDGs explicitly address the relationship between environmental sustainability and issues related to industrialization, economic and social inequality, climate change, and sustainable production and consumption, as well as topics related to peace and justice. They are, therefore, applicable to the whole world and are universal in scope, differentiating themselves from the MDGs, in which the focus was on the settings of low- and middle-income countries.

By incorporating the role of different actors, the SDGs encourage the development of partnerships and cooperation in favor of their objectives and goals, with a view not only to the role of States, but also to civil society in general. One of these actors refers to the scientific / academic community, and the development of research and actions that seek to contribute to the challenges listed in this agenda is demanded. It is important to highlight that the SDGs present a science-based narrative for the solution of societal challenges, which means that scientific knowledge is expected to be embraced by the decision-makers in all sorts of areas. Accordingly with Allen et al. (2021, p. 636), "science can and should play an important role in advocating for evidence-based strategies and undertaking research that enables achievement of the SDGs", having the possibility to collaborate with monitoring and evaluating progress on the SDGs, assessing and managing interlinkages between nature, dynamics of interaction, policies and strategy formulation, sustainability transformations (considering the possibilities to develop interdisciplinary systems models and scenario approaches) and, consistency with

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Planetary Boundaries (considering the development of approaches about the SDGs with global planetary boundaries).

In this sense, considering the role of this specific community, it is possible to visualize in the scientific literature that, from its launch, the SDS agenda has become a global research agenda. This agenda, in turn, permeates different areas of knowledge, being incorporated both by research groups and centers, as well as institutionally through Higher Education Institutions (HEIs), research promotion agencies and national, regional, and international scientific associations.

The main objective of this article is to explore the relationship between the Sustainable Development Goals (SDGs) and the role played by the scientific community, with a view to their specific incorporation by international scientific associations (SDSN, ISC and GUNi). In other words, we seek to identify how this community has been collaborating to achieve these Objectives, as well as how they mobilize on the international stage in the context of building a global research agenda. Methodologically, the article was based on bibliographic reviews on the theme, in addition to performing an exploratory mapping regarding the performance of scientific associations that deal directly with the SDGs. The case studies presented refer to the Sustainable Development Solutions Network (SDSN), the International Science Council (ISC) and the Global University Network for Innovation (GUNi), among other activities that make up the established collaboration network, such as the Belmont Forum and the global Future Earth network. This mapping was carried out between February and June 2021, considering their interactions with various actors that integrate the international scientific community, such as research and development promotion agencies, higher education institutions, research centers and laboratories, as well as other disciplinary and interdisciplinary scientific associations.

It is necessary to highlight that, within the scope of the consulted literature, specifically on the Scopus and Web of Science platforms, we identified a total of 9 (nine) bibliographic productions that deal with indicators and initiatives produced by the SDSN in line with the SDGs. Regarding the scientific production on GUNi, the ISC, as well as in relation to the keywords "international associations" and "scientific associations", we did not identify any article or material of scientific nature that deals specifically with their actions and initiatives. As for the productions on the SDSN, 8 (eight) of them refer to the indicators produced by the Association on the SDGs (GARCÍA LÓPEZ et al., 2021; GARCÍA-PEÑA et al., 2021; CAMPILLO-SÁNCHEZ et al., 2021; SILVEIRA et al, 2021; LANSHINA et al., 2019; WACKERNAGEL et al., 2017; KANTER et al., 2016; DUMPE, GUEVARA, 2020) and, only

1 (one) paper concerns the performance of the association, in view of its initiatives related to this theme (ZEIGERMANN, 2021). Other studies, however, deal with the role of international organizations in relation to the SDGs, but do not specify the academic community, as is the case of the paper produced by Cormier (2016). In this sense, we believe that this exploratory article aims to contribute to the mapping of the initiatives of these scientific associations in relation to their contributions to the achievement of the SDGs, opening a research agenda that can be explored in future studies on the SDGs and their relationship with the academic community and higher education.

The article is organized into three parts, in addition to this introduction and final considerations. The first of these aims to present how this community has been collaborating with the achievement of these Objectives, as well as the data related to international scientific production on the SDGs, in view of the bibliometric study carried out and published by the RELX SDG Resource Center / Elsevier (2015-2019), as well as the exploratory study carried out within the framework of the Web of Science Platform. The second part consists of the presentation of the mapping carried out with the associations, considering its prominence and influence in the international sphere, its initiatives and relationships established with the other actors of the scientific community in favor of the SDGs. Finally, the third part of the article aims to highlight other initiatives developed in the academic sphere, specifying the impact generated by them in the establishment of a global research agenda. As a hypothesis launched during the article, it stands out: the establishment of networks of collaboration and cooperation between international scientific associations aims to build an epistemic community around the SDGs.

The academic community and the SDGs

As highlighted in the report "Accelerating Education for the SDGs in Universities: A guide for universities, colleges, and tertiary and higher education institutions", produced by SDSN (2020), universities and other higher education institutions (HEIs) play a crucial role in achieving the Sustainable Development Goals (SDGs), in view of their commitments to research development, teaching and learning, public engagement and leadership. In other words, these are key institutions that can effectively address the SDGs through the training of human resources and knowledge, aiming at coping with the complex challenges incorporated by this agenda. Science, in general, can contribute with the implementation of this agenda,

considering the adoption of the science-based approaches by governments to support SDG implementation (ALLEN et al., 2021).

Corroborating this perspective, it is possible to identify in the academic literature, several documents that deal with the role of these institutions and, by extension, of the academic community in general, with regard to the production and dissemination of knowledge about sustainable development and social change (GERMAN COMMITTEE FUTURE EARTH, 2016; LEAL FILHO et al., 2017; ICSU, 2017; SDSN AUSTRALIA / PACIFIC, 2017; KÖRFGEN et al., 2018; LEAL FILHO et al., 2018; DIDRIKSSON, 2019; SALVIA et al., 2019; KOWALTOWSKI, 2020; HELETA, BAGUS, 2020; MILTON, 2021; ALLEN et al., 2021). Going through various disciplines and contexts, the academic community can be seen as one of the main actors committed to the 2030 agenda, considering its unique position before the other, as well as its sphere of influence in relation to the formulation of public policies of national and, sometimes, international nature.

His contributions, in terms of conducting scientific research, can be categorized in three ways, according to the report produced by the United Nations (2019): referring to the 2030 Agenda; guided by the 2030 Agenda; and / or, conducted in accordance with the 2030 Agenda. The first of these refers to the evaluation of the impact of human activities on the environmental dimension, assisting in their understanding of current dynamics and future scenarios. The second mode of contribution concerns the formulation of solutions, in terms of public policies, to achieve the objectives and goals of the agenda, going from understanding the phenomena to identifying and detailing how to mitigate the identified problems. Also, in terms of conducting research, the community can conduct studies on contested and misunderstood issues, with a view to building a common consensus on environmental and social impacts, preserving its autonomy, transparency, and reproducibility of its methods (UNITED NATIONS, 2019).

According to the same document, scientific and technological development, depending on how it is directed, may cause positive changes to society. Scientific-political cooperation, for example, is seen as a means by which it is possible to take advantage of advances in the understanding of human-environmental systems, synthesizing scientific knowledge in the formulation of regional policies and, in turn, of a global scope. One recognizes the need for transformations towards the scope of this Agenda, since "researchers, engineers, science policymakers and funding agencies can adopt the 2030 Agenda as a shared compass to increase the relevance and benefits of science and technology for the global community" (UNITED NATIONS, 2019, p. 115).

In terms of the relationship between knowledge and academic diplomacy, Vilalta et. al (2018) highlights that this has become a fundamental tool to improve and strengthen cooperation and partnerships between different actors that are part of the agenda. It is a community that can act in the consolidation of relations between countries and regions, within different contexts and areas of knowledge (KNIGHT, 2018). The IESs, therefore, can and should integrate the objectives and goals of the 2030 Agenda as a fundamental aspect of their social responsibility (VILALTA et. al, 2018).

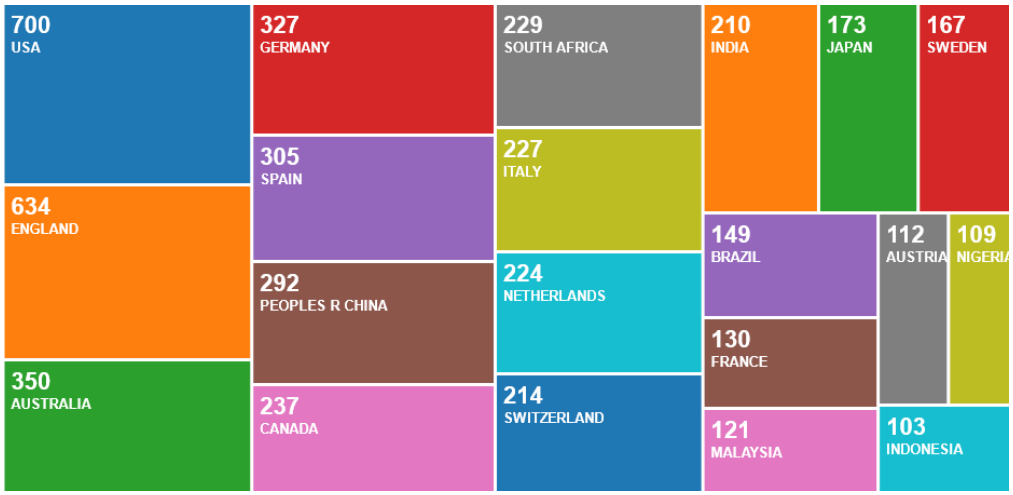
In this sense, as indicated by the Elsevier report (2020, p. 3), "the global research community is the backbone of this grand societal challenge. Its commitment to finding evidence-based answers is a driving force for advances in global health and wellbeing, poverty reduction, and life expectancy." Evidence that validates this statement refers to the Covid-19 pandemic itself, which highlights the role that scientific knowledge plays in society. Specifically to the SDGs, such a community is also conceived as a key to progress towards the year 2030 (ELSEVIER, 2020).

The increase in scientific production related to the objectives and goals of the SDGs also accentuates and exemplifies the way this community has been dedicated to the agenda. As part of the research conducted by Elsevier (2020), more than 4 million articles on the SDGs were published between 2015 and 2019. Among this total of publications, the most recurrent SDGs were SDG 3 (Good Health), SDG 7 (Clean Energy) and SDG 13 (Climate Action). The publication of such specific SDGs, according to the report, comes from middle and high-income countries such as the United States, China, and the United Kingdom. In general, it is possible to say that most of the research on the SDGs comes from high-income countries, in view of the SDGs that have greater relevance to industrialized countries. In relation to research on the first SDGs, they originate mostly from low-income countries, with a more limited publication activity.

Corroborating these results, in an exploratory search in the Web of Science database using the terms "SDGs" and "sustainable development", we identified a total of 3,901 publications between 2015 and June 2021. The main types of published documents are papers (3,153), reviews (356), proceeding papers (291), early access (185), editorial material (133), among others, such as data paper (5), book chapter (4), meeting abstract (2), corrections (2), book and reviews letter (1 each). The countries/regions of origin of such publications also reaffirm the findings in Elsevier's research, including the United States (700), the United Kingdom (634), Australia (350), Germany (327), Spain (305) and China (292), among others

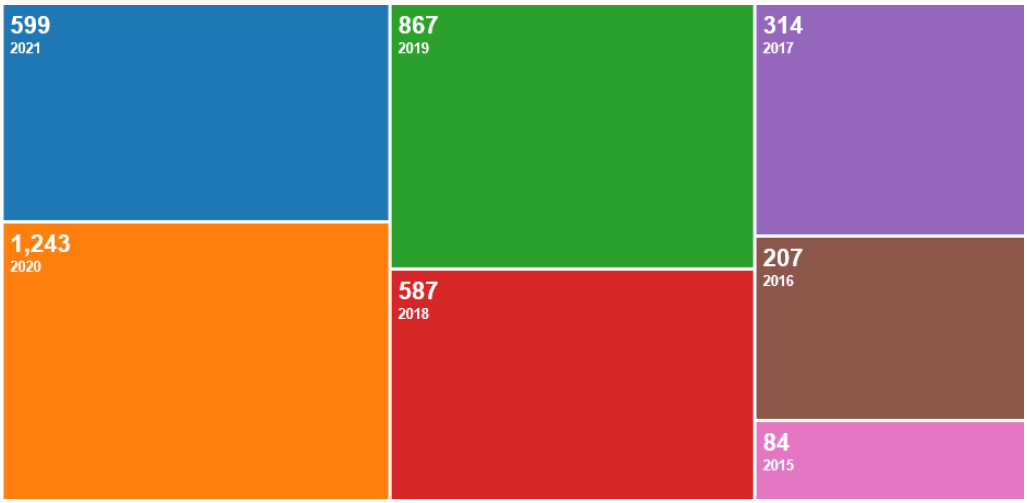
as shown in Figure 13. The year of publication also draws attention, in view of the exponential increase observed from 2019 onwards, as indicated in Figure 14.

Figure 13. Countries/regions of identified publications (2015-June/2021)



Source: Author's elaboration.

Figure 14. Year of publication (2015-June/2021)



Source: Author's elaboration.

Other specifications can be observed within the scope of the data collected on the publications indexed on the Platform, such as the research area, funding agency and linked journals. As for the research area, the following can be observed: most publications are linked to Environmental Sciences & Ecology (1,480), Science & Technology (1,098), Business Economics (418), Government Law & Public Administration (308), Public Environmental & Occupational Health (304), Engineering (281) and Education Research (242). Other topics are

also covered such as Development Studies (191), Social Sciences (161), Geosciences (130), International Relations (121), Energy Fuels & Water Resources (104 each), Computer Science (94), Health Care & Science Services (93), Remote Sensing (83), Agriculture (75) and Other General Topics (57).

Regarding the funding agencies of the published research, it is possible to note from Figure 15 that the main ones are linked to countries/regions of medium and high income, reaffirming the above-mentioned findings. The main agencies are: European Commission (138), UK Research and Innovation (106), National Natural Science Foundation of China (93), World Health Organization (53) and Japanese Ministry of Education, Culture, Sports, Science and Technology (47), among others. In relation to the linked journals (Figure 4), the following stand out: Sustainability (515), Journal of Cleaner Production (108), Sustainability Science (53), Science of the Total Environment (48) and Sustainable Development (43), among others.

Figure 15. Agencies funding published research (2015-June/2021)

Source: Author's elaboration.

Figure 16. Journals linked to publications (2015-June/2021)

Source: Author's elaboration.

It is necessary to highlight, however, as Stated by Rafols (2020) that the search for bibliographic production on the SDGs does not actually analyze the real impact of the research, since the indicators that deal with this production are not robust. As indicated by the author, the rapid emergence of this type of mapping and indicators raises questions to be addressed in the context of scientific policy studies. As an example, we can cite the case of the use of SDGs as parameters of university ranking, considering the incorporation of the objectives and goals of this agenda in the institutional scope, as is the case of the "Times Higher Education Impact Rankings (THE, 2021)", which as Rafols (2020) indicates, offers a controversial classification according to little defined criteria of excellence. This ranking evaluates universities in relation to the SDGs, using indicators that provide information on the pillars of teaching, research, outreach, and university management. In its last version released in April 2021, the ranking included 1,117 universities from 94 countries/regions, the first of which originated in the UK, Australia, Canada, and Denmark.

In addition to scientific production, other initiatives related to the SDS agenda can be observed within the international academic community. The role played by international scientific associations is therefore highlighted. As indicated above, the scientific community has been noted as one of the main actors contributing to the achievement of this specific agenda. In this sense, as observed in the literature, as well as in the main academic initiatives that deal with the SDGs, various scientific associations have been incorporating this debate into their institutional structures, research agendas and varied initiatives, through the establishment of cooperation networks with other community actors. Some of these associations gain

prominence due to the constancy of their production in relation to the agenda, such as the Sustainable Development Solutions Network (SDSN), the International Science Council (ISC) and the Global University Network for Innovation (GUNi), among others that also make up the established collaboration network, such as the Belmont Forum and the global Future Earth network. Such associations will be addressed in the next session of this article.

Mapping of international scientific associations and their relationship with the SDGS

When researching the role of the academic community in relation to the SDS Agenda, it is evident the contributions that some scientific associations have in the context of such a debate. In addition to the scientific production of these, the associations mapped by this study demonstrate the establishment of cooperation networks and partnerships between different actors of the international community that, in our view, signal for the construction of an epistemic community around the SDGs. The mapping is based on the associations (SDSN, ISC, GUNi) and was developed through bibliographic research, access to their institutional sites, as well as identified due to the degree that these associations are mentioned in the literature consulted, especially regarding the bibliographic material they produce. The objective of this session, therefore, deals with the way these institutions operate, their objectives, practices and established collaborative networks.

It should be noted that, when considering the construction of an epistemic community, we visualize the performance of these associations as a "set of individuals, largely linked to the academic-scientific world, who have recurrent interactions and share a language and a theoretical or methodological model", (SECCHI, ZAPPELLINI, 2017, p. 112). In our perspective, these are communities that have been developing at different paces, playing an important role in the dissemination and transfer of knowledge about the SDGs, as well as in the search for influence in the formulation of public policies related to the agenda.

SDSN's performance about the SDGs

The first association to be presented refers to the UN Sustainable Development Solutions Network (SDSN). Created in 2012 under the auspices of the UN Secretary-General, the association aims to promote integrative approaches related to the implementation of the SDGs and the Paris Agreement on Climate Change, through the mobilization of global scientific and technological expertise, with a view to the development of education, research, policy

analysis and global cooperation. The SDSN is led by a Leadership Council, being close to UN agencies, funding institutions, the public and private sector, as well as civil society organizations. Until 2016, the association was located at the Earth Institute at Columbia University and, as of July of the same year, had been hosted by the SDSN Association (both the SDSN Secretariat and the SDG Academy). Currently, its offices are in New York, Paris, and Kuala Lumpur.

Regarding the institutional members that make up the Association, there are a total of 1,479, being 39 National Hosts, 12 Regional Hosts and 2 Former Members. Among these members, there are 929 universities (among departments and institutions), 294 non-governmental agencies, 194 research institutions, 60 civil society organizations, 41 donors and/or sponsors of the association, 4 UN agencies and 3 governmental agencies. It is worth noting that the categorization of members follows the provisions of the association's institutional website, and a single member can be identified through more than one sector of activity.

As to the origin of these members, a total of 133 countries are represented in this association, of which 483 are from Europe, 376 from Asia & Oceania, 282 from Latin America & the Caribbean, 216 from North America and 168 from Africa.

Table 5. SDSD members by region and category

Tipo	**Region**					**Total**
	Africa	**Latin America & Caribbean**	**North America**	**Asia & Oceania**	**Europe**	
UN Agency and Affiliate	0	1	1	2	0	4
Government Agency	1	1	0	1	0	3
Non-governmental Agency	29	74	40	78	73	294
Civil Society Organization	1	21	4	14	20	60
Research Institution	18	40	14	56	66	194
Foundation / Donor Organization	1	9	5	10	16	41
University (Department / Institution)	118	137	151	215	308	929
Total	168	282	216	376	483	-

Source: Author's elaboration.

Among the activities developed under the SDSN, we highlight the offer of online courses on the platform "The SDG Academy", the development of regional projects, the organization of seminars, conferences, and webinars, as well as the publication of reports and other materials that deal with their topics of interest: Sustainable cities; Climate & Energy; Good governance of extractive & land resources; Health for all; Land use & food; and SDGs. Specifically on its bibliographic production, the association releases an annual report on progress in relation to the SDGs, as well as indicators that deal with how each country is in relation to the implementation of this agenda. The latest published report, called "Sustainable Development Report 2021", indicates that the Covid-19 pandemic has impacted progress on the SDGs, as in addition to creating a global health emergency, it has also resulted in a sustainable development crisis (SDSN, 2021).

Also, in relation to the last published report, it is possible to note a discrepancy in the political support in relation to the SDGs and their incorporation into the national public policies of the revisited countries. According to the indicated (SDSN, 2021), less than half of the countries surveyed (20 of 48) mention the SDGs in their latest budget documents. Therefore, it is suggested the implementation of tools for monitoring public policies, with a view to monitoring the commitments and actions taken by un member countries. In addition, it is also possible to observe existing gaps in the SDGs 4 (Quality Education), SDGs 5 (Gender Equality), SDGs 12 (Responsible Consumption and Production), SDGs 13 (Action against Global Climate Change) and SDGs 14 (Water Life). Other materials published by SDSN can also be found on its institutional website, being a bibliographic reference for several academic works.

Within the scope of the SDSN online platform it is also possible to identify several initiatives that such association carries out in support of the SDGs. One of the initiatives draws attention for presenting case studies on the implementation of this agenda in the university environment. These are, in fact, complementary studies to the "Accelerating education for the SDGs in universities" guide. In this sense, the association publishes a selection of case studies submitted by universities around the world, to inspire new actions to be carried out by the community. In this, they specify that one of the most important ways in which universities can collaborate with the SDGs refers to Education for the SDGs (ESDGs), organizing the studies according to the actions they intend to achieve: Curricular initiatives for university students (related to teaching-learning processes within the scope of undergraduate, graduate and research programs); Co-curricular initiatives for university students (related to teaching-learning processes not integrated in undergraduate and graduate programs, such as summer school, living labs, etc.); Community at large (related to the community outside the university, such as

the public sector, companies, university networks and the community in general); and, University staff and processes (related to the construction of capacities on ESDGs between professors and university staff, in addition to the creation of internal structures and processes for their implementation).

ISC's performance about the SDGs

Continuing the presentation of the associations, we left for the International Science Council (ISC), created in 2018 through the link between the International Council for Science (ICSU) and the International Social Science Council (ISSC). It is, therefore, a non-governmental organization that brings together about 40 international scientific associations and more than 140 national and regional scientific organizations. The association aims to act as the global voice for science, through the stimulation and support for the development of international scientific research, the articulation between the scientific knowledge produced and public domain issues, the continuous and equal advancement of scientific rigor, as well as the defense of the autonomy and responsibility of science. The activities developed focus on three main axes, according to its Action Plan 2019-2021:

> i.Science-for-policy to stimulate and support international scientific research and scholarship, and to communicate science that is relevant to international policy issues; ii. Policy-for-science to promote developments that enable science to contribute more effectively to major issues in the international public domain; and iii. Scientific freedom and responsibility to defend the free and responsible practice of science (ISC, 2021, n/p).

Among the issues addressed by ISC activities, global sustainability, urban health and well-being, poverty, disaster risk reduction, data production, observation systems and scientific advice for governments stand out. The ISC Council is in Paris, with regional offices in Africa, Asia, and the Pacific, to establish closer collaborations between the national and regional members of the association. With regard to the origin of such members, we can highlight three categories: "1 - Full Member: Scientific unions, associations and similar bodies, being international scientific organizations devoted to the practice and promotion of specific scientific disciplines or areas"; " 2 - Full Member: Academies of sciences, research councils or analogous not-for-profit scientific bodies representing a broad spectrum of scientific fields or disciplines in a country, region, territory or globally"; and, "3 - Affiliated Member: Other international bodies, being governmental and non-governmental organizations, whose activities are in a field cognate to those of the Council".

Table 6. ISC members by region and category

Category	Region						Total
	Africa	Latin America & Caribbean	Asia & Pacific	Europe	North America	Middle East	
1st Full Member	0	0	0	0	0	0	0
2nd Full Member	33	22	28	47	3	12	145
3rd Affiliated Member	2	0	3	2	0	1	8
Total	35	22	31	49	3	13	153

Source: Author's elaboration.

As for the activities developed by the association, we can mention the constitution of a wide range of international research programs and networks, the development of projects, campaigns, and global events, as well as the commitment to the development of all sciences, in view of the natural and social sciences to behavioral, data and technological sciences. As conducted by SDSN, ISC also presents a series of publications on the works it has been developing, as is the case of the publication called "A Guide to SDG Interactions: from Science to Implementation" (ISC, 2017), widely cited in the academic literature on the SDGs. In this, the association reiterates the interactions between the objectives and goals of the SDGs, providing an action plan that seeks to help countries implement and, in turn, achieve the SDGs.

Other initiatives can be highlighted about the performance of the ISC, as is the case of the "Global Forum of Funders", held in April 2021 among participants from more than 70 countries on the efforts that the academic community has been making in relation to the SDGs. The purpose of this online forum was to find solutions to increase funding that supports science for the SDGs, with a view to fostering scientific collaboration, as well as developing coordination and mobilization of future resources oriented towards global sustainability.

GUNi's performance about the SDGs

The Global University Network for Innovation (GUNi) also presents itself as one of the main scientific associations that deal with the management of higher education and its relationship with sustainable development. Currently, the network has brought together about 250 members from 80 countries, covering research centers, higher education institutions and UNESCO chairs. It is, in its own words, "a reference institution in the implementation of the

2030 Agenda and the SDGs in higher education". Created in 1999 after the first UNESCO World Conference on Higher Education, the network is supported by the Catalan Association of Public Universities (ACUP) and UNESCO, and is officially located in Barcelona, with regional offices in Asia and the Pacific, Latin America and the Caribbean, Sub-Saharan Africa, the Arab States, and Europe and North America (USA and Canada).

Its main objective is to bring together innovative knowledge and experiences to help the academic community, among institutions and higher education systems, to obtain greater involvement and impact on the development of societies. According to its institutional website, GUNi aims to:

> 1. Encouraging Higher Education Institutions to reorient their roles for broadening their social value and contribution and strengthening their critical stance within society; 2. Helping bridge the gap between developed and developing countries in the field of higher education, fostering capacity-building and cooperation from all over the world; 3. Promoting the exchange of resources, innovative ideas and experiences, while allowing for collective reflection and the co-production of knowledge on emerging higher education issues, innovation, and social responsibility on a global scale (GUNi, 2021, n/p).

Like the other associations presented, GUNi organizes seminars, workshops, and conferences, publishes reports and other materials, develops international projects within the established network, considering its current themes: Responsible Research and Innovation (RRI), Sustainable Development Goals and the future of the Humanities and the relation between science and humanities in the 21st Century. As for the linked members, we can view them from Table 7.

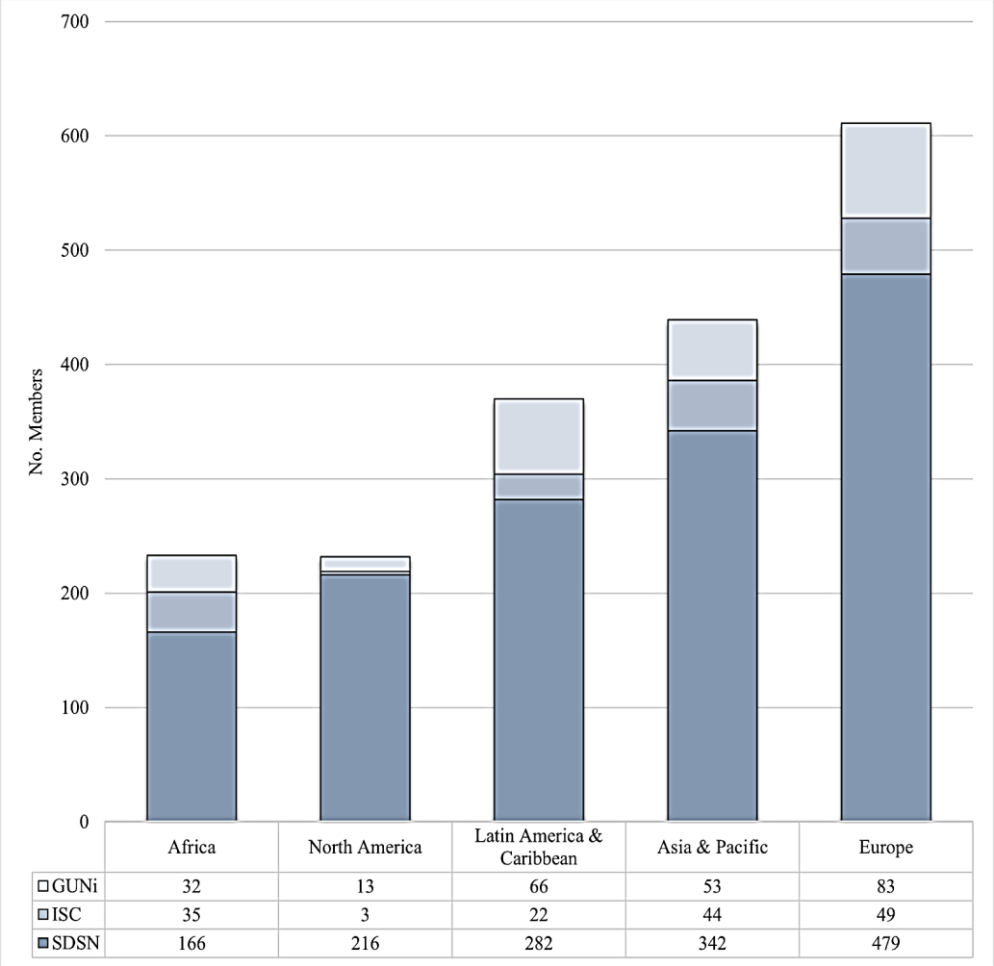
Table 7. GUNi members by region and category

Category	**Region**						**Total**
	Africa	**Arab States**	**Asia & Pacific**	**Europe**	**Latin America & Caribbean**	**North America**	
Founding Member	0	0	0	1	0	1	2
HE Institution	26	18	23	38	42	6	153
HE Network	1	0	3	5	9	1	19
Research Center on HE	2	0	3	6	1	2	14
Unesco Chair in HE	3	3	2	31	13	3	55
Other	0	1	0	2	1	0	4
Total	32	22	31	83	66	13	247

Source: Author's elaboration.

Among the main materials produced by GUNi, we can mention the "Implementing the 2030 Agenda at Higher Education Institutions: Challenges and Responses", published in 2019 and the report "2nd GUNi International Conference on SDGs: Higher Education & Science Take Action", published in 2020, among others. In both materials, the association presents the SDGs from the perspective of higher education, since, according to this, the SDGs are allowed to rethink the role of these institutions in society. In addition to the obstacles to its implementation, several initiatives, projects, programs, and practices are exposed. In this sense, given the initiatives presented, in view of the three associations, we can visualize a greater preeminence of the participation of countries of the Global North. This prevalence can be observed in Figure 17, which shows the number of members of these according to each continent.

Figure 17. Number of SDSN, ISC and GUNi members per region



	Africa	North America	Latin America & Caribbean	Asia & Pacific	Europe
GUNi	32	13	66	53	83
ISC	35	3	22	44	49
SDSN	166	216	282	342	479

Source: Author's elaboration.

The figure shows: i. a larger number of members linked to the SDSN in relation to the ISC and GUNI; ii. in relation to the distribution of members by region, a larger number come from Europe, Asia & Pacific and Latin America & the Caribbean; iii. in relation to North America and Africa, these are in balance. It is also necessary to highlight the form of participation of these members in these associations, considering the specific categorization of SDSN and GUNi, which allow a more in-depth analysis.

In relation to the European members, we have the following: in the scope of the NSDS, there is a predominance of departments and institutions linked to universities in all the regions considered, followed by non-governmental agencies and research institutions; in relation to the GUNi, most of the members are higher education institutions, followed by the UNESCO Chair in HE and the HE Network. Specifically in relation to the ISC, most of the members refer to academies of sciences, research councils or analogous not-for-profit scientific bodies representing a broad spectrum of scientific fields or disciplines in a country, region, territory or globally.

As to the participation of civil society organizations, we can see that, according to the data published by SDSN, most of them come from Latin America & Caribbean, Europe, Asia & Oceania, North America, and Africa. In relation to government agencies, we identified only 3, being 1 from Africa, 1 from Latin America & Caribbean and 1 from Asia. Regarding Foundation / Donor Organizations, there is a prominent participation of countries from Europe, Asia & Oceania, Latin America & Caribbean, North America and finally Africa. ISC and GUNi data for these specific categorizations were not available at the time of this research.

Other initiatives of the academic community in relation to the SDGs

In addition to the initiatives already addressed, we can mention other actions that have been carried out within the academic community on the SDGs, as is the case of the project called STRINGS (2021), whose objective is the mapping related to how the development of science, technology and innovation contribute (or not) to the achievement of the SDGs. It is a project between seven universities, research centers and the UNDP (United Nations Development Program), with a view to developing an integrative structure between CTI and SDGs. The project is led by the Science Policy Research Unit (SPRU) at the University of Sussex, the Department of Science, Technology, Engineering and Public Policy (STEaPP) at University College London (UCL) and the United Nations Development Program (UNDP), with the UK Research and Innovation (UKRI), Research Center for Transformation (CENIT),

Center for Research on Innovation and Science Policy (CRISP), Center for Science and Technology Studies (CWTS), University of Pretoria and The Innovation Foundation (NESTA).

Globally, the UN Technology Facilitation Mechanism (TFM, 2021) stands out, with the objective of facilitating collaboration and the establishment of partnerships between different actors, with the intention of sharing information, practices, experiences and consultancies between UN Member States, the private sector, the scientific community, UN entities and agencies, civil society, and other stakeholders. This mechanism consists of the United Nations Inter-Agency Task Team (IATT), with 45 entities; by the Multi-stakeholder Forum on Science, Technology, and Innovation for the SDGs; as well as the 2030 Connect online platform, which is a portal for information on mechanisms, initiatives and programs relating to the SDGs.

Another prominent initiative is the Transformative Innovation Policy Consortium (TIPC, 2021), which is a group of science, technology, and innovation researchers, as well as public policy formulators and research and development funding agencies that aim to address the challenges of global society, in view of the SDGs and a new framework for science, technology and innovation (STI) policy - Transformative Innovation Policy (TIP). Like the STRINGS project (2021), the group is coordinated by the Science Policy Research Unit (SPRU) at the University of Sussex, consisting of members from Colombia, Finland, Norway, South Africa, and Sweden, as well as associated with programs from China, Brazil, Senegal, Ghana, and Kenya. Through an interdisciplinary approach, new forms of cooperation and mutual learning between countries in the South and Global North are sought. Among the results already published, it is indicated that "countries that least need help to achieve un targets account for 90% of research related to the SDGs", while "nations that need to advance in areas such as quality education, clean energy at affordable prices, consumption, and sustainable production, for example, produce less in these areas than medium and high-income countries combined" (AGÊNCIA FAPESP, 2021, own translation).

It is also added too many initiatives such as the Belmont Forum and Future Earth networks. As for the first, created in 2009, it is a partnership between funding organizations, interdisciplinary science councils and regional consortia, with a view to advancing international transdisciplinary research, which, according to the institution itself, can provide knowledge to broaden understanding of global environmental changes, in addition to assisting in its mitigation and adaptation process. Among the activities developed, we highlight the publicization and promotion of call for research proposals, projects with organizations funding, international science councils, and regional consortia, in addition to organizing events on the

following topics: Freshwater Security, Coastal Vulnerability, Food Security and Land Use Change, Climate Predictability and Inter-Regional Linkages, Biodiversity and Ecosystem Services, Arctic Observing and Science for Sustainability, and the Sentinels of Change (BELMONT FORUM, 2021).

Future Earth (2021), on the other hand, launched in 2015, refers to a global network composed of scientists, researchers and innovators aimed at accelerating transformations towards global sustainability. According to its institutional website, the "focus on systems-based approaches seeks to deepen our understanding of complex Earth systems and human dynamics across different disciplines. We use this understanding to underpin evidence-based policies and strategies for sustainable development." The network, therefore, seeks to develop knowledge and tools to be incorporated by communities, governments, and companies to achieve the 17 SDGs. Therefore, through the connection between environmental, social, and economic systems, Future Earth seeks to foster the development of research and innovations, build, and mobilize cooperation networks, as well as shape the narrative about sustainable development.

It is also possible to highlight other associations, organizations and initiatives of the academic community that deal with the SDGs in a direct and indirect way, as is the case of "SciDev.Net" (2021),which consists of a portal that publishes world news, opinions and analyses on science and technology with a view to sustainable development, as well as the online platform "The Global Academy" (2021), whose objective is the mapping of researchers and academics who study about the objectives and goals of the SDGs. Other associations and initiatives can be seen in Supplementary Material of this article, which presents the objectives and work topics of each of them, most of which come from the Global North. It is noteworthy that the identification of these was based on the relations of cooperation between the associations mentioned in session 2 of this article.

Final Considerations

This article aimed to explore how SDSN, ISC and GUNi, as international academic associations, have been acting in relation to the achievement of the SDGs. As can be seen, several initiatives have been mapped, with a view to recognizing this global research agenda as one of the social commitments to be made by this community, especially in the context of the Global North. These scientific associations gain prominence due to their constant performance

in relation to the agenda, specially about the commitment with the science-based narratives to the implementation of the SDGs.

Within the scope of these associations, it was possible to identify a network of cooperation and collaboration among several actors of the academic community, distributed around the globe. Although this is an exploratory study, it was possible to launch a hypothesis that the establishment of such networks aims at building an epistemic community in favor of the SDGs. Other studies identify the formation of epistemic communities around issues related to sustainability and sustainable development (DUNLOP, 2012; SAENZ, 2018; TRUR, 2021), corroborating the hypothesis established here. However, to confirm this, further studies are needed to identify how these associations interact with each other, as well as the activities they carry out with other actors.

In this sense, it is possible to launch the establishment of this hypothesis considering the following aspects: i. the original definition of epistemic communities revolves around the idea of “a network of professionals with recognized expertise and competence in a particular domain and an authoritative claim to policy-relevant knowledge within that domain or issue-area” (HAAS, 1992, p. 3) or, in other terms, they are "groups of 'knowledge' experts, with recognized expertise, shared ideas and political goals who influence international policy coordination by helping to shape outcomes around global issues"; ii. Furthermore, such communities are seen as "an array of other transnational actors, which also influence global governance, such as communities of judges and regulators, advocacy networks and communities of practice", that is, community members become important actors who influence decision-making at the national and transnational level (TRUR, 2021, P. 452; HAAS, 1992); iii. Besides, these communities are not established in a single territorial demarcation, since they vary according to the problems they intend to solve, the plurality of actors and ideological orientations (SAENZ, 2021). Other characteristics that deal with the establishment of epistemic communities refers to the creation of conditions so that the different actors may have greater incentives to carry out their activities related to a theme and/or the solution of a common problem (SCHNEIDER et al., 2003). In this sense, considering the case studies addressed in this article, we emphasize the existence of this movement towards the formation of an epistemic community in relation to the SDGs.

In this sense, it is instigated that other studies be carried out on the performance of the academic community in relation to the SDGs, considering the other Scientific Institutions listed on Supplementary Material and the science-based narratives. As an integral part of this new research agenda, it is possible to highlight some topics: i. how does the global southern

academic community (in view of the Latin American, African and Asian community) work in these associations?; ii. what are the motivations for the establishment of these cooperation and collaboration networks?; iii. how do these associations interact with national states and other actors in society, considering the science-based perspectives to the implementation of the SDGs?; and, iv. how does the relationship between these associations take place in the context of the formulation of national and regional public policies?, among others.

Final remarks

From this first part of the thesis, it was possible to outline an overview of the research agenda related to the Sustainable Development Goals, as well as the way in which the academic community operates, with special attention to the activities developed by international scientific associations. A bibliometric study enabled the identification of: i. the quantitative increase in scientific production on the SDGs; ii. the origins of scientific production, as well as the main journals that publish on this topic; iii. how the scientific community has been adopting the SDGs in teaching, research, and outreach activities, considering the types of studies evidenced by the analysis.

Regarding the analysis of the performance of international scientific associations, the idea of building "epistemic communities" related to the SDGs can be observed, as well as how these communities have been influencing the performance of other institutions in the S&T system based on their activities. In the next parts of the thesis, the performance of the scientific community in relation to the SDGs will be considered, as seen in this particular part. Moreover, the questions outlined at the end of this part will also be considered, in view of the study of this thesis.

PART 2. FAPESP'S PERFORMANCE IN RELATION TO SUSTAINABLE DEVELOPMENT

This part aims to present an overview of how the São Paulo Research Foundation (Fapesp) has been incorporating the discussion on the SDGs and, by extension, sustainable development, in its research funding policy. Therefore, this part is organized into two chapters: the first aims to identify the history of the granting of scholarships and grants for national and international research on the theme; the second deals with one of the main cooperation agreements established within Fapesp with the Belmont Forum, which has as a guideline the promotion of research on topics related to sustainable development and the SDGs. Before them, we present the historical contextualisation of the constitution of the Foundation, considering its strategic research areas, creation of the BIOTA, BIOEN and Climate Change programs, as well as its International Cooperation Policy.

Fapesp's history and strategic programs

This subpart of the thesis aims to present a brief historical context of the institutionalization of Fapesp, the legal instruments that structure it, the modalities of support and strategies for promoting research. In addition, we will deal with the creation of the Programs oriented to the strategic objectives that deal with the themes of sustainable development (BIOTA, BIOEN and Climate Change), as well as the strategies for international cooperation in research, giving special attention to the cooperations established on the above-mentioned theme.

As part of the general context, it is worth highlighting the production of Petrucci (1993) who argues that the first initiatives seeking to link scientific activity and governmental interests date back to the 17th century. Since then, several institutions were created by national states (such as Great Britain, France and the United States), aiming at stimulating scientific research, the application of the knowledge produced and the advancement of science. The world wars became determining factors in the process of institutionalization of science policy, and there was a direct relationship between knowledge and power, as well as the utilitarian role of science.

The main document that supports the importance of investing in and sustaining a science policy dates to July 1945, formulated by Vannevar Bush and entitled "Science, the

Endless Frontier". The document was widely disseminated after being sent to President Truman (USA), becoming a milestone in the process of institutionalization of the US science policy. This document went on to influence, little by little, the institutionalization of scientific policy in other governments of most industrialized countries, which used it as a justification for the establishment of institutions similar to the American agency National Science Foundation (SALOMON, 1977).

The discourse of the importance of the PCT for socioeconomic development also reached the context of underdeveloped countries, as is the case of Latin American countries. In this region, the institutionalization of PCT occurred in the 1960s, incorporating "the discourse of the relevance of this factor as a means to overcome the problems of underdevelopment" (PETRUCCI, 1993, p. 6, own translation).

It is important to emphasize that "the creation of the institutional apparatus for science and technology policy in Latin America did not mean a commitment, in fact, by the governments of the region, to promote scientific and technological development aimed at solving local problems" (PETRUCCI, 1993, p. 11, own translation). In fact, as Herrera (1973) argues, it is necessary to differentiate between explicit and implicit policies. The first one refers to formal policies, written in government regulations, being easy to identify. The implicit policy is the "real" scientific policy, not officially registered in the regulations. The main difference is that the latter is at the "service of the ruling classes. Its goal is to create a system of science and technology that is not totally autonomous (...) but presents a mask of liberal modernity for the solution of minor problems" (PETRUCCI, 1993, p. 11, own translation). There is, therefore, a qualitative difference in relation to the process of institutionalization and objectives of science and technology policy between Latin American countries and industrialized countries. Different resources and demands also become factors that distinguish both contexts.

In Brazil, the institutionalization of the PCT is marked by some actions of the Federal Government, more specifically by the creation of CAPES (1951) and CNPq (1951), two agencies for fostering research and development (DIAS, 2011). Specifically about our study - the Research São Paulo Foundation (Fapesp) -, it was conceived in the late 1940s by "a group of scientists and professors, mostly from the University of São Paulo, influenced by the post-war climate, (...) [that] managed, with the Paulista Legislative Assembly, the inclusion, in the State Constitution of 1947, of a provision for the creation of the Foundation" (PETRUCCI, 1993, p. 12). However, it was only formally established in 1960 (Organic Law 5.918, of October 18, 1960) and began its activities in 1962 (Decree 40.132, of May 23, 1962), thanks to the

performance of the "scientific community of São Paulo allied to the leading intellectual elites", presenting a different structure in relation to the other institutions created at the time.

The main difference between Fapesp and the other agencies mentioned above refers to the definition of the Foundation's own budget, established in article 123 of the State Constitution of 1947, which stated that "the support to scientific research will be provided by the State, through a foundation organized in a manner to be established by law (...). Annually, the State will assign to this Foundation, as special income of its private administration, an amount not less than half a percent of its ordinary income". This amount was updated to 1% in the State Constitution of 1989, being considered by the Foundation itself as:

> "the main instrument that made FAPESP possible in the molds foreseen by its creators: an autonomous organism to support research, efficient in its administration, agile in its decisions, managed by highly qualified specialists and directly committed to the goals of scientific and technological development"[6].

The Foundation, which completes 60 years old in 2022, has as its purpose:

> "(…) the support to scientific research in the State of São Paulo, being responsible, for the attainment of this objective
> I - to fund, in whole or in part, research projects, individual or institutional, official or private, deemed advisable by its competent organs;
> II - partially fund the installation of new official or private research units;
> III - to oversee the application of the aids it supplies and may suspend them in cases of non-compliance with the approved projects;
> IV - to keep a record of existing research units within the State and their personnel and facilities;
> V - to keep a register of the researches under its support and of the others in the State;
> VI - to periodically promote studies on the general state of research in São Paulo and Brazil, identifying those fields that should be given priority for funding;
> VII - to promote the exchange of domestic and foreign researchers through the granting or complementation of study or research scholarships in the Country or abroad;
> VIII - to promote or subsidize the publication of research results" (Decree Nº 40.132, of May 23, 1962, own translation).

As a structure, the Foundation has three main bodies, namely: Superior Council, Technical-Administrative Council and Scientific Advisory Board. Each body has a specific number of members, as well as objectives and responsibilities, as can be seen in the chart below.

Table 8. Fapesp's administrative structure

Body	Members	Mandate	Responsibilities
Superior Council	12 members, 6 freely chosen by the State Government, 3 chosen by the State	Maximum of 6 years, can be renewed only once	I - elaborate and modify the By-Laws that will discipline the Foundation's operation, submitting them to the approval of the State Government; II - elaborate and modify the Internal

[6]Available at: https://fapesp.br/28/criacao-e-estruturacao-da-fapesp.

	Government based on those nominated by the 3 universities in São Paulo; 3 chosen by the State Government based on those nominated by the other Higher Education and Research Institutes in the State of São Paulo		Regulations, as well as resolve on omitted cases; III - determining the general orientation of the Foundation IV - approving the annual activity plans, including the budget proposal, prepared by the Technical-Administrative Board in obedience to that guidance; V - to judge, in February of each year, the accounts of the previous year and appreciate the reports VI - to guide the Foundation's equity and financial policy within its available resources; VII - to deliberate on the filling and remuneration of the Foundation's administrative positions; VIII - to fix the number and determine the remuneration of the Scientific Advisors.
Technical-Administrative Council	Composed of 1 Director-President, 1 Scientific Director and 1 Administrative Director, chosen by the State Government based on three-nominee lists indicated by the Superior Council	Maximum of 3 years	a) to give the Foundation an administrative structure, establishing the work regime and attributions of the personnel in internal regulations that will be submitted to the appreciation and approval of the Board of Directors; b) to deliberate on requests for the concession of assistance ad referendum of the Board of Directors c) to organize the Foundation's annual plan and submit it to the Board of Directors d) to organize the annual budget proposal and submit it to the Board of Directors e) to propose to the Superior Council the number of advisors, their distribution among the various specialty sectors, and their remuneration f) authorizing the contract of the Technical and Scientific Advisors g) proposing the salary plan for the Foundation's employees; h) elaborating the annual report of the Foundation's activities, especially regarding the aids granted and the results of researches, and providing for its disclosure, after approval by the Board of Directors.
Scientific Advisory	Voluntary specialists invited by Fapesp, from the State of São Paulo, Brazil and abroad	Not applicable	I - to review the requests for assistance forwarded to him by the Board of Executive Officers; II - to guide and assist the Technical-Administrative Council in complying with the provisions in items III, IV, V, VI and VII of article 3 III - to meet periodically to promote the best integration of its activities and the formation of a team spirit that is indispensable to achieve the Foundation's high purposes.

Source: Author's elaboration based on Law 5.918, from October 18, 1960, and the Foundation's Internal Rules.

As modalities of research support, the Foundation finances scientific and technological research through scholarships and research grants, which cover all areas of knowledge. The scholarship modality contemplates undergraduate and post-graduate students, while the aid modality is aimed at researchers with a minimum PhD title, who must be linked to Teaching and Research Institutions in the State of São Paulo. Both modalities are granted through three financing lines: Regular Line, Special Programs and Research Programs for Technological Innovation. The first Line is directed to the spontaneous demand whose projects can be presented by the initiative of the interested students and researchers, regardless of the period of the year. The second Line is fostered via induction through programs such as Support for Young Researchers, Public Education, Infrastructure Support, among others. And, the third line incorporates strategic themes elected by Fapesp, also being promoted via induction, as is the case of the Programs BIOTA, BIOEN, Climate Change, Public Policy, Program to Support Research in Partnership for Technological Innovation (PITE) and Program FAPESP Innovative Research in Small Businesses (PIPE), among others.

Each proposal submitted to Fapesp is evaluated according to the criteria of scientific or technological merit, as well as its adequacy to the norms and guidelines of the Foundation. Such evaluation is carried out by peers - via Scientific Advisory -, taking into account the area of knowledge in which it is linked[7]. In 2018, a new system was adopted to classify such support activities, as can be seen in the table below.

Table 9. Fapesp's support activity groups

Group of activities	**Description**
Training Human Resources for Science and Technology	Concession of regular scholarships for undergraduate and graduate students, in the country and abroad, without links to other research projects. - In the country: Scientific Initiation, Master's, Doctorate, Direct Doctorate and Post-Doctorate. - Abroad: Research Fellowships Abroad (BPE), at the post-doctoral level, and Scholarships for Research Internship Abroad (BEPE) during the validity of fellowships in the country.
Research for the Advancement of Knowledge	- Long-term: Support for basic and applied research, under the scope of Thematic projects and CEPID, SPEC, JP and Special Projects programs, as well as research grants and scholarships related to them. - Short term: Support for basic and applied research, in the ambit of Aid for Research - Regular and Aid for visiting researcher, publications, participation or organization of scientific meetings and related scholarships.
Research for Innovation	Set of research programs aimed at the collaboration between companies and universities or research institutes and to stimulate the development of technological innovation in the State of São Paulo. Programs: PITE; Center for Engineering Research/Center for Applied Research (CPE/CPA); Program for Innovative Research in Small Companies (PIPE) and the Program in Support of Intellectual Property (PAPI) and Research Grants and

[7]Available at: https://fapesp.br/sobre/.

	Scholarships linked to them. They also involve FAPESP studies to define conceptual and operational parameters for the installation of innovation districts in São Paulo and Campinas.
Research in Strategic Topics	Set of programs through which FAPESP seeks to stimulate the formation of research groups on themes considered strategic to the development of the State of São Paulo and the country and to modernize the São Paulo Research Institutes. Programs: BIOTA-FAPESP, BIOEN, Research on Global Climate Change, eScience and Data Science, Research in Public Policies, Public Education and Modernization of State Research Institutes and Research Aids and Grants linked to them.
Support for Research Infrastructure	Set of FAPESP's programs that aim to ensure the necessary infrastructure for the continuity of research. Programs: Multi-User Equipment Program, FAPBooks, Equipment Repair, Infrastructure Support, Institutional Technical Reserves and Access to Rednesp and SciELO Program.
Diffusion of Scientific Knowledge, Mapping of Research Units in the State and Studies on the General State of Research in São Paulo	FAPESP's scientific dissemination initiatives aimed at informing the institution's stakeholders about the results and social and economic impacts of public investments in scientific and technological research; disseminating the Foundation's scientific policy guidelines; and actions to measure and evaluate the results of activities supporting scientific and technological development; mapping existing research units in the state; and evaluating the general state of research in São Paulo.

Source: Author's elaboration based on information published by Fapesp[8].

Specifically about the Line of Research Programs for Technological Innovation, we highlight the creation of three programs directly linked to the theme of sustainable development, they are: FAPESP Research Program on Characterization, Conservation, Restoration and Sustainable Use of Biodiversity (BIOTA-FAPESP), FAPESP Research Program on Bioenergy (BIOEN) and, FAPESP Research Program on Global Climate Change (PFPMCG).

BIOTA, launched in March 1999, was conceived through the articulation of the scientific community of São Paulo in relation to the principles circumscribed by the Conference on Biological Diversity, signed in ECO-92 and ratified by the National Congress in 1994. The objective of the Program is to "know, map and analyze the biodiversity of the State of São Paulo, including fauna, flora and microorganisms, but also to evaluate the possibilities of sustainable exploitation of plants or animals with economic potential and to subsidize the formulation of conservation policies for the remaining forests"[9]. By involving more than 1,200 professionals, the Program is nationally and internationally recognized for its activities, as well as due to the use of the results obtained by the Program in public decision making related to the environment[10].

As for BIOEN, launched in 2008, it aims to "stimulate and articulate research and development activities using academic and industrial laboratories to promote the advancement

[8]Available at: https://fapesp.br/6/estrategias-de-fomento-a-pesquisa.
[9]Available at: https://www.biota.org.br/biotafapesp/.
[10]Available at: https://agencia.fapesp.br/biota-e-politicas-publicas/10083/.

of knowledge and its application in areas related to bio-energy production in Brazil"[11]. The areas of promotion include both the issue of biomass production and processing, and the production of biofuels and their impacts. In addition to promoting research, they also establish partnerships and cooperation with industries in the sector, research institutes, and universities.

And, as for the Climate Change Program, launched in 2008, it aims to advance knowledge on the subject, giving special attention to the challenges related to "changes in carbon stocks and precipitation patterns, sea level rise and climate extremes". Like BIOTA, this program seeks to produce results capable of assisting in the making of scientifically oriented decisions, considering the issues of risk assessment, adaptation, and mitigation strategies[12].

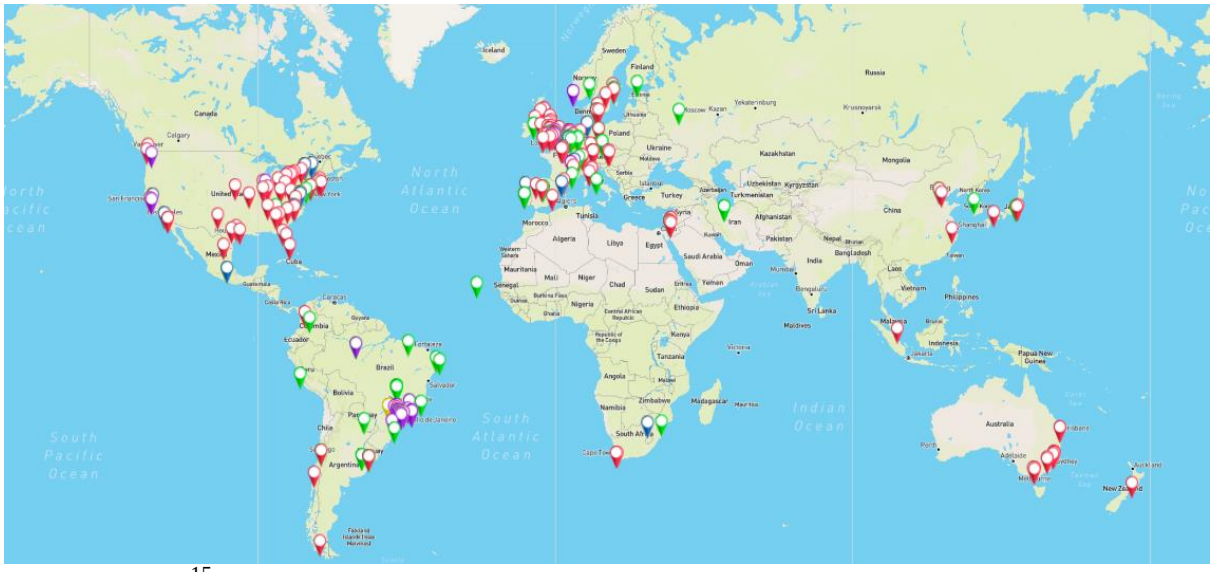
Such Programs, besides being articulated among themselves, also signal the concern with the theme of sustainable development by the scientific community of São Paulo. Specifically about the SDGs, the Strategic Plan of the BIOTA Program (2030) and the Climate Change Program (2030) cite them directly. In the first case, they indicate that the objectives of the Plan's proposal are in line with the SDGs, "understanding that the different dimensions of socio-environmental sustainability, such as health and well-being, poverty reduction and food, water and climate security, interact with and depend on biodiversity in water (SDG 14) and on land (SDG 15)" (FAPESP-BIOTA, 2022, p. 4). In the second case, the SDGs appear both in the Plan's objectives and in the social and economic dimensions of the Program, as can be highlighted: "assist Brazil in meeting the emission reduction targets associated with the Paris Agreement and meeting the Sustainable Development Goals (SDGs)" (FAPESP-PFPMCG, 2020, p. 1). In addition, they mark the commitment of the scientific community, which has contributed to the development of public policies and development strategies based on scientific knowledge. In the case of BIOEN, the SDGs are not mentioned directly, but are directly related to the topic of sustainability and sustainable development[13].

In addition to the above-mentioned programs, Fapesp is also recognized due to the establishment of international cooperation with other national and international funding agencies - as is the case of the Belmont Forum, discussed in the third part of this thesis. Such cooperations are the result of an institutional strategy, with the purpose of internationalizing the agency and the scientific research from São Paulo[14]. As can be seen in the figure 18, most collaborations occur between Research Funding Agencies and Agencies (green), Education and

[11]Available at: https://fapesp.br/bioen/.
[12]Available at: https://fapesp.br/pfpmcg/.
[13]Available at: https://fapesp.br/14757/bioen-2020-2030-proposta-de-programa.
[14]Available at: https://fapesp.br/cooperacao.

Research Institutions (red), Associations (yellow), Companies (purple) and Multinational Organizations (blue) from the global North, with cooperation with actors from the global South to a lesser degree.

Figure 18. Fapesp's Cooperation Agreements and Conventions (October/2022)



Source: Fapesp[15].

Specifically on the issue of SDGs, we can highlight both the case of the Belmont Forum - addressed during the third part of the thesis - and the participation with the Global Research Council (GRC), particularly during 2019. In general, the GRC refers to a "virtual organization, composed of the heads of science and engineering funding agencies from around the world, dedicated to promoting the sharing of data and best practices for high-quality collaboration among funding agencies worldwide[16]".

In 2019, Fapesp, in partnership with the Consejo Nacional de Investigaciones Científicas y Técnicas (CONICET - Argentina) and German Research Foundation (DFG - Germany), hosted the Annual Meeting of the GRC, which took place from May 1 to 3, at Fapesp's headquarters in São Paulo. Among the program, direct mentions were made in relation to the SDGs, giving more attention to the contribution of scientific research in relation to achieving this agenda[17]. This cooperation between Fapesp and GRC will be discussed in part 4 of the thesis, since it is an important part in relation to the adoption of this agenda by the agency.

[15]Available at: https://www.fapesp.br/acordos/.
[16]Available at: https://globalresearchcouncil.org/about/global-research-council/.
[17]Available at: https://fapesp.br/eventos/grc/videos/.

From this point on, we will give more attention to the study of Fapesp, in view of the mapping of research funded on themes related to the SDGs, as for the cooperation established with the Belmont Forum.

Chapter 3. The role of the scientific community in implementing the SDGs: a study about the São Paulo Research Foundation

Introduction

The aim of this paper is present how the scientific community has been adopting the agenda of the 17 Sustainable Development Goals (SDGs), with special emphasis on the São Paulo Research Foundation (Fapesp/Brazil). According to Dinu and Posch (2019: 12), "the SDGs represent a paradigm newly introduced in 2015, and therefore there does not exist extensive literature related to the SDGs in the context of universities", as well as within the role performed by research funding agencies. Therefore, it is expected to contribute to the recent debates on how these research funding agencies, in specific Fapesp, are adopting this global development agenda, considering their support for research.

In general, the methodological procedures were based on exploratory activities of bibliographic review on the theme addressed, access to documents and reports developed by the International Scientific Associations that deal with the SDGs and their relationship with the Higher Education Institutions, as well as by consulting the Fapesp Virtual Library database. As a form of organization, in addition to this introduction and final considerations, the paper presents three main parts: the first concerns the panorama of the emergence of the SDGs as a global research agenda. The second part of this paper aims to contextualize the debate on how the scientific community can collaborate with the implementation of the 2030 Agenda, according to the bibliographic literature. The third part of the paper focuses on the presentation of how Fapesp has been incorporating the SDGs into its research agenda It is noteworthy that Fapesp was chosen as a study due to its important role in financing research in Brazil, constituting itself as a base example for other development institutions.

As a justification for its adoption, we hypothesize that the adoption of such goals is explained from two aspects: the first refers to the influence of Fapesp by foreign funding agencies and, secondly, due to an internal movement of the professors-researchers themselves who compose the Foundation.

An overview of the SDGs

The 17 Sustainable Development Goals (SDGs), approved in September 2015 by the United Nations Heads of State and Government, present a series of goals that aim to guide decision making in the fifteen-year period. These announce the scale and ambition of a new global agenda based on the balance between three dimensions, namely: economic, social, environmental, and institutional (SACHS, 2012). Among its various interconnected topics, the SDGs aim to combat hunger and poverty; promoting inclusive and equitable education; gender equality; full employment and decent work; access to water and sanitation; among others (UNITED NATIONS, 2015).

Therefore, it is a question of continuing the commitments incorporated in the 8 Millennium Development Goals (MDGs) launched in 2000 that, despite not having reached their fullness, contributed to the resolution of some social problems (SACHS, 2012). This new global agenda, in turn, differs from the previous one. The MGDs were originally developed by the OECD in 1996 as part of its development strategy for the 21st century. These ended up being integrated into the UN agenda and, after an "iterated distillation, extracted from a wide array of global processes, with many actions involved over several years" (MCARTHUR, 2014, p. 6), were approved by the Heads of State and Government under the so-called "United Nations Millennium Summit". In the words of McArthur (2014, p. 20), the MDGs constitute themselves as the "world's first explicit development partnership framework between developed and developing countries", having as one of its main objectives the eradication of extreme poverty and hunger in the world. Guimarães and Ferreira (2020) argue that the intergovernmental actions in favor of human development during the beginning of the 21st century, had as base guidelines the MDGs, whose focus was on the provision of basic services such as access to sanitation water and drinking water, in addition to the fight against extreme poverty, especially in the context of developing countries.

Even though the SDGs are based on some successes achieved through the MDGs, the new global agenda stands out for the inclusion of new priority areas such as climate change, sustainable consumption, and innovation. As well as through SDG 17, which requires the participation of several parties through the establishment of collaborative partnerships between countries and other stakeholders, with a view to implementing such a plan. This specific SDG seeks to promote partnerships between developed and developing countries, with a view to reducing disparities between them, considering the implementation of strategies that range from information sharing and technology transfer, even opportunities for research development

(ADDO-ATUAH et al., 2020). Among the actors called to contribute, some groups stand out: Non-Governmental Organizations; local authorities; unions; women, children, and youth; enterprise and industry and the scientific and technological community.

In addition, the goals demand an advance in access to technology, as well as scientific knowledge, aiming at the sharing of ideas and global research partnerships in several areas of knowledge. In other words, SDG 17 refers to an important objective in the context of consolidating global partnerships that aim to contribute to the achievement of other objectives (ADDO-ATUAH et al., 2020), especially regarding the scope of education. In this regard, it is also possible to point out some changes that occurred in relation to the previous agenda, such as secondary and higher education, which, unlike the MDGs, ended up gaining greater notoriety in the 2030 Agenda.

In relation to HEIs, the role attributed to universities, research centers and laboratories, as well as research funding agencies, is highlighted, which will be better addressed in topic 3 of this paper. However, at this moment it is possible to present the following: in addition to the contributions made by such actors in relation to the SDGs, the opposite is also evident, that is, the contributions of the SDGs to these institutions. Such contributions, as presented by the Sustainable Development Solutions Network Australia/Pacific (2017), may be due to the establishment of new partnerships, access to new internal and external financing within the scope of financing agencies, as well as through the capture of demand for education associated with the SDGs and demonstration of the social impact of universities on society.

Accordingly to the literature, a university and research center and, by extension, a research funding agency that incorporates the SDGs as a guideline, tends to problematize the inequalities present in society to train professionals capable of reasoning critically, preparing them to participate in the economy and contribute to the public good (LEAL FILHO et al., 2017). These institutions, thus, carry out research and seek to produce new knowledge, in view of their sharing with the external community, contributing directly to their locality. In this regard, Leal Filho et al. (2017) shows that several universities around the world are making efforts to transform their institutional structures in line with the SDGs, considering the proposal of new curricular and pedagogical approaches, the establishment of new collaborations with other Higher Education Institutions and research funding agencies, in addition to the implementation of good practices of coexistence between the internal and external communities of these institutions.

It should be noted that the idea of the SDGs gained rapid worldwide relevance due to the growing urgency for sustainable development and, although the definitions of this term

still vary in the academic sphere, it encompasses a triple approach to human well-being that the 193 UN Nation-States aim to aim for (SACHS, 2012). However, even though lots of stakeholders are committed to reaching them (UNITED NATIONS, 2016) and the SDGs share a global approach and dimension, the political strategy for its implementation has national emphasis, and it is up to each country to determine its priorities, forms of financing, evaluation, and monitoring of results. Then, "by not presenting strong global governance and financing proposals that effectively support national governments, Agenda 2030 deals with the risk that the SDGs will be unevenly met throughout the world, with some not even achieving partial results" (MOREIRA et al., 2019, p. 23).

Among the critical perspectives on the SDGs, we highlight the productions of Gil (2018), Persson et al. (2016), Schneider et al. (2019) and De Menezes (2020). In this sense, when carrying out a critical review, Gil (2018) argues that the complex architecture, the technical limitations, and the criticism by the international community, end up projecting some limitations to achieve the objectives of this new global agenda. Thus, the author presents that numerous scientific institutions and development organizations criticize it for its numerous objectives, since many of the goals are seen as ambitious, in addition to the problems related to the viability of the approved indicators. Despite this, the author recognizes that its innovative element refers to its universal character that overlaps and reinforces each other through a multilevel performance in local, regional, national, and global spaces.

Another element addressed concerns the problem of the lack and quality of basic data for monitoring the implementation of this agenda in most of the poorest countries. Similarly, Persson et al. (2016) adds that due to the low level of obligation and the lack of specific enforcement and compliance mechanisms, efforts to monitor and evaluate the implementation of the SDGs become critical elements considering the conservation of the credibility of the agenda and the commitments assumed, resulting in little effort to achieve them.

In the perspective of Schneider et al. (2020), although the 2030 Agenda represents a universal vision regarding sustainability, it needs to be explored critically, especially in relation to the dynamics of power, values and perspectives involved in its development process. "Key questions about whose voices were influential in the formulation of the 2030 Agenda, whose perspectives were taken into account, and who stands to win or to lose are as urgent as they are complex" (SCHNEIDER et al., 2020, p. 1598).

De Menezes (2020) highlights the fragile aspects of some goals and targets of the agenda, as is the case of knowledge and technology transfer, especially those listed in SDG 17.

The author considers that such goals are "exhortatory, which proclaim, in a generic way, the need to foster international cooperation" (DE MENEZES, 2020, p. 12, own translation). Such transfers, however, should be analyzed with caution, in view of the "miracles" promised from a linear view of scientific progress. This linear view must be deconstructed in view of the Social Studies of Science and Technology (CONDE, ARAÚJO-JORGE, 2003; DAGNINO, THOMAS, DAVYT, 1996).

Corroborating such criticism, we add an issue: several SDGs are at odds with each other. This means that to achieve a specific goal, for example, achieving strong GDP growth, we will have a negative impact in terms of environmental preservation. Therefore, because it is a hegemonic agenda, the SDGs do not share an approach that transcends the current economic model. The agenda preserves a kind of "socio-technical gatopardismo", that is, despite addressing issues such as the reduction of inequalities, there is no thought of changing the current productive and financial system.

In addition, we also add the issue concerning the specifics of each region of the globe. The socioeconomic problems experienced by Latin American countries, for example, differ from those of the North-Global countries. The question is, therefore, whether a global development agenda incorporates the particularities of each region. Or, considering the theoretical framework of the STS field, it is up to the Latin American countries, for example, to create their own development agenda.

However, despite the criticisms exposed, the SDG agenda has become globally diffused as a strategic north for various stakeholders, including the scientific community. Therefore, studying how this agenda has been adopted by various actors becomes important, precisely to understand their motivations, particularities, and ways of acting.

SDGs and the scientific community

As discussed in the previous section, 2030 Agenda demands the participation of several stakeholders, with a view to establishing partnerships and collaborations. One of these actors refers to the scientific community, being represented by universities, research centers and laboratories, in addition to research funding agencies. This community is called to contribute to the development of new ideas and information in the context of solving global problems, being necessary and beneficial to the establishment of new scientific cooperation (GERMAN COMMITTEE FUTURE EARTH, 2016).

Regarding the promotion and production of new research, the SDGs demand the following: SDG 2.a, 3.b, 7.a and 12.a point to the need for the development of research and scientific contributions on the themes of sustainable agriculture, vaccine development and sustainable production and consumption; SDGs 14.3, 14.4, 14.5 and 14.a, indicate the need for new scientific contributions to address fisheries management and ocean treatment; SDG 9.5 demands the improvement of scientific research, in order to update the technological capabilities of various industrial sectors in the world, especially in developing countries; SDG 9.b demands support for the development of research and innovation in developing countries, providing an environment favorable to industrial diversification and adding value to commodities; other SDGs can also be highlighted as SDG 17.6, which refers to the establishment of regional and international cooperation in the scope of access to science, technology and innovation; as well as SDG 17.8 that aimed to operationalize "the Technology Bank and the training mechanism in science, technology and innovation for the least developed countries by 2017, and to increase the use of training technologies" (UNITED NATIONS, 2015).

The SDSN Australia/Pacific (2017) report presents a collaboration in relation to how such a community can contribute to these Goals. According to this, although teaching, research, governance, and external engagement are addressed separately, they are directly interconnected. The SDGs, therefore, represent a great opportunity to create, strengthen and reveal the links that exist between them, being an approach to be integrated by the entire scientific community, especially universities, considering a better involvement with this global research agenda.

The Network presents an overview of the main contributions that this community can make in relation to the SDGs. The first one refers to the teaching and learning dimension. Therefore, because it is one of the foundations of the SDGs, quality education produces significant benefits in relation to sustainable development for individuals, communities and countries. Thus, considering undergraduate, graduate, professional education, distance education, extracurricular activities, and student movements, they play an important role in relation to the implementation of the SDGs. The second contribution mentioned concerns research development. This contemplates the role to be played by research centers and laboratories, as well as research funding agencies, since they constitute themselves as institutions capable of implementing the SDGs through their funding notices and institutional research agenda, considering the objectives and goals mentioned at the beginning of this section. Thus, the academic community, through its research capacity, has a relevant role

regarding the production of knowledge, solutions, and innovations, constituting itself as a key element to address and implement the SDGs.

As for the third contribution, the dimension of governance and organizational operations within universities, development centers and agencies are emphasized. In this case, the impact related to the incorporation of the SDGs in relation to their sphere of operational influence is observed. That is, it recognizes the impact on the plan of the internal community within the university and agency, as well as external. In this sense, the report presents the possibility of aligning the governance structures of these institutions and their operational policies with the objectives and goals of the SDGs. Such alignment can be accomplished through a mapping in relation to the strategies, policies and indicators present in university reports, assessing the level of congruence in relation to the SDGs, as well as through their incorporation in the organizational reports of universities and funding agencies. Finally, the dimension of external leadership stands out, with a view to strengthening relative to the engagement and participation of actors internal and external to the university in the SDG plan. In addition, such a community can also contribute towards facilitating dialogue and intersectoral actions, as well as contributing to the monitoring and development of public policies in the defense of sustainable development and in the implementation of the SDGs (SDSN AUSTRALIA/PACIFIC, 2017).

As related, it can be said that the scientific community is called upon to be involved with the 2030 Agenda at different levels of action: through the identification of what the university and research centers and, by extension, the funding agencies come developing to contribute to the SDGs; by recognizing the importance and usefulness of the SDGs in conducting teaching, research, governance and outreach activities as a general strategy to be incorporated; and, through the integration of the SDGs into institutional governance structures (SDSN AUSTRALIA/PACIFIC, 2017). As such, this community has the role of assisting in translating such a global agenda into practical agendas to be implemented at national and local levels (SALVIA et al., 2019).

Reaffirming these elements, Owens (2017) adds about the existence of two main areas in which this community can work together between governments and other HEIs and agencies that promote research and development, they are: through public investment in research and development, as well as through the establishment of new collaborative and coordination partnerships between such actors. These areas, in turn, can be implemented through regional cooperation, since “regional networks help governments to understand how

other countries in a similar situation have responded and to guide them in their next steps" (OWENS, 2017, p. 418), which can be a starting point for public policy makers (ICSU, 2017).

Therefore, a new global research agenda that is already being incorporated through collaborations between national and international funding agencies, as well as between scientific associations and higher education institutions. That is, it concerns "a common agenda [which] opens the door to more partnerships and different points of view on education and training", illustrating the growing influence on the part of international organizations in the scope of national public policies on education and other areas of knowledge (AKKARI, 2017, p. 941; DIBBERN, SERAFIM, 2021).

Leal Filho et al. (2017) add that, as it is a matter of global concern, several initiatives on the SDGs have emerged within the scientific community from different areas of knowledge, such as the educational platform "SDG Academy", which offers online courses on the SDGs; the initiatives of the "International Science Council", which coordinates international actions on issues of great academic importance present in the SDGs; the actions developed by the Sustainable Development Solutions Network, which aim to promote projects that integrate the SDGs, and the Paris Agreement on Climate Change, through education, research and analysis of public policies; among others.

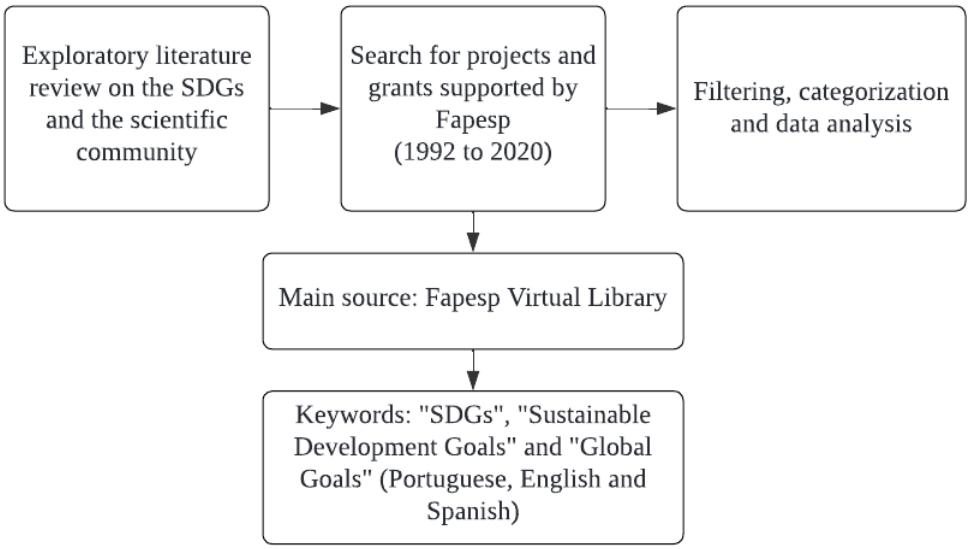
In the context of Latin America and the Caribbean, the actions and activities carried out within the framework of the Economic Commission for Latin America and the Caribbean (CEPAL) stand out. The CEPAL has played an important role in the creation and coordination of the "Foro de los Countries de América Latina y el Caribe sobre el Desarrollo Sostenible", as a regional mechanism for monitoring and tracking the implementation of the 2030 Agenda; in addition to participating in the "High Level Political Forum", an intergovernmental mechanism that meets annually - at Ministerial level - within the Economic and Social Council and, every four years - at the level of Heads of State - within the scope of the UN General Assembly. The next section of the article presents the Fapesp case.

Although such initiatives in higher education context are important, we cannot disregard the criticisms indicated in the previous section. Although the goals and targets that make up the SDG agenda are highly scientific and technological in nature - going beyond the dimensions of public administration -, it is necessary to be careful with their impasses and problems related to the economic and environmental dimension (DE MENEZES, 2020; ALVES, FERNANDES, 2020; DE MENEZES, GALVÃO, 2020).

The case of São Paulo Research Foundation

The study to be presented in this paper refers to the São Paulo Research Foundation. For that, a bibliographic review was carried out about its institutionalization and competences. In addition, as a methodological part of the study, exploratory research was carried out within the scope of the Fapesp Virtual Library in relation to the grants and scholarships provided since the agency became operational, these being related to the major theme of sustainable development, as well as those referring to explicitly to the SDGs, that is, during the post-2015 period. We used as keywords the terms: "SDGs", "Sustainable Development Goals" and "Global Goals", and, from these, we performed a filter in relation to the results found.

Figure 19. Research design



Source: Author's elaboration.

In this sense, prior to the presentation of the results, a brief context related to its history of emergence is exposed[18]. Therefore, formally created in 1960 by means of Law No. 5,918, October 18, 1960, the São Paulo Research Foundation started operating only in 1962, through Decree Law No. 40,132, of May 23, 1962 (ALESP, 1947). Within the scope of the law

[18]Another way to carry out this research can be done using the new web page called "Fapesp and the Sustainable Development Goals", launched in January 2021, that presents all the scholarships and grants of the institution focused on this theme. However, because it gathers a large volume of data about each SDG in a specific way and, as it is not clear the criteria used for the insertion of a project promoted in this survey, we chose not to use it at this moment, giving a greater focus to the keywords that we highlighted earlier.

that institutes it, the purpose of the Foundation refers precisely to the “support for scientific research” in its State of origin, with competencies that shows the strategic role and the importance of such a Brazilian development agency within the scope of the national S&T Policy, as well as in relation to its potential in the establishment of new collaborations and cooperation between national and international researchers and researchers.

According to Lafer (2015), the promotion carried out by the Foundation aims to assess three main objectives, which are: the advancement of scientific knowledge; applied research; support for research infrastructures. The first objective is related to the offer of regular scholarships and assistance with a view to training human resources, in addition to thematic projects and various programs. The second refers to the financing of research with great potential for application, as well as of economic and social interest, being developed through projects such as Innovative Research in Small Companies (PIPE). In the case of the third objective, the disbursement of resources is foreseen to provide adequate infrastructure for carrying out research, such as the modernization of laboratories, internet access, among others.

Specifically, in relation to the offer of scholarships, the Foundation classifies as follows: scholarships in the country, which can be: Scientific Initiation, Master's, Doctorate, Direct Doctorate, Post-Doctorate, Technical Training, Public Education, Scientific Journalism, Participation in Course and Young Researcher; and scholarships abroad, being Research Internship Scholarship Abroad and Research Scholarship Abroad. Associated with these types of scholarships, the policy of public notices and calls made by the funding agency stands out, being these periodically called for wide competition, which may include research projects, projects for training courses and / or training of human resources, scholarships studies in the country and abroad, publishing and publication of journals, that is, contemplating various financing mechanisms provided by the Foundation.

This policy, however, can be spontaneous or induced demand. The first ones refer to the submission of research projects of different levels and modalities sent spontaneously, that is, at any time of the year, covering all areas of knowledge. In other words, it is about offering the researcher the possibility of choosing and proposing the theme to be researched, which can be free or delimited in thematic axes. The second type of demand concerns projects submitted in response to specific notices and calls, therefore, thematic lines, resources and defined execution time are determined. As discussed above, the allocation of such grants will be analyzed within the scope of this paper, with special emphasis on those that explicitly refer to the SDGs.

It should be noted that, as attested by Lafer (2015), Fapesp has been going through a process of constant internationalization in recent years. This process is carried out through agreements with similar entities (such as Higher Education Institutions and other development agencies) around the world, constituting itself as "an answer to the challenge of the importance for the advancement of knowledge, the potential for interaction between researchers national and foreign", as well as its insertion into the "new molds on the agenda of the world agenda" of research (LAFER, 2015, p. 8-9). In this sense, within the scope of the results to be presented below, an increase in this interaction with international institutions over the years can be seen, at least in the field of research related to sustainable development and the SDGs.

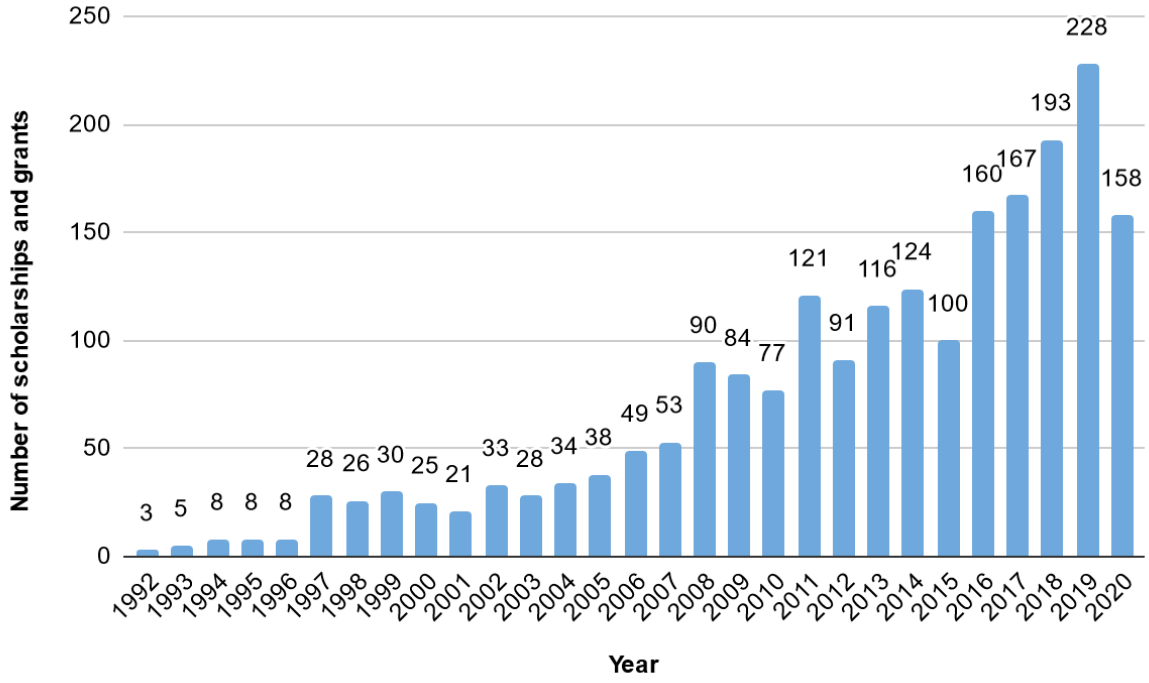
Before presenting the results obtained, it is necessary to state that Fapesp, even before the approval of the SDGs, already had projects that address the theme of sustainable development, demonstrating engagement in funding research related to the theme, such as: Biota Program (launched in 1999), Climate Change Program (launched in 2008) and the Bioenergy Research Program (launched in 2008). These initiatives developed by Fapesp demonstrate its commitment to issues related to sustainability and sustainable development, with an internal movement of support from the professors-researchers that compose it.

From that moment on, we will present the results obtained by consulting the institutional portal of the Fapesp Virtual Library, held in October-December 2020. On the Virtual Library portal, all scholarships financed by the institution are available with the following data available: year start of the grant award; area of knowledge; line of support; agreement or agreement signed (if any); linked institution; partner institution (if any); and partner company (if any). In addition, it is also possible to identify the location of the research, if it was carried out through a cooperation agreement with institutions abroad and, by extension, the main continents that carry out this type of partnership with the Foundation, with a view to the theme researched in this paper.

While obtaining results, it was possible to locate a total of 2,107 research grants and scholarships awarded between the period 1992 to 2020, which included at least one of the keywords or terms provided at the beginning of this section (corresponding 0,82% of all research supported by the agency). Therefore, Figure 20 shows the total number of grants and scholarships identified according to the year in which they started. These, in turn, refer specifically to those who presented one or more words or key terms from our consultation to the previously indicated database. As can be observed over the years, there is a significant growth in relation to the award of scholarships and grants that refer to the major theme of sustainable development, and special emphasis can be given from 2016. Our hypothesis for this

issue refers to the very approval of the SDGs as a guide to be reached by different actors, as well as in relation to the number of agreements and cooperation established between Fapesp and other institutions abroad in the same period.

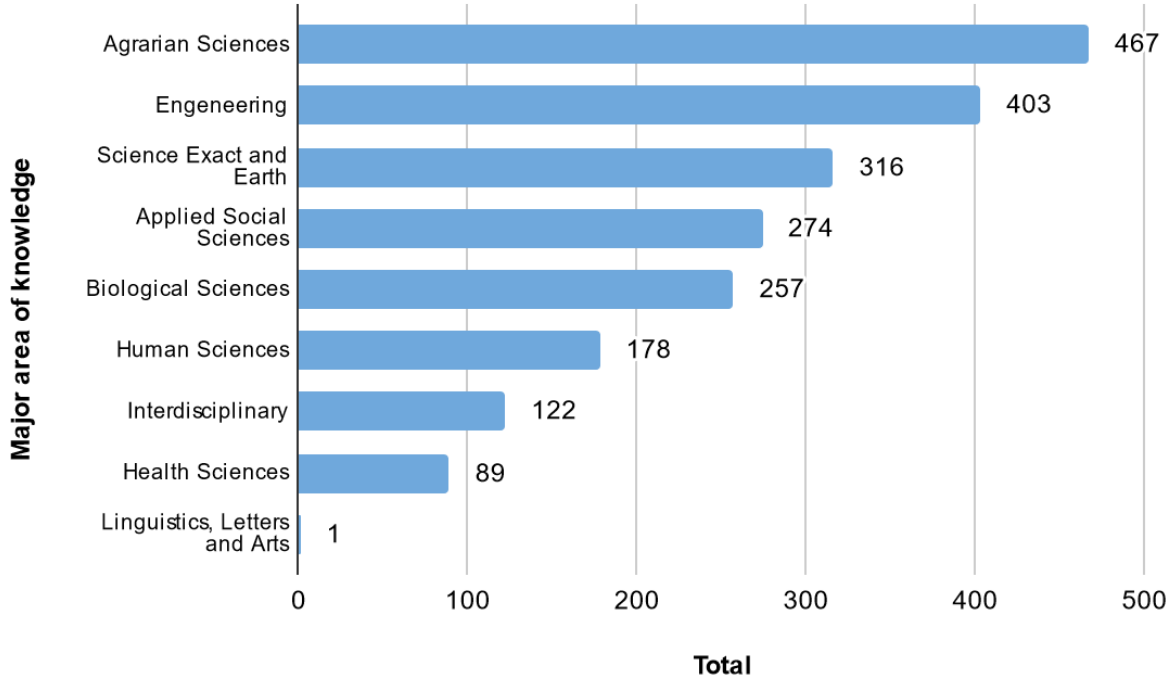
Figure 20. Total scholarships and grants per year, according to the consulted keywords



Source: Authors' elaboration.

Other elements can also be exposed in relation to the data survey carried out. In this perspective, Figure 21 shows the list of scholarships and grants provided by Fapesp according to the broad area of knowledge. Therefore, we use the classification of areas exposed by the Foundation itself, consisting of: Agrarian Sciences, Biological Sciences, Health Sciences, Exact and Earth Sciences, Human Sciences, Applied Social Sciences, Engineering, Interdisciplinary and, Linguistics, Letters and Arts. Thus, as can be seen in the figure indicated, the major areas that stand out most in terms of the award of grants and scholarships in relation to sustainable development and SDGs, refer to Agrarian Sciences, Engineering and Science Exact and Earth.

Figure 21. Total scholarships and grants provided by major area of knowledge, according to the keywords consulted



Source: Authors' elaboration.

Also noteworthy are the different funding lines granted by the Foundation in relation to the subject investigated. Regarding research grants, it is evident that Regular Grant (296), Organization of Scientific Meetings (122) and Innovative Research in Small Companies (120) stand out. Regarding scholarships in the country, the attribution of Scientific Initiations (355), the Qualification/Technical Training Program (191), Master's (187), Doctorate (127) and Postdoctoral (171) stands out. Finally, in terms of scholarships abroad, research grants (43), Post-Doctorate (28) and Doctorate (25) are noteworthy. Therefore, a total of 1,256 scholarships are declared in the country and abroad and 851 research grants provided between 1992 and 2020, considering the theme addressed here. Specifically, in relation to the awarding of grants by promotion line and area of knowledge, the Agricultural Sciences, Engineering and Exact and Earth Sciences stand out again (Table 10). As for the other areas, only Linguistics, Letters and Arts did not present any scholarship granted in relation to the theme, since the only assignment mentioned in the consultation was a research grant.

Table 10. Allocation of scholarships by promotion line and area of knowledge, according to the keywords consulted

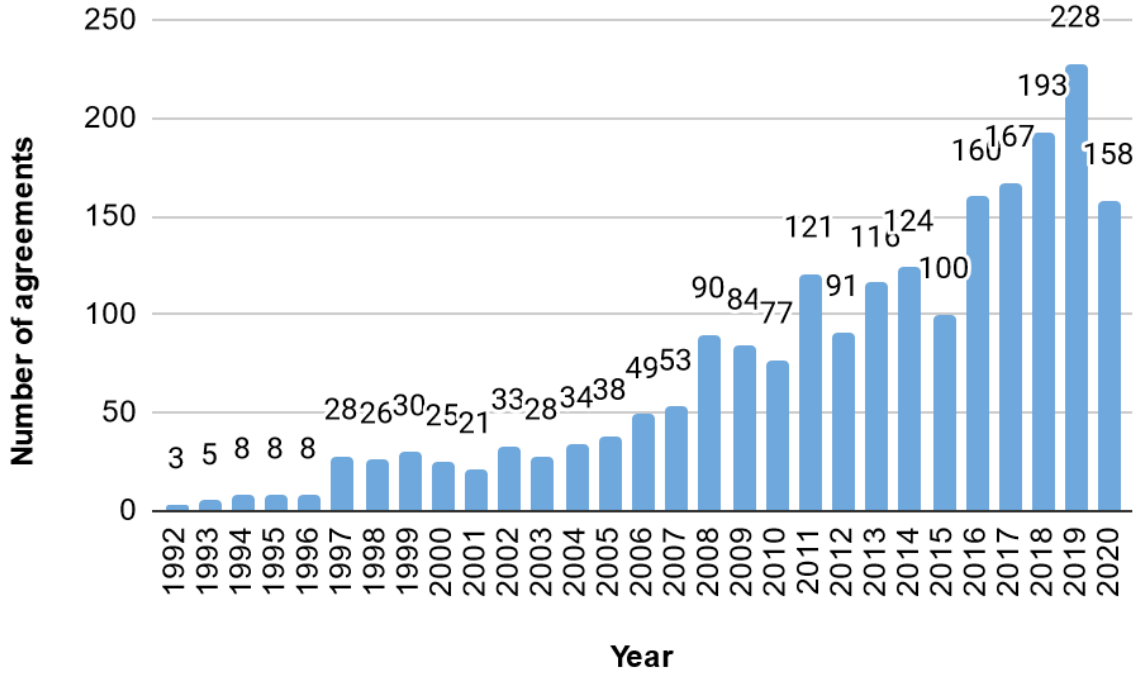
Lines of support		**Area of Knowledge**										
		Agrarian Sciences	Biological Sciences	Health Sciences	Exact and Earth Sciences	Humanities	Applied Social Sciences	Engineering	Interd isciplinary	Linguistics, Letters and Arts	**Total**	**%**
Scholarships in Brazil	Support for Young Researchers	1	2	-	2	2	-	-	-	-	7	0,5
	Doctorate degree	28	20	2	18	18	15	24	2	-	127	10,1
	Directed Doctorate	3	4		6		3	7	1	-	24	1,9
	Scientific research	65	43	6	44	44	74	64	15	-	355	28,2
	Master's degree	31	21	9	24	33	35	28	6	-	187	14,8
	Innovative Research in Small Business - PIPE	23	12	4	6	-	1	19	4	-	69	5,4
	Post doctoral	34	20	2	46	11	13	30	15	-	171	13,6
	BIOTA Program - Support for Young Researchers	-	1	-	-	-	-	-	-	-	1	0,07
	Training Program - Technical Training	55	25	20	41	5	11	23	11	-	191	15,2
	EScience Program - Small Business	1	-	-	-	-	-	-	-	-	1	0,07
	Scientific Journalism Program	-	-	-	1	-	2	-	1	-	4	0,3
Scholarships abroad	Research Internship - Doctorate	6	6	-	6	3	2	2	-	-	25	1,9
	Research Internship - Direct Doctorate	1	-	-	-	-	2	1	-	-	4	0,3
	Research Internship - Scientific Initiation	1	1	-	-	2	2	3	-	-	9	0,7
	Research Internship - Master	2	2	-	2	2	1	-	-	-	9	0,7
	Research Internship - Postdoctoral	6	4	-	5	-	-	8	5	-	28	2,2
	New Frontiers	-	-	-	-	-	1	-	-	-	1	0,07
	Search	8	3	1	7	5	9	8	2		43	3,4
Total		**265**	**164**	**44**	**208**	**125**	**171**	**217**	**62**	**0**	**1,256**	**100**

Source: Author's elaboration.

Regarding the cooperation agreements and agreements signed between Fapesp and other institutions, that is, regarding the induced demands, these ended up expanding quantitatively over the years as pointed out by Lafer (2015). Corroborating this concern, Figure 22 presents a scenario for the growth of such agreements, especially from 2015 onwards in relation to the theme discussed here. For this result, we again attribute the hypothesis regarding

the approval of the SDGs, which encourages the establishment of partnerships and collaborations between different institutions and actors.

Figure 22. Signed agreements by Fapesp per year, according to the consulted keywords



Source: Authors' elaboration.

Among the 327 agreements and covenants signed in the aforementioned period and related to the subject in question, the projects financed with the Belmont Forum stand out (94); the Coordination for the Improvement of Higher Education Personnel (CAPES) linked to the Ministry of Education (47); the Financier of Studies and Projects (FINEP) of the Ministry of Science, Technology and Innovations (33); and, the National Institutes of Science and Technology of the National Council for Scientific and Technological Development (INCT-CNPq), linked to the Ministry of Science, Technology and Innovations (20). Other agreements can also be visualized, which are established with national and international research institutions[19]. Regarding the relationship between such cooperation agreements / agreements

[19] Such as: GlaxoSmithKline (9); CNPq/Brazil (8); Global Alliance for Chronic Diseases (7); MCTI/Brazil (7); Foundation for Science and Technology (6); Vale SA, Fapespa and Fapemig (6); Finep/Brazil (5); 4 results each: BBSRC, UKRI, Newton Fund; Shell Group; British Council, CONFAP, Newton Fund; 3 results each: BE-Basic Foundation; CONFAP, Newton Fund, ESRC, UKRI; CONFAP, Newton Fund, UK Academies; ESRC, UKRI, Dutch Organization for Scientific Research; German Federal Ministry of Education and Research; 2 results each:

and the major areas of knowledge, the main areas remain between the Exact and Earth Sciences (85), Engineering (51) and Agrarian Sciences (49), followed by the Biological Sciences (48), Applied Social Sciences (30), Interdisciplinary (29), Human Sciences (18), Health Sciences (16) and, Linguistics, Letters and Arts (1).

About the place where the research was carried out, 123 scholarships and grants were presented to institutions abroad, being: 76 in European countries; 38 on the American continent, especially in North America; 5 in countries in Oceania; 2 in Asia and 2 in the African continent. The other 1984 scholarships and grants offered were made within the scope of the Brazilian State, especially in the State of São Paulo, which shows a greater amount of grants and scholarships linked to the University of São Paulo - USP (676), São Paulo State University - UNESP (441) and the University of Campinas - Unicamp (216). Other HEI can also be highlighted, as is the case of the Federal University of São Carlos (141), Federal University of São Paulo (28) and Getúlio Vargas Foundation (20). Also noteworthy are the grants and assistance linked to the Ministries of the Presidency of the Republic and Secretariats of the State of São Paulo, as is the case of the Ministry of Science, Technology, Innovations and Communications and the Secretariat of Agriculture and Supply. In other words, it is possible to observe that in addition to the theme of the SDGs and sustainable development incorporating the Foundation's research agenda, these are also present in the political agenda at the federal and state level.

Another data presented in the scope of the survey carried out is the identification of companies linked to the grants and scholarships provided. In this sense, there are the following: 135 scholarships/grants have links with private companies; of these, the companies most involved are “4tree Agroflorestal Ltda”, “BG E&P Brasil Ltda”, “Chemyunion Química Ltda” and “Decoy Tecnologia em Prague Control Ltda”, among others. Other companies are also

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French National Research Agency; Australian Technology Network of Universities; Biotechnology and Biological Sciences Research Council, UK Research and Innovation; National Commission for Scientific and Technological Research; Alberta, Laval, Dalhousie and Ottawa Consortium; Seade Foundation (2); Global Environment Facility; Imperial College, United Kingdom; Koppert Brazil; Medical Research Council, UKRI, Newton Fund; Newton Fund; Government Secretariat of the State of São Paulo; Secretariat of the Environment; Texas A&M University; 1 result each: Agilent Technologies Laboratory: Chemical Analysis, Lyfe Sciences and Diagnostics; BBSRC, UKRI, National Council for State Research Support Foundations, Newton Fund; British Council, Newton Fund; National Commission for Scientific and Technological Research, Concytec, CONICET, NERC, UKRI, Newton Fund; Concytec; CONFAP, Newton Fund; CONFAP, Newton Fund, EPSRC, UKRI; CONFAP; Newton Fund, NERC, UKRI; CSIC; DAAD; Innovation Fund Denmark; IUPAC; Microsoft Research; National Research Foundation, South Africa; NERC, UKRI, Newton Fund; NWO; Network of Italian Universities; Trans-Atlantic Platform for the Social Sciences and Humanities; Horizon 2020-EU; Universidad de la Frontera; Universidad de Magallanes; University of Illinois; University of Manchester; University of Melbourne; University of Nottingham; University of Queensland; University of Surrey; University of Texas; University of Warwick; VITAE, Support for Culture, Education and Social Promotion; No agreements declared = 1780 results.

declared, such as “Accert Pesquisa e Desenvolvimento em Química e Biotecnologia Ltda” and “Água da Mata Desenvolvimento Sustentável Ltda”. It should be noted that the area of knowledge with which they are associated refers to Agrarian Sciences, Engineering, Biological Sciences, Exact and Earth Sciences, Health Sciences, Interdisciplinary, Applied Social Sciences and, as for Humanities and Linguistics, Letters and Arts, these did not present any related company.

In addition to the scholarships and grants identified, it was also possible to observe other types of contributions to the theme of the SDGs, in view of a partnership established between the Management of Studies and Indicators (GEI) of the development agency with the Government of the State of São Paulo and the State System of Data Analysis Foundation. This resulted in the publication of the “1st Monitoring Report on the Sustainable Development Goals of the State of São Paulo” (GOVERNO DO ESTADO DE SÃO PAULO et al., 2019), which presents information on the achievement of such Objectives and goals within the scope of the 2016-2019 Pluriannual Plan of the State, as well as explaining indicators that make it possible to portray the conditions in which the State is in and carry out the monitoring of objectives and targets. This document is organized in eleven chapters and presents a series of themes "under which the SDGs that have complementary are grouped, and for which integrated actions and solutions are identified" (GOVERNO DO ESTADO DE SÃO PAULO et al., 2019, p. 9, own translation).

According to Goldemberg (2019, p. 5), former president of the Foundation, the report states that the State of São Paulo is on a “good path with regard to some of the indicators”. As an example, the author mentions the drop in infant mortality present in the indicator related to SDG 3, the drop in crime (SDG 16), the improvement in the scope of school attendance (SDG 4), as well as the progress made regarding “forest cover of the State and marine environmental protection” (SDGs 14 and 15). Other indicators are also highlighted by the author, who attaches great importance to this joint work as one of the possible ways to achieve an overview of the achievement of such SDGs and the areas by which the State needs to improve. In other words, it is a partnership between a research promotion agency and the state public sector, in compliance with SDG 17 presented in this paper. Other documents can be seen in the scope of the Fapesp Journal, which reports and discusses through papers, the results of research related to the theme, as well as presents the calls for scholarships and grants referring to the SDGs and other areas of knowledge. In this sense, it is an attempt to publicize the actions, activities and research concerning the subject in question, highlighting the institutionalization of the SDGs as a guide to be reached and incorporated into the Foundation's research agenda.

Such initiatives (among the funding of scholarships, grants and the establishment of international scientific cooperation) demonstrate that Fapesp has been considering the theme of sustainable development and sustainability as a strategic issue. However, in order to detect the reasons why Fapesp has been adopting such a theme, it is necessary that further research be carried out directly with the professors-researchers that compose it. As a starting point, therefore, we put forward two complementary hypotheses: the first refers to the influence of international research funding agencies; and, secondly, by an internal movement on the part of its own members. Observing such movement through the theoretical framework of the Geopolitics of Knowledge, we can say that such adoption refers to the influence of the external community (especially some countries in Europe and the United States), which has been mobilizing very strongly in relation to the SDGs.

When dealing with the dynamics of knowledge production and dissemination at the global level, we come across several works that address power relations and their asymmetries both in the formulation of research agendas and in the analysis of the establishment of international scientific cooperation and partnerships (CONNELL, 2007; DEMETER, 2020; KREIMER; LEVIN, 2013). In this regard, the case of the adoption of the SDG agenda by Fapesp may be explained in this theory, however, for its proof, more in-depth studies should be carried out.

Final considerations

The SDGs demand the participation of several actors in order to reach the 2030 Agenda, with the scientific community being called upon to contribute through the promotion and development of new scientific research and cooperation; thus, within the scope of HEIs and funding agencies, strategies based on the dimension of teaching-learning, research, governance and external leadership can be employed, especially through the institution of new collaborative and coordinating partnerships between such national actors and international.

Despite the contributions of this community in relation to achieving the SDG agenda, it is necessary to point out some inherent problems with it. As indicated in the first sessions, there are several criticisms regarding the SDGs: besides being a very broad and ambitious agenda, the SDGs share a positivist and linear approach to knowledge and technology transfer. Other fragile aspects of the agenda also stand out, such as the achievement of economic growth without negative impacts on the environment; the particular problems of each region of the world (ignoring the dimension of power distribution); the limits of its funding and scope in

almost the entire world; among others. However, despite these critical aspects, the Latin American scientific community has been taking ownership of this agenda (DIBBERN, SERAFIM, 2021), as is the case in our study.

Therefore, in relation to the case of Fapesp, it was noted: i. the Foundation has presented, over the years, a significant growth in relation to the granting of scholarships and general grants that refer to the theme of the SDGs and sustainable development, that is, corroborating with our initial hypothesis; ii. the main areas of knowledge covered by these grants and scholarships refer to Agrarian Sciences, Engineering and Exact and Earth Sciences; iii. during the period analyzed, the main lines of promotion in the country refer to Scientific Initiation scholarships, the Qualification/Technical Training Program, Master's and Postdoctoral scholarships; v. research, postdoctoral and doctoral scholarships stand out in the other countries; vi. regarding the cooperation agreements and conventions signed, there has been a quantitative expansion over the years, especially after 2015, especially with scientific foundations from abroad (mainly in Europe); vii. among the 123 scholarships and grants carried out abroad, the vast majority are in countries in Europe and North America; viii. private companies could also be identified in the research, indicating the existing partnership between the Foundation and civil society institutions; ix. other contributions by the Foundation could also be verified, as is the case with the partnership with the public sector, and the dissemination of the results of the research promoted through a scientific journal; x. within the scope of the grants and grants identified, a large majority refers to the spontaneous demand from scientists and researchers, and there are also those who refer to the demand induced by the Foundation with the other partner institutions.

In other words, it was possible to observe an overview of the adoption of this international agenda through the Foundation, with an increasing number of scholarships and grants offered over the years. Such collaborations, however, involve foreign actors from the scientific community, such as funding agencies from some countries in Europe and North America. Therefore, the reasons for its adoption fall under two hypotheses: the first refers to the influence of foreign funding agencies that have been incorporating such goals as a strategic north for research funding; the second hypothesis refers to an internal movement within the Foundation itself regarding the theme of sustainable development. For its confirmation, further research must be carried out at the Foundation in order to understand the real motivations for its adoption.

However, it is noteworthy that the research carried out in this paper includes only an exploratory and quantitative approach to the data collected, being a preliminary and limited attempt to map how this Foundation incorporates the SDGs in its research agenda.

Chapter 4. The trajectory of international collaboration between FAPESP and Belmont Forum: a study based on themes of the sustainable development goals[20]

Introduction

The aim of this paper is to explore the trajectory of the international scientific collaboration between the São Paulo Research Foundation (FAPESP) and the Belmont Forum, which refers to a partnership between international funding agencies, as well as scientific councils, with a view to advancing transdisciplinary science on global environmental changes (BELMONT FORUM, 2020). In other words, it seeks to understand, through an exploratory study, the relationship established between both institutions that promote scientific research, in view of the construction of the research agenda represented through the public calls made between them. The specific aim of this paper is to answer the following questions: i. what is the impact of the Belmont Forum and Fapesp in promoting scientific research?; ii. what are the main actors present in this international research financing partnership?; iii. what subjects/agendas are prioritized in public research funding calls?; iv. which Sustainable Development Goals (SDGs) are included in the research projects financed between them?; v. what is the impact of this cooperation on research projects linked to state universities in São Paulo (such as Unicamp, USP and Unesp)?.

Methodologically, the paper was carried out based on bibliographic reviews about the relationship between both institutions, as well as through consultations with their databases and institutional websites. In this sense, it was possible to analyze the reports published by Fapesp and the Belmont Forum, our case, regarding the cooperation agreement established, scientific papers and academic productions, as well as access to the database of the Fapesp Virtual Library that presents the different funding modalities and funded calls. through this cooperation, as well as the SDGs linked to each project. The organization of the paper is divided into three main sections, in addition to this introduction and final considerations. The first refers to the context related to the trajectory of international cooperation in Brazilian Science and

[20] DOI: https://dx.doi.org/10.3895/rts.v18n52.14370.

Technology Policy, with special emphasis on Fapesp's international performance. The second section aims to expose the relationship established between both institutions, in view of the context of emergence and impact of the Belmont Forum, as well as its particularities in relation to the actors that compose it and the procedures for establishing financing calls. Finally, the last section presents the results obtained regarding the cooperation signed between both actors, characterizing the relationship established between them.

Fapesp and international research collaboration

The definition of the term “international collaboration[21]” cannot be treated as a trivial task. In this sense, Baiardi and Ribeiro (2011, p. 593) emphasize that “thinking about cooperation in science and technology, Science and Technology Policy, requires thinking before about cooperation more broadly, both between individuals and between societies and between territories of corporate identity, or States -nation". As Melin and Persson (1996, p. 363) point out, collaboration can be understood as a form of intense interaction that enables communication and sharing of information, resources, and skills more effectively. It is, from the authors' perspective, a “prerequisite for modern science”, which is organized both by scientists themselves and stimulated by scientific policy. Therefore, scientific collaboration can be conceived as “one of a set of science policy tools that is needed in a situation when scientific growth can no longer be based on an ever-increasing expansion of its manpower” (MELIN, PERSSON, 1996, p. 364). Within the scope of this paper, we consider scientific collaboration as the exchange of new knowledge, with the objective of training human resources and scientific and technological development, which can be carried out through partnerships between the scientific communities of different countries. One must also consider the power relations that may exist within the scope of such collaboration agreements, in view of the different actors that comprise them.

The importance attributed to the establishment of such collaborations can be seen in the scope of the European Commission itself (2009, p. 1), which highlights the following:

> International cooperation in research and innovation is a strategic priority for the EU. It enables i. access to the latest knowledge and the best talent worldwide; ii. business opportunities in new and emerging markets; iii. science diplomacy to influence and enhance external policy. Multilateral research and innovation initiatives are the most effective way to tackle challenges facing our world - climate, health, food, energy and water - that are global by nature. Working together reduces the global burden, pools resources and achieves greater impact.

[21] In this paper, we will consider the terms “collaboration” and “cooperation” as synonyms, not forgetting that some authors have differentiations between them.

In this case, it is a worldwide trend that has been growing over the years and that can be established in the context of the organization of scientific meetings and conferences, in the construction of international databases, in technical and specialized assistance, in the maintenance of laboratories, and in calls to promote research, among others (WAGNER, 2005). In the context of Brazilian development agencies, there are two international cooperation mechanisms, that is, the production of scientific knowledge and the training of human resources (MOROSINI, 2006). This trend can also be seen in the case of Fapesp, which will be better explored during this section.

The establishment of such collaborations can be formally initiated, being instituted through the signing of a term of agreement between the partner actors. This type of collaboration is characterized by formal structuring whose commitment can be realized in the long term, as well as with concrete objectives, goals, and activities. There are also collaborations carried out informally, that do not require the establishment of formal agreements. Over time, these collaborations can be formalized, involving different actors, institutions, and countries (DOMINGUES, 2014). Within the scope of this paper, we will specifically address formal collaborations. Thus, it can be said that a collaboration that involves different bodies from two or more States also represents an instrument of Foreign Policy, since it encompasses international relations whose objective goes beyond the scope of Science and Technology Policy, and may imply different relations with other fields, such as it is the case of economic development, the construction and maintenance of diplomatic relations and facing global challenges, as is the case of the Sustainable Development Goals (SDGs), among others (AMORIM, 1994; DOMINGUES, 2014).

> [...] when it comes to formal collaborations, which require institutional agreements, international collaborations can be presented at several other levels, involving different actors. They can occur between research groups, departments of the same institution, between different institutions and sectors - universities, companies, R&D centers, public and private laboratories - between geographic regions and countries (Katz; Martin, 1997). In addition to these levels, at the international level, scientific actors count on the performance of supranational institutions that coordinate projects in cooperation with specific objectives, involving different countries (DOMINGUES, 2014, p. 183, own translation).

Despite the positive results that can be generated, Ashman (2001) highlights that international scientific collaborations must be carried out in an equitable manner and with mutual benefit, since the division of power between the actors participating in the collaboration can become a complex issue to be addressed. According to the author, a survey carried out in 1998 with NGOs from Africa, Asia, and Latin America, reported that a large part of their leaders

said they had little or little influence on the relations maintained with funding agencies in the Global North. In the African case, for example, participating NGOs reported that existing cooperation threatened their administrative autonomy and the scope of their missions. In this sense, historically, it is possible to observe a movement on the part of organizations from the Global South to reject the legitimacy imposed by Northern institutions in projects that assigned only implementation functions to them, since they demanded to address their own national development agendas and resources for the establishment of collaborations (ASHMAN, 2001). Situations such as these can also occur within the scope of scientific collaborations, with the possibility of importing/mimicking agendas for the national context, that is, the "S&T policies [national] are influenced by international concerns", as occurred in the 1990s in the scope of the Brazilian State (DIAS, 2012, p. 142, own translation; DAGNINO, 2015).

Therefore, specifically about the Brazilian Science and Technology Policy, the main financier of international scientific collaboration is the Federal Government, being carried out through the Coordination for the Improvement of Higher Education Personnel (CAPES), the National Council for Scientific and Technological Development (CNPq), the Financier of Studies and Projects (FINEP), the Brazilian Cooperation Agency (ABC), and state funding agencies, with special emphasis on Research Foundations (FAPs) and, more specifically, the São Paulo Research Foundation (FAPESP). In this sense, it is possible to identify the main actors present in the establishment of international collaborations of Brazilian Science and Technology Policy: "national governments, multilateral research organizations, public research organizations, universities and research centers", in addition to "the Ministries directly responsible by S&T policies", nongovernmental organizations and private companies (DOMINGUES, 2014, p. 184, own translation). Each actor, in turn, has different objectives, goals, action plans and strategies, which directly affect the realization of international collaborations.

In the case of the definition of the research agenda and the national Scientific and Technological Policy (PCT), Bezerra da Silva (2013, p. 55, own translation) explains that this occurs through opinions and the participation of "most prestigious professors-researchers in each area of knowledge". Such professors-researchers are constituted, in this sense, as the main responsible for the formulation, implementation and evaluation of the Brazilian Science and Technology policies, which "compose and articulate social networks around decision agendas", being characterized "by the interaction of the actors to make possible the elaboration of policies that meet their [own] agendas" (BEZERRA DA SILVA, 2013, p. 23-28, own translation). In the context of collaborations, other issues are incorporated into the definition of the agenda,

such as the search for foreign and international investments, economic and political interests, assistance to developing countries, and the improvement of research capacity (DOMINGUES, 2015). Paquette (2002) also shows that such collaborations can be influenced by the shared values on the part of the actors involved in the formulation and implementation of the strategies defined for the collaboration. Therefore, such strategies end up being outlined mainly by the actors who participate in these international collaborations, being deeply related to the values of the individuals or institutions that plan it.

From that perspective, international collaboration in research can generate positive results for the different actors involved and, for instance, there is a growing tendency for Brazilian participation in such collaborations, which has reached a greater momentum since the 1990s (LETA, CRUZ, 2003). According to Leta and Cruz (2003), it is possible to see an absolute growth in terms of Brazilian scientific production in the period between 1983 and 2003. To corroborate and update this perspective, Salomon (2018) indicates an increase in scientific production in the range of 133% over the past 10 years. It is also possible to observe that "in 20 years, the production in international collaboration went from 20% to 30% of the total papers published by at least one Brazilian (LETA, CRUZ, 2003), conferring greater international recognition for Brazilian science" (DOMINGUES, 2015, p. 62).

On the other hand, it is necessary to highlight the power asymmetries related to such collaborations. Considering the Latin American perspective of Social Studies of Science and Technology, as well as studies on the geopolitics of knowledge, we can identify a number of scientific productions that deal with how such collaborations are established, as well as the objectives inherent to their establishment (VESSURI, 1996; KREIMER, LEVIN, 2013; FERPOZZI et al., 2019; DEMETER, 2019; CONNEL, MAIA, 2012). If, on the one hand, Latinos consider the cooperation good, visualizing the benefits of interaction and greater visibility for local science; Europeans, on the other hand, use these cooperations as a strategy to strengthen European science and among their competitors (KREIMER, LEVIN, 2013).

Considering this context and what was previously presented, Fapesp, our study, has shown a significant growth trend in international collaborations over the years. It should be noted that this Foundation was formally created in 1960 by Organic Law No. 5,918, of October 18, 1960, starting to operate only in 1962, through Decree No. 40,132, of May 23, 1962. Therefore, it is one of the main agencies for promoting scientific research in the country, being internationally recognized for its quality and for supporting a large part of the national and, above all, state scientific community.

Within the scope of the law that institutes it, the purpose of the Foundation refers precisely to the "support for scientific research" in its State of origin, with the task of:

> I - pay, totally or partially, for research projects, individual or institutional, official or private, deemed advisable by its competent bodies; II - partially pay for the installation of new research units, official or private [...]; VI - to periodically promote studies on the general state of research in São Paulo and in Brazil, identifying the fields that should receive priority for promotion; VII - to promote the exchange of national and foreign researchers, through the granting or complementation of scholarships or research, in the country or abroad; VIII - promote or subsidize the publication of research results (ALESP, 1960, p. 3, own translation).

These skills demonstrate the strategic role and importance of such a Brazilian development agency within the scope of the national Science and Technology Policy, as well as in relation to its potential in establishing new collaborations and cooperation between national and foreign researchers and researchers. Therefore, according to Lafer (2015), the Foundation's promotion aims to achieve three main objectives: i. the advancement of scientific knowledge; ii. applied research; and iii. support for research infrastructures. The first objective concerns the provision of educational and research scholarships, with a view to training human resources, in addition to thematic projects and various programs. The second refers to the financing of research with great potential for application, as well as of economic and social interest, being developed through projects such as Innovative Research in Small Companies (PIPE). In the case of the third objective, the disbursement of resources is foreseen to provide adequate infrastructure for carrying out research, such as the modernization of laboratories and internet access.

In this context, this Foundation has two main financing modalities, namely regular grants, and international agreements. The first of them, initiated in the 1960s, refers to the support granted to students and researchers on a constant basis by the Foundation. The second, that is, international agreements, concern scientific collaborations signed with international institutions, formally initiated in the 1980s (DOMINGUES, DA COSTA, 2016). The focus of this paper, therefore, concerns such agreements.

It should be noted, in this sense, that, as Lafer (2015) attests, Fapesp has been going through a process of constant internationalization in recent years. This process is carried out through agreements with similar entities (such as Higher Education Institutions - HEIs, laboratories, research centers and other development agencies) around the world, constituting itself as "a response to the challenge of the importance for the advancement of knowledge, the potential for interaction between national and foreign researchers", as well as their insertion into the "new molds on the agenda of the world agenda" of research (LAFER, 2015, p. 8-9,

own translation). Thus, to identify Fapesp's interaction with other actors in the international scientific community, the Foundation itself presents a map of such collaborations on its institutional website. Prior to its presentation, the categorization of the types of agreements signed stands out:

> a) Agreements offering initial funding ("seed fund"), mainly for exchanging researchers and students and for small seminars. In this case, the foreign partner is usually a university or a research institution. b) Agreements that offer full funding for research projects selected jointly by FAPESP and the partner agency or company. In this case, the foreign partner is usually a development agency or an industrial research laboratory (FAPESP, 2020b, p. 3, own translation).

For the agreements maintained by the Foundation, those concerning cooperation with research agencies and funding agencies, which are mostly located in the Global North, are noteworthy. Among the main ones, the following are highlighted: National Science Foundation (NSF); UK Research and Innovation (UKRI); Belmont Forum (BF); Biotechnology and Biological Sciences Research Council (BBSRC); German Research Foundation (DFG); among others. In short, within the scope of the results to be presented throughout this paper, a significant increase in this interaction with international institutions can be seen, and the Belmont Forum can be noted as one of the main collaborations signed over the years with Fapesp, being considered an important agreement signed by its leaders regarding the incorporation of the agenda related to the Sustainable Development Goals (SDGs) (FAPESP, 2020c).

Funding for scientific research through the Belmont Forum

According to its institutional website, the Belmont Forum (BF) was established in 2009 and constitutes itself as a partnership between "funding organizations, international science councils, and regional consortia committed to the advancement of transdisciplinary Science" (BELMONT FORUM, 2020, p. 1), being coordinated by the International Group of Funding Agencies for Global Change Research (IGFA)[22]. This partnership involves about 29 institutions that promote science, representing 50 countries and 6 scientific coordination bodies committed to the dissemination of scientific knowledge related to global environmental changes. The BF has conducted a total of 17 calls for proposals since the beginning of its operation, supporting 134 projects and contemplating more than a thousand scientists from more than 90 countries, whose themes are related to biodiversity, land use, coastal vulnerability,

[22] The current headquarters of the Belmont Forum secretariat is in Montevideo, Uruguay, with the Ibero-American Institute for Research on Global Changes (IAI). Previously, the secretariat was at the Agence Nationale de la Recherche (ANR) in France.

food security, as well as the Sustainable Development Goals, among others (BELMONT FORUM, 2019; 2020).

In the words of von Schneidemesser (2012, p. 1),

> It aims to do so by mobilizing international resources at a scale that matches this challenge 'in order to catalyze delivery of the environmental science-derived solutions that society needs.' To achieve this goal, the member countries of the Belmont Forum have formed a new working partnership that launched the International Opportunities Fund (IOF) - an open call for proposals with focus themes and the intention of new themes for a new funding round each year [...]. This mechanism enables international collaboration to tackle global problems, while removing barriers such as the uncertainty of multiple proposal review processes for funding when partners from multiple countries wish to collaborate.

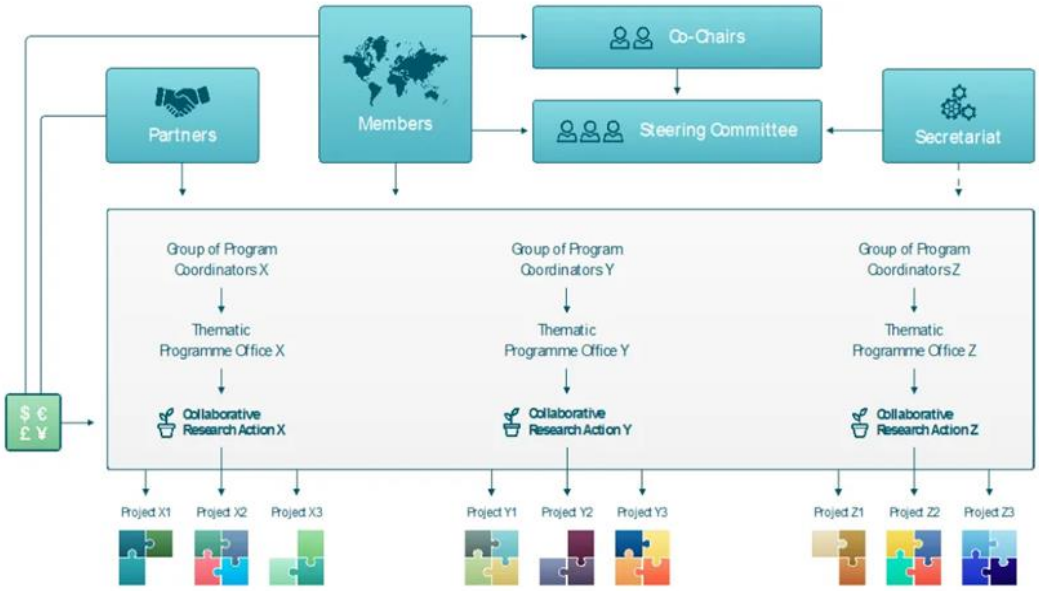
Among the participating scientific institutions, that is, members "legally allowed to mobilize resources from national or international research funds and are engaged in activities that address the Belmont Challenge" (BELMONT FORUM, 2020, p. 39), the following stand out: National Science Foundation (USA); European Union Commission (European Union); Federal Ministry of Education and Research (Germany); French Research Alliance for the Environment / French National Agency for Research / Ministry of Higher Education, Research and Innovation (France); Natural Environment Research Council (UK); National Natural Science Foundation of China (China); Ministry of Education, Culture, Sports, Science and Technology / Japan Science and Technology Agency (Japan); Natural Sciences and Engineering Research Council of Canada (Canada); Inter-American Institute for Global Change Research (Americas); São Paulo Research Foundation (Brazil) and Ministry of Science, Technology and Innovation (Argentina), in addition to other institutions in South Africa, Australia, Austria, Qatar, Côte d'Ivoire, Netherlands, India, Italy, Mexico, Norway, Sweden, Thailand, Taiwan and Turkey.

In this sense, to become a member of such a Forum, there are three requirements to be fulfilled, they are: i. the participation of the organization of a Collaborative Research Action (CRA); ii. contribute monetarily to the BF Secretariat; and iii. identify a principal representative of the organization to be responsible for the business of the BF. Indeed, those who are interested should send a letter of interest to the Secretariat indicating the areas of mutual benefit, ensuring compliance with such requirements, and communicating the provision in the establishment of the partnership. After the approval of the Forum members through an annual plenary, the organization's membership is confirmed, which now has the right to vote, as well as the possibility of proposing topics for the CRAs and participation in the BF Steering Committee (BELMONT FORUM, 2020).

CRAs are equivalent, in the scope of the BF, to a call for proposals, and each proposal submitted must be constituted as a project jointly developed by natural, social scientists (including economics and humanities) and other interested actors from at least three countries. The research, however, can be carried out in only one or more countries, but it must have at least three participating funding organizations. The submitted research projects are evaluated according to merit criteria and, as for the investment made in a CRA, it is not limited only to members of the BF, since there is the possibility of being financed by interested support organizations, which can be associated to the BF at any time of the financing made. It should be noted that "not all Belmont Forum members participate in every CRA" (BELMONT FORUM, 2020, p. 8).

As for its organizational structure, the flowchart below is shown:

Figure 23. Belmont Forum organizational structure



Source: Belmont Forum institutional website.

To explore such organizational structure, in addition to the terms already discussed, the Belmont Forum presents that:

> Partners are organizations that subscribe to the Belmont Forum, but do not fund research and/or do not meet the criteria for membership; The Steering Committee is elected by Belmont Forum members to support and advise Belmont Forum activities between plenary meetings. The committee consists of eight members headed by two Co-Chairs; The Belmont Forum Secretariat serves as the administrative arm of the forum and is tasked with carrying out decisions made during the plenary meetings; Projects are funded under Collaborative Research Actions (CRAs). CRAs fund

> multiple projects. CRAs are the primary mechanism by which the Belmont Forum institutes joint international calls for proposals in partnership with interested organizations […] (BELMONT FORUM, 2017, p. 1).

From the perspective of Kileen et al. (2012), BF refers to one of the world's largest research financiers on the topic of sustainable development and global environmental changes, stimulating the development of research between developed and developing nations, as well as making efforts for interdisciplinary collaborations to be produced within the scope of the research contemplated by the financing offered. Likewise, Murphy and Lucas (2017) add that in order to achieve the so-called "Belmont Challenge", that is, a series of international environmental and social challenges signed by the group, specific conditions must be created within the scope of partner institutions , as is the case with the provision of a digital infrastructure for carrying out the research, the coherence between the principles and the data policy of the BF, as well as the guarantee that the contemplated researchers have the necessary resources and data for the research.

In other words, it is a partnership signed between different research support institutions (such as development agencies and interested ministries), which aim to finance research projects around the world on the current model of global development, its environmental implications, social and economic, through dialogue between a range of actors and areas of knowledge. This partnership has significant impacts in terms of promoting global scientific research, since: i. "The Belmont Forum is comprised of 29 funding agencies on six continents"; ii. "Collaborative Research Actions have funded 99 different projects"; iii. "The Forum has supported over 1,000 scientists and stakeholders in more than 35 countries"; iv. "The work of Belmont Forum awardees has been featured in numerous periodicals and scholarly journals, including National Geographic, Nature, PLOS ONE, Global Change Biology and Sustainability Science"; v. "The Belmont Forum is implementing a global open data policy and principles with input from scientific and stakeholder communities"; saw. "Open data access has been developed through activity in four thematic areas: coordination, data planning, e-Infrastructures, human dimensions".

Specifically in relation to the Sustainable Development Goals (SDGs), the BF develops several actions from the organization of events and project development to the financing of research that addresses specific goals and / or targets that make up the agenda[23].

[23] According to Purcell et al. (2019, p. 1344), "in 2015, 193 countries came together to define and adopt the sustainable development goals (SDGs) – the first agreed actionable agenda by the global community for all citizens comprising a suite of objectives and targets for worldwide sustainable development by the year 2030 to end poverty, protect the planet and ensure that all people enjoy peace and prosperity".

This partnership, in turn, can be identified within the scope of Fapesp, as mentioned above. In this sense, the next section of this paper consists of bringing together both institutions, to understand how the collaboration was signed, which are the main areas of knowledge contemplated and other particularities about the cooperation agreement signed.

The scientific cooperation between Fapesp and Belmont Forum

According to Paulo Artaxo, coordinator of the FAPESP Research Program on Global Climate Change (PFPMCG), the Belmont Forum refers to a set of funding agencies that finance international research projects, with a view to solving global science-based problems. Such projects contribute to the internationalization of Brazilian research and to the formulation of public policies, since they contemplate a variety of strategic themes of a multidisciplinary character. In this sense, Artaxo argues that Fapesp has a strong participation in the scope of the BF (FAPESP, 2020c), starting the relationship between both from 2010, during the administration of Celso Lafer.

Continuing the history of cooperation between them, Reynaldo Victória, mentor of the relationship between the Belmont Forum and Fapesp, indicates that until 2011 there was a discussion on how it would be possible to implement this new way of financing science and, after long debates between development agencies of the G-8 (United States, Japan, Germany, Canada, France, Italy, United Kingdom and Russia) and the BRICS (Brazil, Russia, India, China and South Africa), a conclusion was reached that had already been discussed previously, that is, any and all funding agencies participating in the Forum could suggest research calls for funding. At that time, Fapesp was already participating in these discussions in an official manner with the Forum. Therefore, Victoria, through her speech at the Webinar “Impacts of climate change on Brazilian society: Science focused on solutions produced by the Fapesp-Belmont Forum cooperation”, held in June 2020 by the Fapesp Agency, adds that from the moment that an agency opens a call and receives funds from other interested agencies, such a specific call cannot be copied by other agencies, forcing the internationalization of the first. And, in the context of Fapesp, the author points out that such cooperation was very advantageous, since “for each euro that Fapesp placed, 35 euros were placed by the other agencies” and, in this sense, points out that by 2019 more than 90 million euros were involved in calls between the two, benefiting several national and international researchers.

Actors and research agenda

According to Fapesp's institutional website (2020a), it is possible to verify a total of 13 cooperation calls between Fapesp and the BF in the period from 2012 to 2020, with more than 30 research grants granted through the Foundation (FAPESP, 2020a). Within the scope of such calls, we highlight the participation of funding agencies from different countries, especially from the Global North, as well as the selection of funded projects that, in their majority, have foreign universities as their Leading Institution, with only two Brazilian Leading Institutions selected. The themes addressed by the calls are in line with the strategic themes linked to the Belmont Forum, with the main form of promotion being aid for regular research in the country, whose duration varies between 1 and 5 years. The availability of financial resources by Fapesp, varies between 250 thousand and 1.5 million euros.

Table 11. Calls for research proposals between Fapesp and Belmont Forum (2012-2020)

Year	**Subject**	**Total resources available by Fapesp**	**No. of selected projects**	**Head office**	**Leading institutions**	**Funding agencies**
2020	Transdisciplinary Research for Pathways to Sustainability	€250.000	2	USP (2)	University of Maryland Center for Environmental Science; Géosciences Environnement Toulouse	FAPESP, NSF, FWF, TUBITAK, NRF, Future Earth; ANR; REGIG
2019	Disaster Risk, Reduction and Resilience	€ 1 million	2	USP; Unesp	United Nations University; The Pennsylvania State University	Fapesp, NSF, UKRI, UNO
	Climate, Environment and Health	€750.000	2	USP; Governo do Estado de São Paulo	University College London; Stanford University	Fapesp, UKRI, Tübitak, WHO, NSF, PASRES, NOAA
2018	Transdisciplinary Research for Ocean Sustainability	€ 1 million	1	Unifesp	Södertörn University	Fapesp, FORMAS, RCN, NSF, MoES, NRF
	Science-Driven E-Infraestructures Innovation	€810.000	2	USP (2)	Fondation pour la Recherche sur la Biodiversité; Sorbornne Université	ANR, NSF, JST, FAPESP
2017	Biodiversity and escosystem services	€ 1,5 million	1	INPE	Institut de Recherche pour le Développement	ANR, DFG, DLR, RCN, NSF, FAPESP
2016	Transformations to Sustainability	€600.000	4	Unicamp (2); FGV; USP	Center for Social-Ecological Landscape, Indiana University; University of ReadingUniversity of	NSF, NWO, VR, FAPESP, ESRC, BMBF/DLR, ISSC, AKA

					WarwickUniversity Wageningen	
	Sustainable Urbanisations Global Initiative	€ 1 million	5	USP (2); FGV; Unicamp; Unesp	Maastricht University; FGV; National Taiwan University; Coventry University; Forschungsverbund Berlin e.V., Institut für Gewässerökologie	NWO, Formas, SEA, FFG, NSF, NRF, BMBF, FAPESP, MOST, JST, QNRF, AHRC, ESRC, RCN, Innovate UK3
2015	Climate Predictability and Inter-Regional Linkages	€ 1 million	4	Unicamp (2); FGV; USP	Indiana University; University of Reading; University of Warwick; University Wageningen	NSF, NWO, VR, FAPESP, ESRC, BMBF/DLR, ISSC, AKA
	Mountains as Sentinels of Change	€ 1 million	2	USP (2)	Centre National de la Recherche Scientifique; University of Minnesota	ANR, FAPESP, NSFC, NSF, DFG
2014	Biodiversity and escosystem services	€500.000	3	USP; Instituto Florestal do Estado de São Paulo; Unifesp	Centre National de la Recherche Scientifique (3)	ANR, CSIRO, DFG, FAPESP, JST, MoES, NSFC, NRF, RCN, NERC, ESCR, NSF
2013	Food Security and Land Use Change	€ 1,5 million	Type 1: 1	USP	Type 1: Cranfield University	Type 1: NERC-BBSR-ESCR, NSF, FAPESP, NRF
	(Type 1: Community building projects; Type 2: Collaborative research projects)		Type 2: 2	INPE; USP	Type 2: Scottish Food Security Alliance, University of Aberdeen; USP	Type 2: CSIRO, FAPESP, ANR, MoES, NRF, SNSF, NERC-BBSR-ESRC, NSF
2012	Freshwater Security and Coastal Vulnerability	-	4	USP (2); INPE; Univap	Rhodes University; University of South Florida; University of Minnesota; Marine Biological Laboratory	CSIRO, FAPESP, MoES, NRF, NERC-ESCR, NSF, ANR, DFG, JSPS, NSERC

Source: Authors' elaboration.

Specifically, regarding the calls indicated in the table, the following is verified: i. in all notices, it is possible to note the existing incentive for the formation of new international research networks, with the mandatory requirement for researchers to participate in groups composed of at least three countries that are members of the BF; ii. Fapesp, as it constitutes itself as the institution that proposes the calls, has final responsibility regarding the financing decisions for the proposals selected by the BF; iii. although the research groups are composed of at least three different countries, Fapesp only finances the partner of the State of São Paulo

in the scope of collaboration; iv. partner agencies are the main definers of the topics covered, which are detailed in the corresponding Implementation Plan, officially announced on the Belmont Forum website, and disseminated by the relevant agencies. For the themes covered, it is possible to verify total adherence to the institutional assumptions by the BF, integrating the perspective of transdisciplinary science, as well as the themes related to sustainable development and its adherence to the 2030 agenda.

Other results could also be verified in the scope of the consultation to the Fapesp Virtual Library, which concerns the research projects selected in joint calls between both institutions. In this research, a total of 95 scholarships and grants awarded between 2013 and 2020 were identified, with a greater incidence of funding in the large areas of Exact and Earth Sciences (whose predominance stands out in Geosciences), and Interdisciplinary and Applied Social Sciences (especially in the Urban and Regional Planning). The data related to the granting of scholarships and grants by large area can be seen in Table 12.

Table 12. Educational and Research Scholarships by major area of knowledge

Major area of knowledge	**Start Date**								**Total**
	2013	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	
Agrarian Sciences			3				2		5
Biological Sciences	2	1	6	3					12
Health Sciences								2	2
Exact and Earth Sciences			3	11	6	4	3	1	28
Human Sciences		1			1	2	5	2	11
Applied Social Sciences	3	1	1			5	4		14
Engineering								2	2
Interdisciplinary	1	1	3	2		5	6	3	21
Total	6	4	16	16	7	16	20	10	95

Source: Authors' elaboration.

Regarding the types of support granted by Fapesp to the BF, the following classification is given: Educational and Research Scholarships in Brazil. For the first, regular grants (23 results) and thematic projects (8) stand out, and, regarding the second classification, postdoctoral scholarships (31), technical training scholarships (25), scientific initiation (6) and doctoral scholarships (direct) (2). Regarding the host institutions linked to the grants and aid granted, there are 46 results referring to the University of São Paulo (USP), 14 linked to the National Institute for Space Research (INPE), 12 linked to the University of Campinas

(Unicamp), 8 linked to the Getúlio Vargas Foundation (FGV), 5 linked to the University of Vale do Paraíba (UNIVAP), 4 linked to the São Paulo State University (UNESP), 2 linked to the National Center for Monitoring and National Disaster Alerts (CEMADEN) and the Federal University of São Paulo (Unifesp) and 1 linked to the Health Department of the State of São Paulo and to the Environment Department of the State of São Paulo. As seen, there is a direct relationship between such grants and aid granted to the State Government of São Paulo, evidencing one of the specific objectives of the projects that refers to the formulation of public policies on the topics addressed. In addition, institutions abroad linked to the awarding of scholarships and grants are added, with the predominance of Higher Education Institutions (HEIs) from countries in the Global North, such as the United States, United Kingdom, France, among others. The list of institutions and countries involved identified in this survey can be seen in Table 13.

Table 13. International HEIs and Funding Agencies involved in the Educational and Research Scholarships (2012-2020)

HEIs and Funding Agencies	**Countries**	**Total**
Any institutions involved	-	70
Coventry University; University of Bath; University of Cape Town (UCT); University of California, Santa Cruz (UC Santa Cruz); University of Reading	UK, USA, South Africa	1
Cranfield University	UK	1
Groupe de Recherche en ç‰conomie Théorique et Appliquée (GREThA)	France	1
Institut d'ecologie et des Sciences de l'Environnement de Paris (IEES)	France	1
Institute de Recherche pour le Développement (IRD)	France	1
Instituto Franco-Argentino sobre Estudios de Clima y sus Impactos (IFAECI)	Argentina	1
Marine Biological Laboratory (MBL)	USA	1
Pennsylvania State University; De Montfort University	USA, UK	1
Research Institute for Humanity and Nature (RIHN); National Taiwan University (NTU); University of Illinois at Urbana-Champaign; Hamad Bin Khalifa University (HBKU)	Japan, Taiwan, USA, Qatar	1
Rhodes University	South Africa	1
Södertörn University	Sweden	1
Stanford University	USA	1
Stellenbosch University; Leuphana University of Lüneburg; Maastricht University, Maastricht (UM); Arizona State University, Phoenix (ASU); Lund University; Universität f. Bodenkultur Wien	South Africa, Germany, Netherlands, USA, Sweden, Austria	1
United Nations University Institute for Integrated Management of Material Fluxes and of Resources (UNU-FLORES)	UN-USA	1
Université de Versailles Saint-Quentin-en-Yvelines (UVSQ)	France	1

Université Joseph Fourier; Université Joseph Fourier	France	1
Université Montpellier 2	France	1
Université Paris-Sorbonne (Paris 4)	France	1
University College London (UCL)	UK	1
University of Aberdeen	UK	1
University of Minnesota (U of M)	USA	2
University of South Florida (USF)	USA	1
University of Washington; Wageningen University; University of Gothenburg	USA, Netherlands, Sweden	1
Yale University; United Nations University Institute for Integrated Management of Material Fluxes and of Resources (UNU-FLORES); Ming Chuan University, Taoyuan (MCU); ICLEI Cities Biodiversity Center (CBC); Stockholm University	USA, UN-USA, Taiwan, South Africa, Sweden	1
Total		95

Source: Authors' elaboration.

As seen, the cooperative relationship between Fapesp and the Belmont Forum only became institutionalized in 2012, when there was the first joint call between both institutions. Among the calls, scholarships and grants granted among these, the involvement of development agencies and Higher Education Institutions in the countries of the Global North stands out, having little impact on the part of the scientific community of the countries of South America and, mainly, of Asia. Regarding the large areas of knowledge contemplated, the Exact and Earth Sciences gain prominence, followed by the Interdisciplinary area, corroborating the premises shared by the Belmont Forum. Likewise, the topics covered are also associated with the strategic themes signed within the scope of the BF, indicated in the previous session of this paper and agreed upon between the agencies involved.

Impacts in the context of São Paulo State Universities

Within the scope of such a survey, it is also possible to specify the impact of the relationship between Fapesp and Belmont Forum with the state universities of São Paulo: University of São Paulo (USP), University of Campinas (Unicamp) and São Paulo State University (Unesp); as well as regarding the contemplation of the Sustainable Development Goals in the contemplated research projects. As seen in the figure below, specifically in relation to São Paulo state universities, 46 projects are linked to USP, 12 to Unicamp and 4 to Unesp. About the main major areas of knowledge covered, these are again linked to Exact and Earth Sciences and Interdisciplinary, respectively. For the countries involved in the collaborations, the Global North is highlighted.

Table 14. Impact of cooperation between Belmont Forum and Fapesp within the scope of Unicamp, USP, Unesp (2012-2020)

Category		Unicamp	USP	UNESP	Total	General Total	%
General Data	No. Educational and Research Scholarships	12	46	4	62	95	65,25
	No. published papers	29	52	0	81	145	55,85
	No. HEIs and Funding Agencies involved	5	21	5	31	44	70,45
	No. SDGs contemplated	1; 2; 6; 7; 10; 11; 13; 14; 15; 16	1; 2; 3; 6; 7; 8; 10; 12; 13; 14; 15; 16	1; 2; 7; 11; 13; 14	-	-	-
No. Scholarships by area of knowledge	Agrarian Sciences	0	1	2	3	5	60
	Biological Sciences	0	11	0	11	12	91,66
	Health Sciences	0	1	0	1	2	50
	Exact and Earth Sciences	2	20	0	22	28	78,57
	Human Sciences	7	0	0	7	11	63,63
	Applied Social Sciences	2	3	0	5	14	35,71
	Engineering	0	1	1	2	2	100
	Interdisciplinary	1	9	1	11	21	52,38
No. International Collaborations	South Africa	1	1		2	3	66,66
	Germany		2		2	3	66,66
	Argentina				0	1	0
	Austria		1		1	1	100
	United States	1	2	2	5	7	71,42
	France		1		1	2	50
	Netherlands			1	1	2	50
	UK	1	1	1	3	3	100
	Japan		1		1	1	100
	Qatar		1		1	1	100
	Sweden		1	1	2	4	50
	Taiwan		1		1	2	50
	Multinational Organizations	3	7	2	12	18	66,66

Source: Authors' elaboration.

Therefore, regarding the impact of this collaboration on the contemplated SDGs, it was possible to identify the following connections between such objectives, as shown in Figure 24. Within the scope of such projects, the main contemplated SDG refers to n. 13, Climate Action, which establishes direct relations with the other SDGs, such as those in n. 2, 6 and 16,

among others. The relationship between these objectives refers to the very intersection between them since they can be considered transversal and interdependent. Other SDGs such as those of n. 4, 5, 9 and 17 were not identified in this survey.

Figure 24. Connections between the SDGs contemplated in the collaboration between Belmont Forum and Fapesp (research projects USP, Unicamp and Unesp)

Source: Authors' elaboration.

When illustrating the way in which the SDGs are incorporated into the scope of research projects financed by this collaboration, specifically within the scope of projects linked to São Paulo state universities, this figure reiterates the connections established within the scope of the publication “A guide to SDGs interactions: from Science to implementation” (ISCU, 2017). Likewise, it presents the way in which the SDGs have been incorporated through funding for scientific research, in view of the role of science in relation to the achievement of such global objectives. Thus, it is interesting to see that SDGs related to Quality of Education (SDG 4), Gender Equality (SDG 5), Industry, Innovation and Infrastructure (SDG 9) and Partnerships and Means of Implementation (SDG 17) were not incorporated. The absence of such SDGs in the contemplated projects, allows us to make the following hypothesis: certain SDGs are prioritized in joint calls between agencies, as is the case of SDG 13. In fact, as it is an

international development agency, the agenda of research related to the SDGs contemplates themes with strong relevance on the part of the SDG, that is, on the part of the Belmont Forum, which refers to a network composed mainly of agencies and institutions from the Global North. This pattern of research related to the SDGs can be seen in the report published by Elsevier (2020), which highlights that "most of the research relating to SDGs stems from high income countries while only a very low percentage across the first 16 SDGs originates from low-income countries. The SDGs most researched are SDGs with strong relevance for industrialized countries" (ELSEVIER, 2020, p. 5).

Final Considerations

This paper aimed to explore the relationship established between Fapesp and Belmont Forum, in view of the cooperation agreement signed between both institutions for the financing of scientific research. Therefore, it was possible to observe the following: i. a process of internationalization of Fapesp is underway with several actors in the scientific community, mainly after the 1990s; ii. this process has as one of its main characters the Belmont Forum, which is composed of several development agencies in the world that finance research related to global changes; iii. the relationship between the two, which began in 2010, is viewed by some Fapesp leaders as beneficial and advantageous, both for the internationalization of Brazilian research and for the formulation of public policies and the solution of global science-based problems; iv. most of the agencies involved in the 13 calls made between them are from countries in the Global North, such as the United States and the United Kingdom, with less collaboration with agencies in countries in Latin America and Asia; v. the themes considered in the calls, as well as the major areas of knowledge most covered, incorporate Exact and Earth Sciences as a central axis, as well as interdisciplinarity, bearing in mind the principles postulated by the Belmont Forum in its institutional documents; vi. the Sustainable Development Goals could also be identified in the data survey, with greater incorporation in relation to SDG n. 13, as well as the observation regarding the intersection between the SDGs themselves, which are transversal and interdependent.

Considering the achievement of the main and specific goals of this paper, some questions can be asked to deepen the relationship drawn between them, such as the following: i. what is the degree of autonomy of Fapesp in relation to the determination of research themes and agendas to be financed in Brazil?; and, ii. are public calls for research funding induced by the institution Belmont Forum?, that is, is there a process of importing the research agenda

guided by this institution?. To resolve these issues, qualitative data must be collected about cooperation, extrapolating the information presented in this paper. Other questions can also be added, considering a future research agenda, such as the following: iii. to what extent is the funded research agenda really “national”?; iv. what results / implications can be obtained through this financing in the formulation of national public policies?; among others.

Final remarks

From this part, it was possible to trace Fapesp's history, its alignment with sustainable development issues, as well as its relationship with other development agencies through the establishment of international cooperation. Regarding the aforementioned theme, we highlight the cases of the BIOTA, Global Climate Change and BIOEN Programs, which demonstrate the interest of the Foundation and the scientific community of São Paulo in relation to such topics. The establishment of partnerships and agreements with the Belmont Forum were also highlighted, in view of the Foundation's activities.

Specifically on the Belmont Forum, it is observed that a sub-national agency acts alongside other national agencies (in particular, from the Global North); has a greater number of cooperations with foreign agencies and institutions in the North, when compared to the cooperations established with agencies in the South; and, in addition to the above-mentioned Programmes, also establishes cooperation on issues that permeate sustainable development and, by extension, the Sustainable Development Goals. At the end of this part, some questions are raised, having been worked on in the other parts of this thesis, specifically regarding the interviews conducted with the professors from Fapesp.

PART 3. THE ALIGNMENT OF THE SÃO PAULO RESEARCH FOUNDATION TO THE SUSTAINABLE DEVELOPMENT GOALS

This part of the thesis aims to answer the main question of this research, considering the presentation of the theoretical-conceptual framework and the description and analysis of the interviews conducted. Therefore, considering the theme addressed in the introduction, we chose to focus on the theoretical perspectives of the Social Studies of Science and Technology (ESCT) and the studies on Geopolitics of Knowledge. Such references present important concepts and conceptions in relation to the performance of the scientific community, its forms of collaboration and dynamics of production and dissemination of knowledge, taking into account the particularities and asymmetries between the various regions of the world. For this purpose, this section is organized into three main parts: the first part aims to present an overview of the global and, more specifically, Latin American context in relation to the dynamics of scientific production; the second part addresses the actors who are behind the legitimization and construction of the research agenda on sustainable development and, more specifically, the Sustainable Development Goals (SDGs). In both parts the concepts of "scientific community" and "scale and hegemony in science" will be used, which are specified in the next section. Finally, the third part aims to present the results obtained through semi-structured interviews with professors who integrate the institutional structure of Fapesp, aiming to solve the question of this research.

Subpart 1. Key concepts and theoretical framework

The concept of "scientific community" has been outlined in various ways over the past decades from different points of view (BAUMGARTEN, 2004). In this specific research, we use the concept attributed by Kneller (1980, p. 182, own translation), in which he considers the following:

> The scientific community is an association of people who are not bound together by laws or chains of command, but by the communication of information - through peer-reviewed journals, conferences, informal discussions and other channels. Communication is coordinated by institutions such as expert societies and invisible colleges. Through these institutions and channels, and the reward mechanism that operates through them, the scientific community seeks to achieve certain goals that contribute to the overall purpose of expanding knowledge of nature. These goals consist of maintaining research standards, harmonizing the interests of the individual scientist and the scientific enterprise, promoting competition and cooperation, and stimulating innovation.

Although he is more interested in the basic research community, the author extends the concept, understanding that "the scientific community as a whole is much broader" (Kneller, 1980, p. 187). This includes, for example, "scientists in applied fields, engineers, technicians (as in medicine and public health), administrators and staff of educational institutions" (p. 187). In this sense, doing science involves, among other things, "a history, a research method and a community of researchers" (p. 11). Such a concept applies to the context of this research, in view of its expanded dimension, as well as its particularities in relation to research standards, scientist's interests, promotion of competition and cooperation.

Allied to this concept, we focus our research on the context of "center-periphery relations" or, using a more updated nomenclature (and, more accepted in the academic literature), on "global North-South relations". In the context of ESCT, taking into account the Latin American perspective and, by extension, the studies on the geopolitics of knowledge, such terminologies are used in the context of the production and dissemination of knowledge by the scientific community, as well as in the relations of establishing cooperation and partnerships between both global poles. Asymmetries and the reproduction of inequalities are central topics that underpin both theoretical frameworks. It is from such relations that the concepts of "scale and hegemony in science" emerge.

According to Marginson and Xu (2021), the "center-periphery" framework can be replaced by two elements: the concepts of scale and hegemony. First, it is necessary to consider the existence of "different scales in science - the global dimension, the international relations of states, and the national, regional and local practices of science - are at one time interdependent, and partly autonomous" (p. 29). In this sense, changes in scientific making can occur at any moment and scale, whether they are decisive or not. The context and circumstances are essential to the interpretation of phenomena and should be considered together with the concept of "hegemony". This concept "offers a more comprehensive, flexible and supplementary explanation of power and inequality in science than does center-periphery. It also more directly specifies domination/subordination; while at the same time there is less closure, less of a zero-sum ontology" (p. 29).

Hegemony, in Gramsci's perspective (2000), focuses on class relations, emphasizing linguistic and cultural mechanisms in relation to control through the management of consent and participation (MARGINSON; XU, 2021). For the authors, such a concept can be considered more broadly, in view of other productions on the subject. The control of institutional processes and agendas, the molding and incorporation of perceptions and conceptions about a dominant ideology and the mobilization of bias are elements that should

be included in its definition. Institutions, therefore, play "a key role in the exercise and expression of hegemony and in higher education (...). They sustain agencies and processes (E.G, man, Health Sciences., journal hierarchies and topic selection) which calibrate value in science based on the hegemonic order" (MARGINSON; XU, 2021, p. 29). As an example, the authors cite the case of the United States as a central country in terms of political economy and culture, not exercising, however, absolute control in terms of global sovereignty (MARGINSON; XU, 2021). In general, power is found in a multipolar form in both science and geopolitics. Although we will use the concepts of scale and hegemony coined by Marginson and Xu (2021), we will also make use of the terms "global North-South" and, by extension, "center-periphery" (this one, in specific, seems more adequate to the purpose and theoretical framework of the research, given the Latin American perspective of Social Studies of Science and Technology).

Intersections between the Latin American perspective of Social Studies of Science and Technology and the Geopolitics of Knowledge

When dealing with the dynamics of production and dissemination of knowledge at the global level, we come across several works that address the power relations and their asymmetries, both in the formulation of research agendas, and in the analysis of the establishment of international scientific cooperation and partnerships (ALATAS, 2003; CONNELL, 2007; DEMETER, 2020; KREIMER; LEVIN, 2013; QUIJANO, 2000; VESSURI, 1996, among others).

As previously indicated, the studies to be considered in this research are focused on the theoretical referential of ESCT and the geopolitics of knowledge. Thus, beginning its contextualization and starting from the studies on geopolitics, it is possible to observe that the world of science, especially in the humanities and social sciences, is:

> (…) similar to a hypothetical Olympic Games where at least 90% of gold medals are guaranteed to Western and especially American competitors, where athletes must wear Western clothing, or risk being disqualified before even entering the competition, and where they can only reach the Olympic podium if they look exactly like a Western (preferably American) athlete. (DEMETER, 2020, p. 7).

According to Demeter (2020), the undervaluation and underestimation of scientists and researchers from the Global South in the knowledge production system is no less unfair than the depreciation and belittling that women and marginalized groups constantly suffer. The intellectual labour performed by such researchers is under "a larger and more complex workforce, and a detailed social division of labour related to knowledge production" (CONNELL; MAIA, 2012, p. 9). This division of labour underpins which texts will be named

as "theory", directing, and dictating the process of knowledge production. Theories and ways of working, for the most part, are concentrated "in the elite institutions of the global North" (CONNELL; MAIA, 2012, p. 10).

> In Australia or Brazil, we do not quote Foucault, Bourdieu, Giddens, Beck, Habermas etc. because they know something deeper and more powerful about our societies. They know nothing about our societies. We quote them again and again because their ideas and approaches have become the most important paradigms in the knowledge institutions of the metropolis - and because our knowledge institutions are structured to receive instructions from the metropolis (CONNELL; MAIA, 2012, p. 10, own translation).

Sharing this perspective, Alatas (2003) deals with "imperialism" and "academic dependence" in the process of division of labour in the social sciences. For the author, this phenomenon is analogous to political and economic imperialism, and is understood as a form of colonial domination by more advanced nations. In the scientific field, it is the "domination of one people by another in their world of thinking", being guided by direct and, above all, indirect imperialist relations (ALATAS, 2000, p. 24). Hountondji (1997) names as "extroversion" of the intellectuals of the colonized world, these being guided by intellectual authorities external to their community.

In practical and illustrative terms, we take up the example of the Olympic Games (DEMETER, 2020) and add the consequences discussed by Connel and Maia (2012, p. 11): "to publish in journals of the Metropolis, one must write following the genres of the Metropolis, cite the literature of the Metropolis and become part of the discourse produced there". In other words, it is as much about portraying its particularities as if it were the metropolis, making use of the theories coined there; as it is about portraying its particularities in a comparative manner, "situating its specificity within the parameters of the metropolis. In the latter case, the social scientist becomes the native informant for the intellectual world of the metropolis" (p. 11). The example of these relations can also be observed in the dimension of language, with the dominance of the English language and asymmetries before the other languages (MARGINSON; XU, 2021).

These discussions are based on the conceptions of "center-periphery" originated from the work developed in the 1950s by the Argentine economist Raul Prebisch and the Economic Commission for Latin America and the Caribbean (ECLAC). Currently, these conceptions are largely associated with Wallerstein's World-System theory (2004) and, although we do not focus on their presentation and analysis, a brief explanation of their rationale is in order. In short, the narrative proposed by this theory deals with European and North American domination over all nations, in view of the global economic system. Wallerstein

(1974, p. 390) states that "the only kind of social system is a world-system, which we define quite simply as a unit with a single division of labour and multiple cultural systems". This division incorporates the countries of the "center" (United States, parts of Europe and Japan), the "peripheral" nations whose states are weak or non-existent, and the "semi-peripheral" nations, which act as the periphery for the center and as the center for the periphery. In considering the scientific system, Wallerstein argues for a 'universal universalism' in place of a 'Eurocentric universalism'. This theory, therefore, aims to clarify the relations of power and domination existing between central and peripheral countries, there being a direct relationship between the economic system and the process of production of scientific knowledge.

Similarly, Marginson and Xu (2021) argue that countries in the global center dominate the formulation of the scientific research agenda, but this process occurs differently in terms of the economic relationship between countries in the global North and South. Therefore, despite recognising such domination, especially when we consider the dimension of language, the authors indicate that this does not occur only through economics, but also over culture, processes and institutions. In this sense, a criticism is made of the World-System theory, which denies, according to the authors, the existence of autonomy in global relations, the autonomy and actions of states, as well as the particularities of context and culture. "To argue that national science systems are determined by political economy at world-system level denies the possibility of autonomous national or global science - and of the national science policy" (MARGINSON; XU, 2021, p. 26).

That said, they reiterate that the doing of science, both from the point of view of economic capacity and scientific production, have become widely dispersed elements and, even if the United States is considered as a great power (in economic and scientific terms), other powers have emerged beyond the Euro-American group. Nevertheless, they recognize that the language, processes and agendas have not changed, nor has the map of the most recognized and prestigious universities.

In the words of Marginson and Xu (2021, p. 28), "history shows that language-based control can be long-lasting and profound", suggesting that Anglo-American domination enabled by language, institutions and culture outweighs the raw economic dimension in scientific doing. "This means that while the material needs to build science in emerging countries continues, the struggle to pluralize science is partly about culture, processes and institutions" (p. 28). This is, therefore, a domination that goes beyond the boundaries of the economic sphere, reaching other aspects disregarded by Wallerstein's theory. In this research,

as indicated previously, we will consider a new framework, considering the elements of scale and hegemony in science (MARGINSON; XU, 2021).

Scientific work, as visualized so far, has been constructed and guided by intellectuals coming from countries of the global North, especially the United States and some European countries (such as Germany, France and England). In other words, we can say that there is a kind of intellectual hegemony behind the process of knowledge production. This hegemony, however, is quite complex and should be analyzed both in terms of the economic dimension and in relation to the other aspects addressed by Marginson and Xu (2021).

Beyond the very construction of research agendas and theories, this domination and hegemony are also addressed in the academic literature when dealing with the process of internationalization of science when we look at the Latin American perspective of ESCT. On such theme, when analyzing the relationship of international cooperation between central and semi-peripheral countries, (FELD; KREIMER, 2019) indicate that the establishment of these cooperations are considered by most researchers as "good in itself" (p. 155) and, for others, to hide asymmetries in knowledge production. On the Latin American side, the focus is on the benefits of interaction and on gaining greater visibility. On the European side, the discourses refer to the establishment of cooperations as being strategic for the strengthening of European science and among its competitors (FELD; KREIMER, 2019).

When analyzing the main motivations for establishing cooperation, the literature shows four particularities: i. the inclusion of researchers from the Latin American community as a requirement and condition for obtaining financing and resources for the development of research; ii. the establishment of consortia working with problems of the Latin American region and, therefore, requiring local knowledge for the development of their research; iii. the establishment of consortia investigating global problems with specificities manifested in specific contexts, as in the case of Latin America; and iv. when the Latin American context becomes important and/or indispensable for observations and observations. the establishment of consortia that investigate global problems with specificities that manifest themselves in specific contexts, as in the Latin American case; and iv. when the Latin American context becomes important and/or indispensable for observations and experimentation (FELD; KREIMER, 2019; KREIMER, 2011; KREIMER; LEVIN, 2013; VESSURI, 1996).

Regarding the main activities carried out within the scope of the cooperations, data collection and systematization stand out, as well as technical work, whether routine or innovative (FELD; KREIMER, 2019; KREIMER; LEVIN, 2013). The activities, therefore, are subordinated to a center (in this case, European or North American), with the incorporation of

Latin American researchers after the research has already been designed. In some cases, Latin American researchers act as coordinators of a work package and are responsible for managing some of the resources allocated to the research project. In this case, participation is based on the international reputation of research groups, considering different themes and areas of knowledge (FELD; KREIMER, 2019).

Other research also highlights aspects of the "international division of scientific work" (BAIARDI; RIBEIRO, 2011; FARIA; COSTA, 2006; KREIMER, 2011, p. 57; KREIMER et al, 2019) and, in order to propose non-hierarchical relations in knowledge production, proposals emerge in the literature, such as the creation of an own research agenda and the construction of a National Project for the creation of R&D systems with the capacity to respond to local demands, without the importation/emulation of agendas (HERRERA, 1973).

In the case of the recognition and legitimation of popular knowledge, the recent production of Boaventura de Sousa Santos emerges (SANTOS, 2018; SANTOS et al., 2016). In the case of this author, the Epistemologies of the South emerges as a proposal that aims to integrate in a non-subordinated way the "scientific, lay, popular, traditional, urban, peasant, indigenous" knowledges, among others (SANTOS et al., 2016, p. 17). Such proposal shares the conception that "there is no global justice without global cognitive justice", since "the hierarchies of the world will only be challenged when knowledge and experiences of the South and the North can be discussed from horizontal relations and without the narratives of the South always being subject to the strenuous position of reaction" (p. 18).

It is important to note that, in the case of this specific author, the dimensions of "South" and "North" are different from those presented here. In this case, the "North" concept refers to scientific knowledge as a kind of cognitive empire, while the "South" represents forms of knowledge originating from the experiences of traditional populations, indigenous peoples, peasants, lay people, and others. In our context, it can be said that there is knowledge from the "South" within what we call the "global North". Despite this difference, it is an attempt to make possible the recognition and legitimation of popular knowledge, making possible the dialogue with the scientific community in general (both in the South and in the global North).

Based on the context exposed here, and subject of our research, we will now approach the construction of the research agenda on sustainable development, seeking to understand the particularities inherent to the main actors that produce knowledge on the subject, as well as how this knowledge circulates to other actors in the community. In other extensions, we will seek to expose the way in which the Sustainable Development Goals have been treated by the scientific community, considering the recent production of knowledge on the subject.

Building the research agenda on sustainable development and the SDGs

As will be observed in part 1 of this thesis, the topic of sustainable development has gained greater notoriety, especially from the 70s and 80s through the realization of several events that marked the perception of environmental risks inherent in the production process, the emergence of the concept and the mobilization of various actors (governmental and non-governmental) in favor of sustainable development. In this specific chapter, we will address the sustainable development research agenda, with a view to identifying the main actors that produce knowledge on this topic, in particular, on the current global research and development agenda, the Sustainable Development Goals (SDGs).

It is therefore acknowledged that global scientific production on the SDGs has been steadily and significantly increasing. In the words of Wastl et al. (2020, p. 6), "we see the long-term global picture of how research attention has turned increasingly to understanding and contributing to improving the sustainable and equitable development of our world". Therefore, in order to follow the central argument of this thesis, we used the theoretical-conceptual framework of the ESCT and the geopolitics of knowledge, considering the apprehension of the main regions that stand out in the production of knowledge and, in turn, theories, on the theme, as well as how they influence the research agenda of other community actors. To this end, we highlight the scientometric studies that have been conducted in order to identify the main actors that produce knowledge on the topic and other particularities of the SDG agenda.

The sustainable development research agenda

A series of scientometric studies have been conducted with a view to identifying the main themes, clusters, authors, and journals dealing with topics related to sustainable development and, more recently, to the Sustainable Development Goals (ARMITAGE; LORENZ; MIKKI, 2020; DIBBERN; SERAFIM, 2022; JAYABALASINGHAM et al., 2019; OLAWUMI; CHAN, 2018; RAFOLS et al., 2021; WASTL et al., 2020). Such studies present convergent results in terms of identifying "who" is behind the most recent productions on these topics.

Although different methodological approaches can minimally change the ranking of countries (ARMITAGE; LORENZ; MIKKI, 2020), in general, it is possible to observe a prominence of studies coming from researchers associated with research centers and universities from the global North, accompanied by the productions of researchers from the

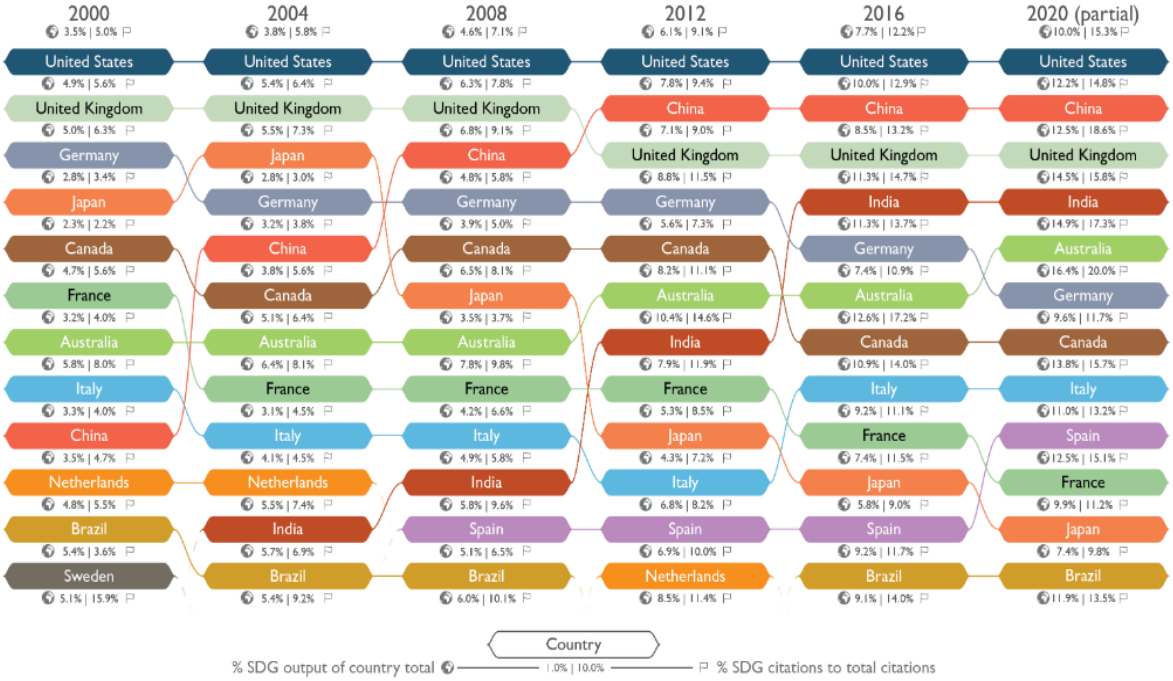
semi-peripheries and global peripheries (ARMITAGE; LORENZ; MIKKI, 2020; DIBBERN; SERAFIM, 2022; RAFOLS et al., 2021; WASTL et al., 2020). Rankings have also been used to classify how Higher Education Institutions have been incorporating the SDGs at institutional level, as is the case of the QS World University Rankings, UI GreenMetric World University Rankings, and the Times Higher Education (THE, 2022). In all of them, the first ranked HEIs refer to institutions geographically located in the global North, with some exceptions for some HEIs from the Asian continent and the Latin American region[24]. Therefore, despite the concentration of efforts and knowledge production in such countries, it can be observed that countries from the global South have been increasingly interested in the SDG agenda, and there has been a process of adaptation and importation of this agenda into activities in the scientific field.

Through the scientific literature, it is possible to observe a series of actions carried out in university institutions in favor of the SDGs (DIBBERN; SERAFIM, 2022), as well as in relation to the actions of other actors in the scientific community, such as associations, funding agencies and research centers/laboratories (DIBBERN; SERAFIM, 2021). Such actions, as indicated, are not restricted to the context of the countries of the global North, there are also experiences carried out in countries such as those of Latin America.

Corroborating this argument, other studies have been produced in this sense, as is the case of the analysis developed by Wastl et al. (2020). Considering the data obtained through the Dimensions platform and considering the period from 2000 to 2020, the authors conduct a geographical and thematic analysis concerning the volume of scientific production in relation to the SDGs. Among the main results, they identify that the twelve countries that most produced knowledge on this theme are mostly from the global North, with exceptions in the cases of Japan, China, Australia, Brazil, and India. Figure 25 illustrates the evolution of knowledge production in relation to the twelve countries identified by the study. At the top of the columns, it is indicated the proportion of global research related to the SDGs (on the left) and, the proportion of global citations that the identified papers received (on the right). For each country, the calculation occurs at the national level, considering its particularities in the production of knowledge.

[24]Specifically about THE, despite being widely used for the dissemination of institutional results of ranked universities, it has been the target of great criticism, in particular, due to the lack of clarity regarding its evaluation method (ARMITAGE; LORENZ; MIKKI, 2020; RAFOLS et al., 2021).

Figure 25. Evolution of global locus of SDG research since 2000



Source: (WASTL et al., 2020, p. 7).

As can be observed, the locus of research on this topic is concentrated, above all, in the United States, the United Kingdom and, more recently, China. In the case of the latter, there has been a constant growth in scientific production on the SDGs, as in the case of India, Australia and, more recently, Spain. It is also noted the decline over time of scientific production on the topic in the cases of Japan, France, and Germany. Other data can also be seen in global terms, such as the considerable increase in global scientific production on the SDGs between 2016 and 2020 (from 7.7% to 10%, a variation of 2.3%), as well as the increase in the percentage of citations throughout the period for all countries. Regarding Latin American countries, for example, only Brazil is observed, where there is a constant and relevant production on the topic, being among the 12 main countries responsible to produce knowledge on the SDGs.

In terms of the establishment of international scientific cooperation, the study also presents data on each SDG, considering the period from 2015 to 2020.

Table 15. International collaboration by Sustainable Development Goal based on data from 2015 to 2020

Goal	Domestic %	Bilateral %	Multilateral %
1. No Poverty	79.42	15.79	4.79
2. Zero Hunger	74.97	17.67	7.36
3. Good Health and Well-being	77.47	15.60	6.93
4. Quality Education	87.35	10.18	2.48
5. Gender Equality	83.31	13.30	3.39
6. Clean Water and Sanitation	73.56	19.53	6.91
7. Affordable and Clean Energy	77.33	17.97	4.69
8. Decent Work and Economic Growth	80.66	15.38	3.96
9. Industry, Innovation and Infrastructure	79.15	15.89	4.96
10. Reduced Inequalities	78.60	16.64	4.75
11. Sustainable Cities and Communities	78.92	16.44	4.64
12. Responsible Consumption and Production	75.88	18.45	5.67
13. Climate Action	70.03	21.09	8.88
14. Life Below Water	67.12	22.40	10.47
15. Life on Land	64.61	22.95	12.44
16. Peace, Justice and Strong Institutions	87.57	10.00	2.43
17. Partnerships for the Goals	75.93	16.92	7.15

Source: (WASTL et al., 2020, p. 9).

From Table 15 we note: i. the largest volume of research on the SDGs is focused on domestic terms (with authors from a single country), in relation to the establishment of international cooperation; ii. For each SDG, about 80% of the production is considered domestic, 15% bilateral (with authors from two countries) and 5% multilateral (with authors from more than three countries); iii. variations can be observed in the cases of SDG 14 and SDG 15, with a higher percentage of international cooperation and, in the cases of SDG 4, SDG 5 and SDG 16, a higher percentage of domestic productions.

Regarding data on international cooperation between countries, Table 16 presents the average percentage of international cooperation (in bilateral and multilateral terms) for the fifteen countries that most produce knowledge on the SDGs.

Table 16. Comparison of levels of international collaboration in SDG-aligned output and total research output for the top SDG-producing countries

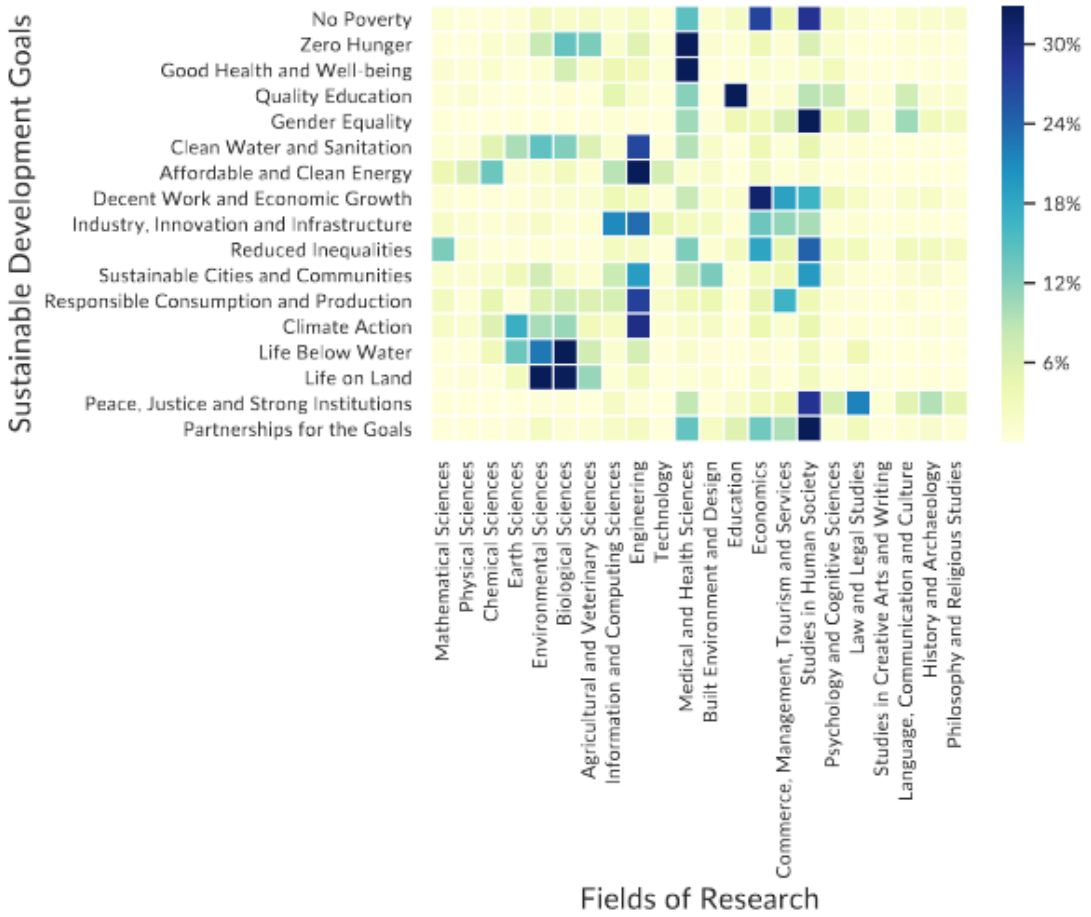
Country	International %	International SDG %	Variance %
Japan	27.18	40.85	13.67
France	55.18	65.72	10.54
China	27.71	35.50	7.79
Germany	51.96	58.91	6.95
Brazil	28.90	35.55	6.65
Netherlands	61.00	66.46	5.46
United Kingdom	54.73	59.25	4.53
India	22.86	27.11	4.25
United States	36.22	39.66	3.44
Australia	55.68	58.51	2.83
Spain	47.78	50.61	2.82
Italy	49.19	51.84	2.64
Canada	52.99	55.52	2.53
Sweden	65.49	65.12	-0.37
Russia	26.88	26.14	-0.74

Source: (WASTL et al., 2020, p. 10).

From this table, it is possible to observe, in the second column, the total percentage of international cooperation of each country, regardless of the topic. The third column presents the percentage of international collaboration related to publications on topics related to the SDGs. In this case, we can see: i. In almost all cases, research related to the SDGs has a higher percentage of international collaboration in relation to research regardless of the topic; ii. The highest percentage variation is observed in the cases of Japan, France, and China, which have a higher percentage of international collaboration related to the SDGs compared to international collaboration on topics in general; iii. The highest average percentage of international cooperation on the SDGs can be observed for the cases of the Netherlands, Sweden, and France; iv. In the cases of Sweden and Russia, the percentage variation of collaboration is slightly higher in relation to the other themes, with a variation of less than 1%.

Regarding research areas, Figure 26 presents, through the ANZSRC thematic categorization, the degree of intensity (by shading level) for each SDG. From this Figure, for example, it is possible to observe a greater relation between SDG 15 and the areas "Environmental Sciences", "Biological Sciences" and "Agricultural Sciences". For SDG 17, greater relationship with the areas "Studies in Human Society", "Medical and Health Sciences" and Economics", and so on.

Figure 26. Overlap between Digital Science's Sustainable Development Goal Classification and the Australia New Zealand Standard Research Classification (ANZSRC) 2-digit Fields of Research, based on publications outputs in Dimensions between 2015-2020



Source: (WASTL et al., 2020, p. 12)

Although the results are relevant for research on the SDGs, one must be cautious due to some inconsistencies that may arise during the methodological course of studies, especially due to the way of interpreting the SDGs (ARMITAGE; LORENZ; MIKKI, 2020). Limitations are constantly found when we consider only one data source, as is the case with the use of Web of Science or Scopus, which index research in certain languages, with greater indexing in certain areas. In the case of rankings, often used as criteria for the allocation of funding, the methodology for data collection should be transparent and plausible for comparison, making it possible to make a fairer assessment of the way institutions act.

In addition to scientometric studies, several actors in the scientific community have been using the SDGs to categorize their activities, as is the case of universities and colleges. As an example, we can cite the case of the University of Campinas (Unicamp, Brazil), which categorized its strategic planning based on the SDGs (Unicamp, 2020) and the case of the

University of Manchester (England), which released a report that brings together its teaching, research, and community engagement activities in relation to the goals and targets of the SDGs (The University of Manchester, 2022). In both cases, the criteria for categorizing actions and initiatives are not clear and transparent, making it difficult to compare their activities with those of other institutions. In the words of (ARMITAGE; LORENZ; MIKKI, 2020, p. 1102) "the danger with this is that their services' results could be used uncritically, as they provide easy access to rankings and data for leaders, administrators, and research managers". In addition to the loss of the critical dimension, the unrestricted use of the SDGs in the discursive scope of universities and other actors in the scientific community is observed, being considered a useful tool to justify the activities developed by it and to indicate the impact it has on society.

Differences between direct and indirect contributions to the SDGs should also be noted, avoiding false positives for research and actions that may be connected to the SDGs, but are not directly related to their goals and objectives. In addition, there is also a problem related to the hegemonic dimension of the agenda: research developed in countries about the SDGs may not correspond to their main social challenges/problems experienced by them. In the words of Ciarli et al. (2021, p. 90), "countries' research priorities do not always align with their SDG challenges, which may hinder their capabilities to address them".

Other cases can also be observed regarding the actions of this community, such as funding lines from research promotion agencies. In the case of countries from the global North, there are specific calls that directly address the topics of the SDGs and, in the case of countries from the global South, initiatives that incorporate, sometimes directly or indirectly, the SDGs in their calls. The specific case of the São Paulo Research Foundation (Fapesp, Brazil) will be addressed in the next session.

Subpart 2. Analysis of the adoption of the SDGs by FAPESP

The last part of this thesis deals with the context and the factors of adoption of the Sustainable Development Goals in the scope of Fapesp's research agenda. Therefore, it is expected to answer the main question of this research, that is: "what are the factors that motivate the insertion of the Sustainable Development Goals (SDGs) in the research agenda of the São Paulo Research Foundation?". In addition, other questions can be considered, such as: "how were the SDGs introduced into Fapesp's research agenda?"; "which actors are involved in this adoption (that is, who are the professor-researchers involved?", "from which areas of knowledge?". Methodologically, this part was developed through bibliographic reviews, access

and analysis of the institutional website and of official documents published by Fapesp, as well as through the elaboration and execution of semi-structured interviews with the professor-researchers that compose superior/deliberative/technical-scientific councils of the Foundation. The interviews were analyzed based on the content analysis methodology (BARDIN, 2004), using the Atlas.ti software.

Methodological approach and procedures

Before presenting the results and discussions, a brief description of the methodological procedures considered in this step is necessary. In order to obtain background and contextualization on the process of adoption of the SDGs by Fapesp, we developed and applied a series of semi-structured interviews with faculty members-researchers who make up the institutional structure of Fapesp. Among the interviewees, we had direct contact with some Coordinators of Programs focused on specific themes and members of the Technical-Administrative Council and the Superior Council of Fapesp. The interviews were conducted via Google Meet between July 2021 and April 2022, with an average duration of 40 minutes and, under authorization of the Ethics Committee-Unicamp (CAAE number 42615121.5.0000.8142).

As for the selection of interviewees, we forwarded an email to each member that composes/componed the internal structure of Fapesp - in view of the period of realization of this research (2019-2022)-, via Fapesp Virtual Library (BV-Fapesp). After the first contact, the scheduling of the interviews was carried out, as well as their application. All interviews were recorded and transcribed, as authorized by the interviewees.

After transcription, the analysis was performed based on Content Analysis, considering the methodology developed by Laurence Bardin (2004), with the help of the Atlas.ti software. In general, we performed a qualitative categorical analysis which, as indicated by Bardin (2004), refers to the unfolding of the base-text into categories, taking into account "analogical regroupings", i.e., through a thematic analysis. The objective of this type of analysis is to enable, through a condensation process, to obtain a picture about the collected data. The categorization performed is constituted as a process of structuralist investigation, developed from two stages: i. "inventory", which refers to the survey and isolation of elements; and, ii. "classification", with a view to the process of distribution of the elements through a categorical organization (BARDIN, 2004).

In this sense, based on the methodology used and considering the functionalities and characteristics of the software used (Atlas.ti 8), we elaborated the following categories and codes:

Table 17. Categories and analysis codes

Codes - Atlas.ti	**Number of citations**	**Categories codes**	**Description**
International cooperation/agenda and national problems	12	International cooperations	Refer to citations related to the establishment of international cooperation between Fapesp and other agencies and/or institutions of the S&T System. Citations related to the relationship between international research agendas and Brazilian national problems are added
Fapesp International Cooperations	35		
Role played and relation with SDGs	24	Role, research interests and relationship to SDGs	Refer to citations related to the function performed within Fapesp and/or research interest, as well as its relationship with the SDGs.
Research interest and relationship with SDGs	6		
SDGs and the scientific community	4	Performance of the scientific community in relation to the SDGs	Refer to citations regarding the performance of the international academic community in relation to the SDGs
SDGs at Fapesp - Emergence	28	SDGs at Fapesp	Refer to citations related to the emergence of the SDG agenda in Fapesp's internal structure. There are also citations related to the use of SDGs as a quality criterion for the provision of scholarships and/or grants
SDGs at Fapesp - Criteria	7		
Portal “Fapesp and the SDGs”	41		Refer to citations related to the creation of the SDGs and Fapesp institutional Portal; citations related to not knowing about the existence of this Portal; and, citations related to the classification of knowledge by areas and by SDGs
Portal “Fapesp and the SDGs” - Lack of knowledge	1		
Classification by SDG and knowledge areas	5		
Science-Public Policy Relationship	10	Relationship between Science and Public Policy Making	Refer to the citations regarding the relationship between Science and Public Policy, with reference to the debate on the SDGs
Fapesp Strategic Themes	5	Fapesp Strategic Themes	Refer to citations related to themes considered as strategic to Fapesp

Source: Author’s elaboration.

From the construction of these categories and, following the methodology developed by Bardin (2004), we analysed the interviews conducted. The results obtained and discussions held were conceived according to the categories developed, as well as through the theoretical framework described in the first part of this thesis.

Results and discussion

With a view to presenting the results obtained through the interviews conducted, at this first moment we present the general profile of the research participants and, from then on, the context and motivations identified in relation to the adoption of the SDGs by Fapesp. In order to ensure anonymity, the names of the interviewees were preserved, being replaced by letters, randomly. The interviews were conducted via the online platform Google Meet.

As shown in the table below, a total of 9 (nine) professors-researchers directly connected to Fapesp's institutional structure were interviewed, 8 men and 1 woman. Among the functions performed, 3 of them (interviewees A, B and C) are coordinators of Programs focused on specific themes at Fapesp, 3 (interviewees D, E and F) are part of the Foundation's Higher Council and 3 (interviewees G, H and I) are part of the Technical-Administrative Council. With regard to the area of knowledge, 3 are linked to Engineering (interviewees A, H and I), 3 to Biological Sciences (interviewees B, C and E), 1 to Applied Social Sciences (interviewee D), 1 to Exact and Earth Sciences (interviewee F) and 1 to Health Sciences (interviewee G).

As to the Higher Education Institutions and/or Institutions of the Brazilian S&T System, 4 are linked to the University of Campinas (UNICAMP), 2 to the University of São Paulo (USP), 1 to the Federal University of São Paulo (UNIFESP), 1 to the National Institute for Space Research (INPE) and, 1 to the Federation of Industries of the State of São Paulo (FIESP). Such institutions were not directly linked to the interviewees' profiles due to the maintenance of anonymity.

Table 18. Profile of the interviewees

Interviewee	Gender	Knowledge area	Fapesp Association	Duration of the interview
A	Man	Engineering	Global Climate Change Programme	43 minutes
B	Man	Biological Sciences	Global Climate Change Programme	44 minutes

C	Man	Biological Sciences	BIOTA Programme	62 minutes
D	Man	Applied Social Sciences	Technical-Administrative Council	56 minutes
E	Man	Biological Sciences	Technical-Administrative Council	42 minutes
F	Man	Exact and Earth Sciences	Technical-Administrative Council	40 minutes
G	Man	Health Sciences	Superior Council	50 minutes
H	Woman	Engineering	Superior Council	30 minutes
I	Man	Engineering	Superior Council	30 minutes

Source: Author's elaboration.

After the general characterization of the interviewees, we now proceed to the presentation of the results obtained from the semi-structured interviews conducted[25]. It is noteworthy that the script used can be found in Appendix B of this work. The methodology used at this stage, as previously indicated, refers to a qualitative analysis based on Content Analysis (BARDIN, 2004) and supported by the Atlas.ti 8 software.

Therefore, in order to proceed with the presentation of results, we will display them based on the analysis categories formulated, considering the following order: 1. role, research interests and relationship with SDGs; 2. academic community's actions towards SDGs; 3. relationship between Science and Public Policies; 4. Fapesp's strategic themes; 5. international cooperation; 6. SDGs at Fapesp; and, 7. SDGs and Fapesp Portal. It is noteworthy that the sentences in parentheses were taken from the interviewees' speeches.

1. Role, research interests and relationship with SDGs

Regarding the category related to the role performed and research interests related to the SDGs, the following was observed: Interviewee A indicated he works with the theme related to "*Energy transition*" and, when asked about his role at Fapesp, as one of the coordinators of the Global Climate Change Program, he indicated that it "*has several fronts*", focusing his response "*in the area of energy, which is related to climate change*" (E.A, Man, Engineering). According to the Interviewee, "*the SDGs... I would say that three SDGs are*

[25] The excerpts of the interviews were translated into English.

important in my agenda and within the Climate Change Programme, which are 1, 5, 7, which are poverty eradication, gender equality and clean energy. So, there are three SDGs that essentially guide my analysis, my conduct or my debate, right, I can't say that everything is exactly like that, but I try to conduct the Program within these three SDGs" (E.A, Man, Engineering).

When questioned whether there is a direct relationship between his line of research and the objectives of the aforementioned Program in relation to the SDGs, the Interviewee indicated that "*they pass more indirectly (...), I even think that it is not part of the researcher's agenda, for example, to think about energy and make the link with poverty eradication, or seek social justice or gender equality, understood as the entire gender diversity as it is understood today. So I think these are things that are still not in the day-to-day, on the radar of 90% of researchers, especially when we talk about engineering, exact sciences*" (E.A, Man, Engineering).

In the case of Interviewee B, he stated the following "*my focus, as I told you... we have moved towards multidisciplinarity, so I have worked a lot on the relationship between climate change in the context of contemporary society and within this history, the construction of indicators, right, which end up defining, let's say... impact, defining the system's resilience, vulnerability, exposure... so this construction goes through social and environmental issues*" (E.B, Man, Biological Sciences). In this case, there was no direct indication of the existing relationship between his area of research and the SDGs, even though the issue of climate change is incorporated into the 2030 agenda.

Interviewee C, on the other hand, indicated that his "*interests have focused more on biodiversity conservation issues and the interface between science and policy*" (E.C, Man, Biological Sciences). In this sense, his research is "*more involved with the bio-terrestrial SDGs, which is the one that most encompasses the biodiversity part, but with regard to ... yes, connection with several other SDGs. Biodiversity ends up entering several others, so yes, it is an agenda that I am quite familiar with, and my current research, at least for the last 10 years is linked to the SDGs*" (E.C, Man, Biological Sciences). When questioned about the link between the function he performs and the relationship with the SDGs, he indicated that Biota "*created in 1999 (...), adopted as its base document the definition of biodiversity (...), the Convention on Biological Diversity itself, it is based on, it is a fruit of the convention [of Biodiversity] (...). Now that we are discussing the next 10 years, the benchmark is the SDGs*" (E.C, Man, Biological Sciences). There is, therefore, a direct mention by the Interviewee in relation to international regulations, both in relation to the very process of creating the program

he coordinates (Biodiversity Convention), as well as the guidelines adopted for the next 10 years of the program (SDGs).

In the case of Interviewee D, he indicated that the SDGs are indirectly related to his area of research: "*I do not have the SDGs as my research references, but I am attending to them and I know that, indirectly, much is discussed in law or in administrative law ends up having an interface with the aspect of ... which has to do with public policies, which has to do with guaranteeing rights, which has to do with the rule of law*" (E.D, Man, Applied Social Sciences). Therefore, although his area of research is not directly linked to the SDGs, the Interviewee is aware of the agenda and understands its indirect relationship.

Interviewee H also indicated having a relationship with the SDGs theme. According to him, "*as a researcher I have a relationship with the SDGs and I really like this topic (...). And as a member of the higher council, I am one of the people who support us to do... always be looking if the proposals are adhered to one of the 17 UN SDGs in the 2030 Agenda (...). I like the 17 SDGs because they are, let's say, broad, they cover all areas, no one is left out, right, and they can really contribute to the planet right*" (E.H, Woman, Engineering).

The other interviewees (E, F, G and I) did not indicate any relationship with the SDGs theme, both in terms of the position held at Fapesp and in terms of the research areas to which they are linked.

2. *Performance of the academic community in relation to the SDGs*

The issue related to the performance of the academic community regarding the SDGs goes through issues related to how Fapesp has been acting in relation to this agenda. Thus, the views addressed refer to the general performance of the academic community, not referring specifically to how Fapesp has been acting in this regard. Therefore, we have the answers obtained by interviewees A and E who commented on this action in a more comprehensive manner.

According to Interviewee A, the community's action regarding the SDGs "*is advancing rapidly, even here in Brazil it has advanced, but this is already something that even guides funding lines, not only from agencies, but from institutions that work with teaching and research. Even within the energy sector, actions of energy companies, trying to contemplate these SDGs*" (E.A, Man, Engineering). Complementing such idea, he indicates that this "*is an irreversible movement (...), we have seen this for some years, not many years, but we see that some governments organize their activities, not only research, around this. Many global*

companies and, in tow, the development agencies. It could be the other way around, but I would say that the academic world, incredible as it may seem, is still a bit conservative" (E.A, Man, Engineering).

From the Interviewee's perspective, the SDGs have been addressed not only by the academic community, but also via governments and companies. He also indicates that, even though the academic world has been contemplating the SDGs in its recent activities, it is still conservative. By conservative, the Interviewee understands the following: "*I think that now some more studies are starting to appear... and then I confess that many studies are very superficial, so they did not help in the construction of knowledge, let us say, academically relevant. So, it's more like activism than the generation of knowledge that is better grounded and that exerts influence, not only in the scope of other disciplines, but also in the implementation, in society itself. So, I would say yes, it is something quite new*" (E.A, Man, Engineering). In this sense, in the Interviewee's view, the adoption of the SDGs by the academic community refers to something new and, at the same time, conservative, attributing the issue of "*activism*" as a characteristic of this process.

From the perspective of Interviewee E, when commenting on the performance of Fapesp, he indicated the following: "*it is possible for us to work the SDGs as a research agenda and we have discussed this with other agencies, with the National Science Foundation of China. China even made a very interesting cut because there are seventeen SDGs. It is a lot. For you, when you talk about priorities, when you talk about planning, ask any planning specialist, "ah, I have seventeen priorities". That means you don't have any. Because there are no seventeen priorities. And that's reality. It is the world*" (E.E, Man, Biological Sciences). In this case, the Interviewee presents how another development agency has been addressing the SDGs in its portfolio, considering the direction of its actions.

In both cases, the adoption of the SDGs by the community in question seems to be linked to a positive perspective, and there are no questions or criticisms regarding the adoption process of this agenda. Interviewee E, however, considers the high number of goals and targets present in the SDG agenda, indicating in a positive way the way in which the Chinese development agency has been addressing this situation.

3. Relationship between Science and Public Policy Making

Although not questioned, the relationship between science and the public policymaking process appeared in several interviews conducted. In this case, Interviewees A,

B, C, E and G made direct mentions of such relationship, in view of the particularities of the SDG agenda. According to Interviewee A, "*another important area in a programme like ours is that, strictly speaking, many of the solutions already exist, many solutions already exist in terms of science and technology, many of them already exist, many of them are even commercially available. That's why it's important to advance research into these public policies, so that you can strengthen mechanisms, so that you can bring what we know about science, and make sure that the policy is based on this information, on science. We are aware of this need, so, as an example, what we can do is promote this pandemic environment, these webinars, I think they are good indicators that we are trying to... I mean, Fapesp knows its role, so this dialogue is necessary, if it does not come from one side, we are trying to build it from our side. And maybe, this organization right, maybe these SDGs will facilitate this communication right, it's something that is occurring to me now right ... maybe right ... because it is much easier right, because it is also being built on the other side right this organization of actions, of agenda, so it may be that this is facilitated right ... but I still think we are very early right*" (E.A, Man, Engineering). From the Interviewee's perspective, there is an attempt to bring together the efforts made by Fapesp and the formulation of public policies based on the production of scientific knowledge. In this case, the Interviewee indicates that the SDG agenda can help in this process of bringing closer the science funded by Fapesp and the formulation of public policies carried out by different governments.

In the case of Interviewee B, the following is indicated: "*for a given research, I understand that the SDGs are really becoming relevant. In particular, because there is, let's say, an adherence to a series of public policies. It is an agenda that does not come from the academic world, it is an agenda that comes from a world of multilateral negotiations... it is a world that comes within a context that is not necessarily academic*" (E.B, Man, Biological Sciences). In the case of Fapesp, the Interviewee indicates that the SDGs are not a requirement, however, "*depending on the project you are going to propose... this adherence, the adherence to the SDGs agenda, it is quite interesting, quite important. So FAPESP has been moving... especially in the last two years, this issue of science to solution, science to transformation. So, how can science, it really can, it's not that basic science is not important, quite the contrary, but this emphasis on what really transforms people's lives... it has been taking shape. And an agenda like this is important because it has a series of indicators*" (E.B, Man, Biological Sciences). That said, the Interviewee indicates that the SDG agenda emerges, at first, as a multilateral agenda, and is not specifically a research agenda. However, in certain cases,

adherence to the SDGs becomes appropriate, given the issue of "*science to transformation*", indicated as being a path that Fapesp has been heading towards in recent years.

Interviewee C, in dealing with the results obtained by the Biota program, indicates the relationship established between these and the formulation of public policies, as follows: "*all this area of public policies of the State uses the data from the Biota program as a basis, so so, the researcher did not stop doing what he was doing, or rather, he was not guided to do something different from what he had been doing, simply his data, in addition to the normal publications, became part of a database that over time, in 10 years, allowed it to start being used for the guidance of public policies*" (E.C, Man, Biological Sciences). Complementing such information, he indicates that they have "*a very strong interaction with the Secretariat of the Environment, which is now no longer the Secretariat of the Environment, but rather the Secretariat of Infrastructure and Environment of the State of São Paulo, and ever since the program was created, the Secretariat has been a part of its creation, conservation units, people involved in the conservation area have been part of it since the planning stage (...). So, what happens is that the dialogue with career technicians is permanent. If you have a secretary who is favourable to or understands these issues, then we can move the policy forward"* (E.C, Man, Biological Sciences). That is, reiterating the view of Interviewee B, Interviewee C indicates how this relationship occurs in practice, given the context of the Biota program.

For Interviewee E, "*the SDGs translate much more into a policy sphere and a government action sphere [than] a research sphere*" (E.E, Man, Biological Sciences). However, when asked about the launching of the SDG Portal and Fapesp, he added that "*looking at the categories helps to formulate policies, right? Planning in essence, right? (...) I believe they are an interesting reference, but they reflect, I think, more relevance to a public manager in the sense of a mayor, a governor, or a president. Or even a legislative assembly, municipal, state or federal, then for a development agency. They can be converted into research actions*" (E.E, Man, Biological Sciences). Therefore, there is an image that the SDGs are more appropriate to the governmental context than to the sphere of action of the scientific community. However, a positive view is observed regarding the way Fapesp has been addressing this agenda, considering the categorization of its portfolio of funded projects.

Interviewee G, when addressing the creation of the Portal "Fapesp and the SDGs", states that, despite not having much knowledge about the preparation process of the Portal, he presents it as "*a movement that has been taking place over the five years*" during which he has been a member of the Supreme Council. It is "*a veiled complaint. I think it is something that is not ostentatious. And this story that FAPESP does not support public policies, I disagree with*

that, I think it supports public policies. It does not support what are some policies of exclusive political interest, let's say so, right? But despite what I'm saying, I think we recognize that FAPESP's power of influence is very great, and it has glimpsed that, besides supporting everything it has always supported throughout its life - training of human resources, scholarships for masters and doctorates, support for universities, multipurpose projects, thematic projects, etc, etc, etc, it can also be a promoter of public policies. And in the council, we had some public policies, I think there are ten or eleven now, I don't remember the exact number, they are of great interest for the future. […] We recognize that the Brazilian international dependence is huge. We saw this blatantly during the pandemic and now how the country was on its knees, because our productive capacity was being lost, etc. FAPESP, in the discussions of the board was that we have an obligation to be a promoter of public policies, right?" (E.E, Man, Biological Sciences). In other words, the Interviewee observes this relationship between SDGs and public policies, linking the creation of the SDG Portal and Fapesp as a result of this attempt by the Foundation to participate in the process of formulating public policies.

In the cases of the interviews mentioned, the relationship between SDGs and public policies is clear and objective, and relations are established with initiatives that Fapesp itself has been developing with governments, not only in relation to the SDGs, but also related to the programs it has. In the case of the Portal "Fapesp and the SDGs", two interviewees (E and G) indicate the relationship between its creation and the Foundation's attempts to approach the process of public policy formulation.

4. *Fapesp's strategic themes*

Some interviewees made comments about the themes considered as strategic by Fapesp, as is the case of interviewees A, D and H. In the case of interviewee A, when asked about the strategic themes in the scope of the Climate Change Program, he indicated that "*the climate problem*" and "*the contributions of science*" are the themes that are on the Program's agenda, in addition to the influence on the formulation of public policies (E.A, Man, Engineering). The interviewee exemplifies this relationship with the following statement: "*our Programme has organised three webinars in the last few months trying to address the COP issue, the next climate change meeting at the end of the year, and the Brazilian contribution? And, so, I think it is a demonstration of our concern to bring people from outside to talk about these issues, and the last webinar that I also had a greater participation in the design, was to*

bring the discussion of the subnational contribution, they are other actors that are not the government, because when we talk about climate change we talk about governments, we talk about IPCC, we talk about governments. . and in particular some countries, and Brazil especially now is one of them, where the national leadership is very weak, it is even absent, and the States appear, the municipalities appear, creating a climate agenda, creating a concern, not to mention the companies, especially the multinationals.. It's just to give you an example that we realize the importance of these other actors, to influence public policies, because this is another important area in our lives" (E.A, Man, Engineering).

Interviewee D, on the other hand, when addressing the assessment criteria of projects submitted to Fapesp, indicates that the Foundation has "*programs that, due to a matter of strategic direction, are aimed at stimulating certain topics", being considered topics that "FAPESP found relevant*" (E.D, Man, Applied Social Sciences). The interviewee also makes it clear that there is no direct temporal relationship between the creation of Fapesp's strategic programs (Biota, Climate Change and BIOEN) and the SDGs, since they were created prior to the launch of this development agenda.

Complementing the information on the strategic themes of the Foundation, Interviewee H, when addressing the establishment of international cooperation, states the following: "*what we do is analyse the trends, right, look at the major projects to see if we are in the right areas, for example, in this pandemic, how could Fapesp act. So, let's suppose, these are general guidelines. The higher council discusses general guidelines, financial and also on issues of themes and so on. […] So, we establish these priorities, although all areas are priorities, but so that we can establish guidelines, right*" (E.H, Woman, Engineering).

From the speech of Interviewee H, one can see that there is a process of observation in relation to what happens abroad concerning the establishment of strategic research themes by Fapesp. At the same time, considering the other statements obtained on this topic, there is a process of internal observation, in terms of problem situations observed by the national community in relation to the establishment of guidelines and strategic research themes.

5. International cooperations

The topic on international cooperation was commented on by all interviewees, with those who knew how they were established and the characteristics of each agency's action and those who did not have many details on the subject.

Interviewee A specifically comments on an international cooperation addressed in Part 2 of this thesis, the Belmont Forum. According to him, Fapesp is "*part of an effort called*

Belmont Forum that brings together several development agencies and, (...) through this type of association, we co-fund, we participate in international calls, Fapesp with the whole world, recruiting the scientific community here in the State of São Paulo, through these international calls" (E.A, Man, Engineering). Regarding their adherence to the SDGs, the Interviewee indicates that "*it is easy to make a relationship, right, among the calls for proposals that are finalized with these conversations with Belmont, certainly they have, all of them must have one or two or three or more SDGs involved*" (E.A, Man, Engineering).

In a more comprehensive way, the Interviewee indicates that Fapesp is "*part of regional networks... I would say subnational networks, right, as Fapesp is from the State of São Paulo there is a network of other six states, right, there is in China, there are two states in Europe, there is a state in the United States, there is in South Africa... we have a small network that also discusses and works on issues related to the specific case of energy, which is what I am commenting on now, but we have this network. So, there is a great interaction from the international point of view, I would say*" (E.A, Man, Engineering).

As regards the way in which joint calls are established, the Interviewee indicates that: "*what we do is: a scoping phase, the creation or discussion of the scope... so, there is a phase where we discuss themes or relevance of the theme, so we call experts, often we send someone from the program, if it is something very specific about oceans or something, we invite a colleague who really understands the subject. So, there is a part of the agenda, I mean, this is how it's built. It varies a lot, some agencies are more proactive, they propose, but there is a validation process and there is an expression of interest, not all the themes that Fapesp gets involved in. It is a construction that I would say is quite interesting, joint, right, but I think that each cycle has its own dynamics*" (E.A, Man, Engineering).

As for the adherence to national problems, he explains that "*Fapesp enters [in cooperations] to the extent that it sees a relationship with our problems... they, all of them have contributions... have the global aspect, so that's why our program is called Global Climate Change, so the object of our program and the research that we work on, they... even looking at the particular, then related to the global, has impacts that we... We are not doing anything that has no relevance to our reality. I think there is always a contribution, right, for our science, with our people right*" (E.A, Man, Engineering).

In general, he believes that "*this collaboration, this exchange, this participation is essential. One of the gaps that exist is precisely our timid contribution in the construction of this global climate science agenda. So, we need to be more active, we need to be within this context, it makes no sense not to participate, it makes no sense not to contribute and seek this*

space, because we also need to be protagonists. We must have this ambition" (E.A, Man, Engineering). Therefore, this need to be up to speed and to be able to establish cooperation stands out, as well as the timid national contribution in the construction of global research agendas, with the recognition that some national problems are global problems: "*some of the Brazilian problems are global problems, right, the Amazon for example right. The phenomena here in Brazil are increasingly relevant, Brazilian problems are also relevant, there are several examples, so far on the issue of health, it shows that there is no point in solving a problem in one country because contamination is global, and the climate is the same thing... and the climate solutions are also, we gain speed if we join efforts, many of the problems that are called Brazilian are not only Brazilian, but they are also from South Africa, they are ... there are several countries that share the impacts*" (E.A, Man, Engineering).

Interviewee B also directly mentions the cooperation established by Fapesp with the Belmont Forum: "*Belmont is an initiative that FAPESP participated in the initial discussions of Belmont, it started with NERC, and the agency there in England, calling some agencies close to it to finally...to propose a structure, a global consortium, in fact, for research funding. […] for climate change issues, the keynote is this...you can study anything...but the central keynote in the context of the call is climate change. And Belmont brought in an element that was very important which is...there are two...not two, there are several, lol. But one of them is the issue of having interdisciplinary research, right, and then Belmont evolved to transdisciplinary research... where we seek the involvement of actors that are not necessarily from the academic world, right. So that the research is research to be a solution, research to be applied to solve problems, within a global context. So, Belmont works... so the calls must have more than two, three countries involved, or institutions from three countries and so on. So, this is the whole context...so FAPESP really has an important role, very important, in Belmont...and particularly in Brazil because it was the agency that made this relationship possible, right, since the beginning*" (E.B, Man, Biological Sciences).

Regarding the establishment of the themes to be funded by Belmont, he highlights that these must be relevant to the global context, since if they opt for something very specific, it will not be funded. "*The Belmont plenary is where the agencies have their voice and are represented. So, in this plenary the themes of the calls for proposals are proposed (...). So, we propose a certain theme that is relevant in the context of the particular agency but is relevant in the global context. If we want to study something very specific here, you know, it won't get to Belmont, it ends up not getting through*" (E.B, Man, Biological Sciences). Such proposals, therefore, should be broad enough so that other agencies can also be interested and participate

in the calls. The theme of the SDGs, according to the interviewee, cuts across calls, as do the "*sentinels from climate change to climate and health (...), biodiversity, or oceans, or transformation pathways, transformation society*" (E.B, Man, Biological Sciences).

When questioned about the adherence of the themes funded through international cooperations and national problems, the interviewee indicates that there is an aspect of geopolitics that is present in the establishment of these: "*there is an interest in funding an agenda that is very closely linked to Brazilian problems, right... if we talk about the Amazon, biofuels (...), there are other collaborations that are really international...you take ocean research for example, atmospheric research, big modeling, so these are really collaborations that have a global focus. So, I see very few collaborations that FAPESP enters... if I see any... that the theme of the studies is associated with some European or American problem... I think that in South America or with some countries of the Global South, the scientific emphasis is kind of distributed. So, when it's something global I think it's a common agenda, when it's a more regional agenda, I think it's a more Brazilian agenda, in general. Whether it's adaptation and everything else. So this has...I think there is even a geopolitical logic in this story that part of the funding for these agendas is destined for the Global South and then because of that FAPESP, I think with a lot of ability and competence, even the related community that has funding at FAPESP publishes a lot...so there is a series of elements that are quite positive, right...so this agenda ends up...let's say...ends up taking advantage in a good way of these destined resources*" (E.B, Man, Biological Sciences). The interviewee also recognizes that there is a common agenda between the countries of the Global South which is more related to issues related to inequalities and social issues, while in the other forms of cooperation with the countries of the Global North, the orientation of the research is associated with broader issues.

Interviewee C indicates that "*this issue of international partnerships has always been very reinforced*", guiding the establishment of cooperation with other international research funding agencies (E.C, Man, Biological Sciences). In the case of Biota, he exemplifies its relationship with the National Science Foundation (NSF/USA), National Environmental Research Council (NERC/Great Britain) and the Dutch Research Council (NWO/Netherlands). "*These are active partnerships, we now have as members of the Coordination Committee, and it is not only me, but other members as well, we participate in, for example, the definition of calls in partnership with the European Economic Community, to put biodiversity and ecosystem services on the agenda, to make Biodiversity calls, which is a European priority in this area, so we work a little on these partnerships*" (E.C, Man, Biological Sciences). The construction of the research agenda is carried out jointly, as in the case of the partnership with the NWO: "*the*

agenda was built together with the community of researchers here" (E.C, Man, Biological Sciences). On the other hand, "*with the National Science Foundation we know, we certainly had a great influence in defining the programme itself, but then the agenda, I think it was more of the community's interest*" (E.C, Man, Biological Sciences).

In general, it indicates that "*their interest [international research funding agencies] is, in fact, the most important thing, but they, it is no longer something like at the beginning of my career when I participated in a German cooperation project where the guys came with a closed project and we were basically the manpower in charge of producing the data here, it is no longer like that, but it is still an agenda of their interest, but it has to have our interests embedded as well. So, we have a voice in this definition*" (E.C, Man, Biological Sciences). In this aspect, the geopolitical issue comes into play again, there being the issue of the construction and definition of the research agenda and the relationship between countries from the global North and South.

In the case of the establishment of partnerships with Brazilian agencies, he indicates that there is interest on the part of Fapesp, however, the limitation of resources is an aspect that hinders their establishment. When addressing the relationship with CNPq, he indicates that "*they would like to do even more, but CNPq has no resources*" (E.C, Man, Biological Sciences). Due to this, the interviewee indicates that Fapesp assumed a role of a national agency in the establishment of international cooperations: "*I think that Fapesp ended up (...) assuming an international role that would be more of a national agency than a state agency*" (E.C, Man, Biological Sciences).

Interviewee D briefly addresses this topic, indicating that Brazilian science has an international agenda in which it can present its interests, on an equal footing, to international partners. "*It does not simply follow the interests of others. I can say that there is a more immediate convergence of interests. Thinking that this convergence is not so evident that it hovers in a kind of generality. Now, within these themes directly linked to national interests, there are universal interests of science. Research on preservation of the Amazon, obviously. So, it comes for both [interests]*" (E.D, Man, Applied Social Sciences).

Interviewee E, when addressing international cooperations, points out that Fapesp has "*an intense international agenda*", participating in numerous cooperative projects (E.E, Man, Biological Sciences). The interviewee also reiterates that "*science is a collaborative activity by nature*" and, once there is collaboration, there is the production of better-quality science: "*when you collaborate, you produce better quality science*" (E.E, Man, Biological Sciences). Specifically on the Belmont Forum and the adherence of research agendas to national

problems, he indicates that "*it is a very interesting partnership in several aspects. Formatting the selection processes, formatting the interaction between participating researchers. Ah, the problem is global, it is no use me wanting to solve global climate change looking only at my square meter, I must look at the planet as a whole, understand the circulation of air, ocean circulation, and solar radiation, human activity, emission of ... so, it is so broad, and it is a multidisciplinary topic by definition*" (E.E, Man, Biological Sciences).

In general, the interviewee indicates that Brazil is a "*strategic country at the global level. And, in this sense, there is a dimension that Brazilian science is... can aim for, should aim for, and should leverage from these competitive advantages*" (E.E, Man, Biological Sciences). Fapesp, in his view, has a "*protagonism*" in this sense, seen as relevant for the establishment of new cooperations (E.E, Man, Biological Sciences). "*Other agencies in the world look at us with this relevance and I think that this relevance even helps to make interactions at other levels. We can look up and we can look down. That is, in several countries the level of cooperation is very low (...). FAPESP, I think, has a position that helps and can also allow this more ... diverse interlocution*" (E.E, Man, Biological Sciences).

Interviewee F indicates that Fapesp started this internationalization process from an internal diagnosis in which it was possible to observe that "*S&T research in São Paulo was not using a very good opportunity to develop faster by international collaboration*" (E.F, Man, Exact and Earth Sciences). The percentage of articles published together with authors from other countries was low and, therefore, a strategy was devised for São Paulo researchers to obtain more opportunities for establishing partnerships with researchers from other countries. "*And that strategy, consisted mainly of agreements between Fapesp and research funding organizations in other countries such that Fapesp would fund the researcher in São Paulo and the agency in the other country would fund the researcher in that other country to develop the same research project in collaboration. And it worked well, we made almost 200 agreements with funding agencies and universities in many places around the world and, yeah... the last data I saw about this international collaboration is that in 2020 the percentage of collaborative articles among the works funded by Fapesp was around 40%, I think for the State of São Paulo it should be 38%. And the quality of research has advanced a lot because when you collaborate, it becomes possible to do more complicated things because you can have the collaboration of a larger team to do the same goal (...). Our strategy was that we were looking for research collaboration on any theme that researchers in São Paulo were interested in (...)*" (E.F, Man, Exact and Earth Sciences).

In this sense, in a more explicit way, the interviewee exemplifies this relationship established between Fapesp and other agencies of the Global North, being explicit, at certain moments, the geopolitical binding of these cooperation agreements. Nevertheless, he indicates that "*the whole idea that moves the collaboration is to contribute to the objectives that interest one party and the other party as well. So, all the partnerships that I negotiated on behalf of Fapesp, at the time I was at Fapesp, it was always easy to find a common theme to work on. There is no difficulty at all, I never discussed with a partner that was imposing in its themes and that had no flexibility to adjust its theme to things that were in the interest of Fapesp, Brazil and the State of São Paulo*" (E.F, Man, Exact and Earth Sciences).

Interviewee G, in addressing the topic, points out that there is "*a huge number of partnerships*" between Fapesp and other international agencies, and there are cooperations that "*are variable, there are some that are protocol, I would say almost nothing. But there are some that are very, very constant, very deep, and very productive, right? In general, he indicates that "the image of Brazil is a little distorted outside of Brazil, but not in the field of science, because in the field of science it has evolved a lot, today we are in the cooperative groups, Brazil is an important player in the field of science* " (E.G, Man, Health Sciences).

Specifically on the role of Fapesp within the international S&T system, he argues that the Foundation "*is one of the greats of research (...), today, it is very, it is very well known and very recognized (...). It is a big player in science in the world and it is a respected agency, it is a respected agency and maybe even more powerful than many first world countries. So, it has knowledge of this work. But this is seriousness, honesty, linking resources, having administrative autonomy and budgetary autonomy, financial autonomy of FAPESP, this kind of thing because it does not work with money, it works with projects*" (E.G, Man, Health Sciences).

Interviewee H points out that "*the internationalization guidelines are very solid and consolidated at Fapesp*" and, as an example, he indicates that there is a process of analysis of global trends in terms of themes that will guide the own and collaborative funding calls (E.H, Woman, Engineering). "*What we do is analyze the trends, right, look at the major projects to see if we are in the right areas (...). The higher council discusses general guidelines, financial guidelines and also issues of themes and so on*" (E.H, Woman, Engineering). In this aspect, we can again infer the geopolitical issue in terms of the construction of the research agenda. In general, it indicates that the other agencies have a relationship of "*great respect*" in relation to Fapesp, since "*it honors, so it is taken as a serious agency" and, therefore, "the [Fapesp] researchers are taken seriously*" by the agencies (E.H, Woman, Engineering).

Finally, Interviewee I, briefly addressing this topic, indicates that Fapesp "*represents half of the science in Brazil*", having characteristics such as "*continuity, predictability, long mandates and absolutely stable and insured resources*" (E.I, Man, Engineering). As a result, he justifies FAPESP's performance with other international funding agencies, indicating that "*from the point of view of foreign institutions, they are a little surprised to talk to an institution that is not national, it is sub-national as is the case of FAPESP, which is a state institution. But little by little, they are becoming convinced that the most qualified interlocutor in Brazil is Fapesp*" (E.I, Man, Engineering).

In general, from this discussion topic, it was possible to observe: i. the motivations that led to the strategic process of establishing international cooperations between Fapesp and other international funding agencies; ii. the way Fapesp is seen by other international research funding agencies; iii. the way in which the cooperations are established, the way in which themes are treated and approached and their relationship with national issues; iv. the geopolitical issues that emerge in the establishment of such cooperations; and v. the geopolitical issues that emerge in the establishment of such cooperations. the way the cooperations are established, the way the themes are treated and approached and their relationship with national problems; iv. the geopolitical issues that emerge in the establishment of such cooperations; and v. the issues related to the relationship between Fapesp and other Brazilian agencies.

6. SDGs at Fapesp

Continuing the description of the results obtained through the interviews, we present in this topic a portrait on how Fapesp has been adopting the Sustainable Development Goals in its institutional structure. The picture presented derives from questions related to the adoption (or not) of the SDGs by the Foundation, how this has been happening and issues related to the launch and organization of the Portal "Fapesp and the Sustainable Development Goals". In general, among the 9 interviewees, 8 indicated that Fapesp has been explicitly adopting the SDGs in its institutional structure and only 1 indicated that this adoption does not exist. To explain this relationship, the main statements of each interviewee are presented.

Interviewee A, after agreeing on the adoption of the SDGs by Fapesp, indicated that "*there must have been some demand for it to organize itself this way*" (E.A, Man, Engineering). Specifically on the issue of the aforementioned Portal, he indicated that this initiative is "*great*", being "*a surprise to myself. But I thought it was great and even though I am part of the coordination of this Program, I was not, and I think neither were my colleagues, we were not*

involved in this adoption. I think it is OK, the effort is valid, and I think this is interesting" (E.A, Man, Engineering). In his speech, it is observed that the adoption of the agenda and, consequently, the launch and organization of the Portal, did not have the involvement of all the professors-researchers of the institutional structure of Fapesp, as well as it did not have the involvement of the researchers funded by the institution, constituting itself as a Top-Down decision.

Interviewee B provided more details about this adoption, considering that these can be considered as guiding elements for particular research and also for the systematization and measurement of the Foundation's activities. In his words, he indicates that "*what has become more important at FAPESP are proposals that bring these elements as elements, narratives for transformation...as modulating elements of transformative processes...pq already has established goals, already has a series of indicators, anyway...so this context I understand has been taking shape at FAPESP (...). I understand that the SDGs are really becoming relevant. I think it is a very interesting idea from FAPESP*" (E.B, Man, Biological Sciences). Specifically on the organization and launching of the Portal and, corroborating with the idea presented by Interviewee A, he explains that "*it was an idea that was born and conducted within the foundation itself. We were not, as a Program, particularly, consulted, which is all well... I see it as a mapping, as a diagnosis... which I think is very important, which is along the lines of: how are we meeting this agenda? So it goes in this diagnosis, from a... as far as I remember, I saw this site only twice... but as far as I remember, the search in FAPESP's virtual library was to look at the adherence of the programs within this agenda... not the programs, the projects... the climate change program, in particular, is very cross-cutting (...). So, within the program, within the projects that are being conducted, they already bring some elements from the SDGs agenda. So, I see it like this: we did not have, at least I did not participate, to be honest, in a post-launch discussion about this website*" (E.B, Man, Biological Sciences).

Considering the creation of the portal to diagnose the adherence of projects funded by Fapesp in relation to the SDGs, Interviewee B adds that this Portal "*gives an indication that FAPESP is understanding this agenda as an important agenda*" (E.B, Man, Biological Sciences). Furthermore, he indicates that the survey was conducted via Fapesp's Virtual Library, being carried out by crossing keywords: "*as far as I understand, it was a library survey... it was really a diagnosis. So, it must have come from the scientific directorate*" (E.B, Man, Biological Sciences).

Interviewee C, on the other hand, also acknowledges the adoption of the agenda by the Foundation, however, he presents a point of view contrary to that presented by the other

interviewees: "*I do not know how this agenda was adopted, I do not know if this was a decision by the board of directors, if this was a decision by the scientific directorate. My, my perception is that it is extremely misguided, extremely misguided, it is totally wrong to be clear... because you don't do something like this in a scientific board meeting, you must first bring your community, first you must clarify the community... I assure you that 75% of the State of São Paulo do not know what an SDG is*" (E.C, Man, Biological Sciences). In his perspective, reaffirming the adoption of the SDG agenda in a top-down manner, he criticizes the way in which it was adopted, with no knowledge and consent from the scientific community of São Paulo: "*by the time I saw it, Fapesp had already changed the page (laughs)*" (E.C, Man, Biological Sciences).

Interviewee C also indicates that the organization of the Portal was carried out via keywords of the funded projects and, regarding the adoption of the agenda, he adds the dimension between basic and applied research: "*so I think that the moment we are living of the pandemic would even facilitate that Fapesp organized a set of virtual meetings, hold meetings with Unesp, Rio Claro campus, with Unesp Botucatu, with Unicamp, that you can have as many people as you want, explain these agendas, explain these modifications. I think that if it came this way, you would have less resistance from people to adopt it, because people are .... people always have the tendency to take this to a discussion of what is basic research and what is applied research, "ah, they want to transform my research into applied research", "no, you will continue doing exactly what you were doing, only that, perhaps, this result that you produce can be applied in another ... it won't depend on you, but it can be applied in another way, to answer other demands". So, I think that the way it was done, I think we're going to get a reaction from the community, when we ask the community, without further explanation, to start framing their projects and so on. In general, the concern with the global crises of biodiversity and climate has grown a lot in the community, I think the community understands these things and I don't see why adhering to the SDGs would be a big problem. But I think this must be worked on, it has to be explained*" (E.C, Man, Biological Sciences).

Interviewee D indicates that the adoption of this agenda by Fapesp is directly related to the adoption of the SDGs by the São Paulo State Government, being "*a policy that guides the actions of the São Paulo government*" (E.D, Man, Applied Social Sciences). According to the interviewee, "*there is already that since when I worked at the Secretariat of Science and Technology. At that time, I remember that São Paulo was the first state, or let us say the first subnational entity, to fully adhere to the commitments of the Millennium objectives. It was that earlier version of .... And São Paulo had committed to an agenda on this. A very large event*

here in which all the secretariats were articulated on this issue. FAPESP had already been aligning itself to this since then. More recently there was a specific foundation with a proposal, a special part in the special session within our website. We took up eh... the idea of relating all our actions carried out... I mean, no, I am not talking about my internal administrative part. A finalistic thing of the foundation. The promotion of science and technology has always been related to the objectives. Well, and this is intended not only to give visibility to the goals as an international public policy, but also to stimulate researchers funded by FAPESP to work towards these goals. So, it is a kind of two-way street. While FAPESP would reinforce the legitimacy of this idea, FAPESP wants to bring this idea to reinforce the merit of the activities it promotes" (E.D, Man, Applied Social Sciences).

Regarding the way the Portal was organized, he indicates that he does not know exactly how it was done, but he believes that criteria were established for such. Regarding the use of SDGs as an evaluation criterion for projects submitted to Fapesp, he said that the SDGs "*do not seem to us to be a relevant criterion for assessing the project. Fapesp's premise, and this comes from the very legal structure of FAPESP, is that it must be open to fostering science and technology, looking at the merit of the project, looking at the quality of the research (...). I wouldn't say it could... can be an approval criterion or over time*" (E.D, Man, Applied Social Sciences). Specifically on the reasons why the SDGs have been adopted by Fapesp, he presents that this refers to an internal movement on the part of the Foundation itself, as well as via observation regarding what other international funding agencies have been developing in relation to this agenda. "*Fapesp has always been internationally connected. And has international partnerships with major science agencies. FAPESP wants to help develop. That is, we don't just look at who is in front of us. We look at who we can also help. In most cases, an equal relationship. I mean, it happens because we have saturation to relate on equal terms with the world, with large agencies around the world. Not only agencies. FAPESP has international cooperation relations with universities, other research institutions and some companies, the third sector, the Funds agenda is very frequent, the meeting is not a foreign matter to FAPESP. FAPESP, for example, has been participating for years in a kind of association of funding agencies called the Global Research Council and FAPESP even hosted the last face-to-face meeting there. It was an initiative of a few years ago, about fifteen years ago, of the United States, the German agency, large agencies .... but FAPESP is the only subnational present. It's the kind of issue that comes up often. Both things. It has its own initiative but, of course, it has an international environment that favors (...). It is the idea, as we said at the beginning of the interview, to use the SDGs to leverage. I mean, I told you, it is*

not a criterion in itself. Ah, so the SDGs will be ranked. No, it is not that. But it is an important element in assessing the merit of the project. It is an element and the very way to disseminate a strategic vision" (E.D, Man, Applied Social Sciences).

The creation of the Portal and the adoption of the SDGs by Fapesp, according to Interviewee D, is directly related to Fapesp's participation in the Global Research Council: "*this discussion matured after we hosted the 2019 meeting. The president of FAPESP, for a long time, was Minister of Foreign Affairs. And the SDGs are a permanent theme in his mind. Surely, (...) I followed everything he did, but inevitably I can tell you, without fear of error, he must have discussed subject his X. Now, when you take this analyzed [Portal] format, it is a more recent decision*" (E.D, Man, Applied Social Sciences).

Based on the above and up to the present moment, it can be observed that the adoption of the SDGs by Fapesp is linked to three main elements: i. the adoption of the SDGs by the Government of the State of São Paulo; ii. an internal movement within the Foundation itself seen from two main points: to diagnose to what extent the funded projects are related to the SDG agenda, as well as a way to reinforce and legitimize the merit of the activities developed and funded by the Foundation; and iii. the adoption of SDGs by other research funding agencies and by the scientific community in general. The maturing of discussions on the SDGs based on international cooperation established by Fapesp and the Global Research Council should also be highlighted.

Continuing the description of the picture of the adoption of SDGs by Fapesp, we have the considerations made by Interviewee E. When addressing the SDGs at Fapesp, the interviewee indicates that these should be considered as a political agenda, but that they can be adopted as a research agenda. Such relationship was discussed together with other development agencies, as indicated below: "*it is possible for us to work the SDGs as a research agenda and we have discussed this with other agencies, with the National Science Foundation of China*" (E.E, Man, Biological Sciences). Specifically on the adoption of the SDGs by Fapesp and the launch of the Portal, he reiterates the relationship between Fapesp and other international research funding agencies, considering that this "*was an initiative that was already underway in the agency and that I see as very relevant and important and I think it positions FAPESP in a perspective that is... comparable to the global references on the subject*" (E.E, Man, Biological Sciences).

In the words of Interviewee E, "*if you look at all the projects funded by FAPESP, whether grants or research support, they are linked to an SDG. If you go to FAPESP's virtual library, you will find any one of the seventeen SDGs linked to any one of the twenty thousand*

projects we have today or to past projects, and then the number goes up a lot. And even more than one, because there may be more SDGs possible. And here there was an internal work, so it would be like me reading a book and based on my personal reading of the book, I would catalog that book. "Ah this is a period novel, ah that has an ethnic perspective and addresses religious issues", I don't know. And I go there and catalogue it based on my reading. What is the merit of this? The merit is that I have a uniformity of concepts and standards and that helps. What is the disadvantage of this? It is that it would be important for the community itself to be able to do this reading. It is and and and and it would report us this perspective. But then, I don't have uniformity of criteria and standards, I have a deficiency in the speed of filling in because people fill in when they want to, when they can, they may not. So, there is no perfect solution, right? So, we adopted a solution. Because this solution gives us a start. We have a base to build on. And now all that remains is... to inform and and and give this dimension of relevance. For many people in FAPESP's community of beneficiaries this relevance is clear. I don't need to advertise this. But for many other people this relevance is not clear. And perhaps I should reiterate, reinforce it (...). So, it is a process of cultural change. Cultural changes take time" (E.E, Man, Biological Sciences).

Acknowledging that the decision was taken in a Top-Down manner, Interviewee E argues the motivations why the Portal was organized and developed this way. The standardization of categorization criteria and the agility in the classification process were the reasons why the Portal did not go through the sieve of the researchers funded by Fapesp. Furthermore, the "*cultural change*" dimension and the relevance of the agenda also become clear in Interviewee E's speech, given the motivations for the adoption of the agenda (E.E, Man, Biological Sciences).

Regarding the adoption of SDGs as an approval criterion for projects submitted to the agency, the interviewee also indicates that there is no intention to make them as evaluative parameters, reiterating the view that the SDGs are used as a form of "*general benchmarking*" of what Fapesp has been funding (E.E, Man, Biological Sciences). The interviewee also highlights the dimension of measuring the agency's impact, considering the classification and categorization of projects funded based on the SDGs.

Interviewee F, on the other hand, does not consider that Fapesp has adopted the SDG agenda. In his words, "*it is not as direct and as explicit as perhaps your question may lead one to believe. But the issue is that Fapesp has the statutory mission to support research in all areas of knowledge and Fapesp has the institutional interest and statutory mission to support, to have in its research portfolio, many research projects that bring impact to the São Paulo*

society that the foundation is funded by taxpayers who pay taxes in the State of São Paulo. And in this portfolio of projects that bring benefits to the society of São Paulo, there is a large part that brings benefits of a social nature, another part that brings benefits of an economic nature, another part that brings benefits of an intellectual nature, and another part that brings two or three of these, intellectual, social, or economic. And especially in the social benefit agenda there is a lot of research that relates to the SDGs. There is the environment, the Biota Program has been in place since 1997, long before the SDGs, okay? Or research on bioenergy, which dates from 2009, also long before the SDGs were mentioned, which has SDG 7 on renewable energy or climate change. The thing is: Fapesp is a research agency that seeks to benefit the São Paulo society and within this research agenda there is research that ends up being related to the SDGs. What I am trying to tell you is that Fapesp does not adhere to the SDGs, it does what it has always done, which is to support research for the benefit of São Paulo. As the SDGs were made keeping in mind the benefits to society, there is a great coincidence" (E.F, Man, Exact and Earth Sciences).

In his perspective, "*Fapesp has not adopted the SDG agenda*" since it has not internalized and followed the agenda (E.F, Man, Exact and Earth Sciences). It is, in fact, only a classification of the research funded by the Foundation and how they contribute to the SDGs. According to the Interviewee, the movement towards this theme occurred from the moment Fapesp contributed with the Government of the State of São Paulo in the preparation of the "*Report on the monitoring of the SDGs of the State of São Paulo*". From then on, the idea to analyse the research based on the SDGs emerged and there was also the influence of entrepreneurs who participate in the Fapesp Board of Directors and who work directly with this theme of sustainable development.

In the words of Interviewee F, "*then when Fapesp was dealing with its research portfolio in relation to the SDGs, what was done was to develop a search mechanism in the Fapesp database to identify the relationship between each of the 200 thousand research projects and scholarships that Fapesp funded with the SDGs. So, it was a system of, a search by word, by term, by expressions and then refining this search and so on (...). There was never a guideline on adopting SDGs or any other criteria made by external organizations, no matter how important and relevant these other organizations may be (...). This classification of aid and scholarships granted according to the SDGs is something that I think, at the moment, the only funding agency in the world is Fapesp. I have not seen any other agency and I interact and work with many others*" (E.F, Man, Exact and Earth Sciences). Despite disagreeing about the adoption of SDGs by Fapesp, Interviewee F indicates the relationship between the

classification of funded research and the accountability to the community, as well as the encouragement to the scientific community in São Paulo to think about this agenda.

Interviewee G, despite not knowing the Portal "Fapesp and the Sustainable Development Goals", indicates that it is part of the celebration of Fapesp 60 years. And, as reasons for its creation, he points out that "*we are mirrored in many things that happen outside (...). But I think, honestly, I think this is kind of inevitable, you know, Thais? I don't know when this has been discussed in the council meetings. There is a recommendation that the CTA discuss this because this must start within the administration, not the council, right? The council is in favor of this, I want to say that most of the council is in favor of this. Now it is not an easy process, it is a delicate process, it is a process that takes time, it is a process that needs great commitment*" (E.G, Man, Health Sciences). The Interviewee indicates that he knows the international movement related to the adoption of the SDGs by the scientific community and that this movement may have influenced the creation of the SDG Portal by Fapesp. Furthermore, he indicates that the decision to create the Portal must have arisen from the CTA and that the adoption of such an agenda is a delicate and extensive process, given the engagement required for its legitimization.

Interviewee H indicates that the SDG agenda has been adopted by Fapesp for some time, in view of the actions of Interviewee F (who, in this case, indicates that there is no adoption of the agenda by the Foundation). According to Interviewee H, "*this agenda has already been adopted for some time when he was (name and position held to ensure anonymity), so he was already quite fond of this agenda and sometimes he would talk about this agenda, so he already made an effort in this sense. And now, as Fapesp will be 60 years old next year, coincidentally a year of bicentennial of Independence, there are several things happening in the year 22, so to celebrate the 60 years of Fapesp this meeting of research by SDGs was put there as a proposal and everyone found it very nice*" (E.H, Woman, Engineering). From this perspective, as mentioned by Interviewee G, the launch of the Portal "Fapesp and the SDGs" is linked to the 60th anniversary event of the Foundation.

Regarding the way the Portal is organized, Interviewee H indicates that he would like the categorization performed to be submitted to researchers funded by Fapesp: "*I particularly would have liked to have always asked in the forms in which SDGs you fit, right*" (E.H, Woman, Engineering). However, he acknowledges that this consultation process was not carried out. Regarding the adoption of the SDGs as a criterion for project approval, he indicates that "*this is a discussion that we need to have internally, I am in favor*" (E.H, Woman, Engineering). And, regarding the motivations for the adoption of the agenda, he argues that

there is an external influence in relation to Fapesp's performance: "*there is this external influence because Fapesp has contact with these external agencies, and when I entered in (month removed to ensure anonymity) 2018, Prof. (name removed) was already talking about the agenda, so he already had it on his agenda, right. But he is a person who has, had, a close relationship with NSF and others in England etc. So, he was a person who always discussed internationally the directions of research and, he... when I arrived in (month removed to ensure anonymity) 2018, this subject was already put by him*" (E.H, Woman, Engineering).

Finally, Interviewee I points out that the main motivation for Fapesp to adopt the SDGs and create the aforementioned Portal "*is precisely to demonstrate to the community that its actions are absolutely compatible and framed in the seventeen SDGs*" (E.I, Man, Engineering). In other words, it indicates that this agenda is quite supported by Fapesp, being part of the "*institution's obligation to publicly inform its activities, I think this portal shows society the link and the commitment of FAPESP with the 17 SDGs*" (E.I, Man, Engineering). However, he reiterates that this concern and interest in the topic of sustainable development predates the very emergence of the 2030 agenda, given the creation of the BIOTA, Climate Change and BIOEN Programs.

Furthermore, it highlights that the 2030 agenda has become a "*reference*", both internally and externally, being a "*new mechanism [that] drives the strengthening of programs*" (E.I, Man, Engineering). The creation of the portal was, in itself, "*an administrative decision (...), by the Fapesp machine*", having been discussed the link between Fapesp's activities, programs and projects and the SDGs in the scope of the Superior Council: "*and the council, let's say, saw it with very good eyes and recommended is... this organization, give the emphasis on these goals*" (E.I, Man, Engineering). The adoption of the SDGs is considered by the interviewee as "*a global trend*", considering the "*organization of activities around the SDGs*" (I.S.). In his words, "*FAPESP is in permanent contact [with other agencies] (...), they talk, meet, exchange ideas*". In his view, this is "*a pioneering initiative*" of Fapesp, which can serve as a "*standard for similar institutions in the world*" (E.I, Man, Engineering).

Analysis of the results

Based on the above, we resume the three elements that justify the adoption of SDGs by Fapesp:

i. agenda adopted by the São Paulo State Government and its replication in the context of Fapesp;

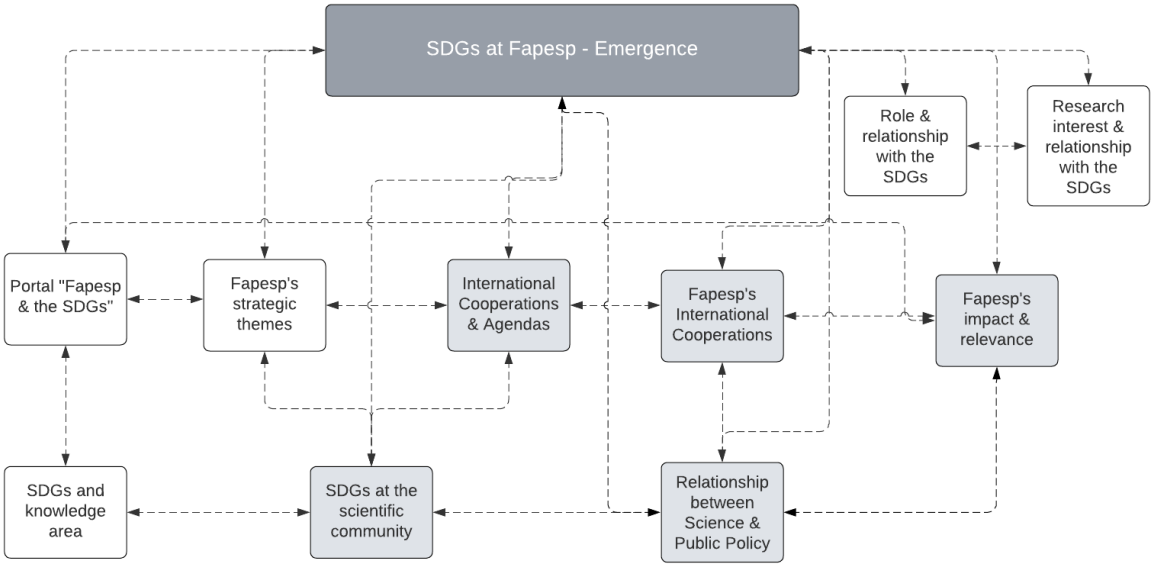
ii. internal movement aiming at diagnosing to what extent the funded projects are related to the SDG agenda, as well as a way to reinforce and legitimize the merit of the activities developed and funded by the Foundation;

iii. the adoption of the SDGs by other research funding agencies and by the scientific community in general.

Although the adoption was supported by 8 of the 9 interviewees, 1 of them indicates that this agenda has not been followed by the Foundation. This interviewee, in particular, was associated as one of the main responsible for the adoption of the agenda by Fapesp, however, by denying its adoption, allows us to trace the hypothesis that the possible "adoption of the SDGs by Fapesp" only goes through the dimension of discourse, considering the argumentation related to the use of the agenda as a way to justify and legitimize the development of its activities, as well as in relation to the performance of other funding agencies in relation to this theme.

Therefore, a process of "adoption of the SDGs agenda by Fapesp" is observed (in view of the categorization of funded research) to legitimize its activities before society. This legitimization, however, does not mean that this Foundation has a greater social impact by "adopting the SDGs". In order to illustrate the relationship established between the codes and categories formulated in relation to the responses obtained, we have the figure below.

Figure 27. Network between codes/categories of analysis



Source: Author’s elaboration.

In general, based on the Figure above and on the description of the results obtained through the interviews conducted, we outline a line of reasoning about the process of adoption of the SDGs by Fapesp, taking into account the theoretical framework considered in this thesis: it is observed that the emergence of the SDGs theme within Fapesp is directly related to i. to the Foundation's attempts to justify its importance, relevance and impact before the São Paulo society; ii. to the relationship between the application of the generated/financed knowledge in the formulation of public policies (considering that the SDG agenda is more directed to a political/governmental and development agenda); iii. to international cooperation established with other agencies and institutions, as well as in relation to the recent performance of the scientific community in general (regarding the very adoption of the SDGs as a research and funding agenda/line); iv. to the adoption of the agenda by the Government of the State of São Paulo, as a way to follow a governmental directive from a funding entity (although this directive is not mandatory for the Foundation, given its institutional autonomy).

Regarding the first point, it was possible to observe that the dimension of legitimization and impact of its activities was mentioned and addressed by part of the interviewees. In other words, it is about using the SDG agenda as a way to demonstrate to the São Paulo society that the research conducted and funded by Fapesp has social relevance and impact. Such use is in line with what Cristofoletti and Pinheiro (2022, p. 8) argue: "the SDGs are used as a bridging tool, able to evoke discursive, relational, material, and temporal dimensions". However, as indicated by Interviewee F, Fapesp does not follow and has not adopted such agenda, leading us to believe that its "adoption" and its action of categorizing the research funded refers to a discursive agenda, without institutional policies that actually consider the SDGs as a normative guideline. In this aspect, it is possible to treat the "adoption" of the SDGs and, more specifically, the creation of the Portal "Fapesp and the SDGs" as a form of alignment of the institution in relation to this agenda.

The second point, associated to the first, takes into consideration the dimension of the use of knowledge generated/financed by the Foundation in the process of formulation of public policies. As in relation to the previous one, this dimension was also mentioned by part of the interviewees, indicating that Fapesp has a guideline to support research that has a practical focus/orientation; as well as the Foundation's attempt to approach this process of transforming knowledge into public policies. As an example, we can cite the case of the BIOTA Program, which has been acting by applying the knowledge produced in the process of public policy making for the conservation of biodiversity (FAPESP, 2009).

The third point refers to the observation of the international scientific community's movement/action regarding the SDGs, considering the international cooperations established by Fapesp. From this dimension, it is possible to observe a process of importation of a development (and, more recently, research) agenda by the Foundation. Therefore, the use of a research agenda oriented by other international agencies and by the scientific community in general is observed, which has also been acting to categorize/classify its activities based on the SDGs, as well as to fund research on this theme (DIBBERN, SERAFIM, 2021). It is noteworthy, at this point, the participation of Fapesp with the Global Research Council, considered as the starting point of the emergence of the discussion and launch of the Portal "Fapesp and the Sustainable Development Goals" (FAPESP, 2019).

Finally, the fourth point refers to the adoption of the SDGs by the São Paulo State Government, which "has been working for the institutionalization of the 2030 Agenda and the SDGs" since 2016 (FAPESP, 2022). From this governmental adoption and partnership between the two, the use of the SDGs by Fapesp became the target of discussion and was materialized from the launch of the Portal. However, despite not being a mandatory guideline and allied to the points above, the Foundation started to use the SDGs discourse in its most recent activities. As highlighted above, specifically about the launch of this Portal, there was no consultation with the academic community in São Paulo funded by the Foundation, becoming a Top-Down decision.

In general, although the term "adoption" was used by most interviewees and, due to the arguments presented above, a process of alignment of Fapesp in relation to the SDGs is verified, considering the discursive dimension observed. This alignment, linked to the activities developed by other actors in the scientific community, especially those linked to the countries of the Global North, indicates that the Foundation is influenced by its actions. However, for being aligned via the discursive dimension and, considering the dimensions related to the demonstration of the social impact of the Foundation, the adoption of the SDGs by the State Government of São Paulo and, the dimension on the transformation of the scientific knowledge produced in oriented public policies, Fapesp addresses the agenda of the relevance and pertinence of its activities through an agenda that does not incorporate all the national, regional and local problems (CHOMSKY et al., 2015). When considering the SDGs as a tool for legitimization and justification of its activities, we can observe the absence of critical thinking related to the form of alignment to the agenda.

The “adoption” and “use” of the SDGs by the Foundation, as well as by other institutions in the scientific community (especially in the context of the Global South), must be

problematized, especially because their use has been treated in a simplified (and imported) way of dealing with a complex problem (which, in this case, is sustainability). Non-critically, the adoption/alignment/use of the SDGs by the Brazilian scientific community (in this case, represented by Fapesp), does not question the existing dependence between both poles (North and South), even in the production of scientific knowledge.

Although it is necessary, as Demeter (2020) points out, to align with the SDG agenda to compete with development agencies, it is necessary that the power relations and asymmetries are not lost sight of. Thus, power relations and asymmetries are masked and remain implicit, given the need to establish partnerships, gain visibility, and in some cases, be recognized as an example to be followed by the rest of the community. In other words, considering Connell and Maia (2012), it is necessary to follow what the Metropolis determines in order to become part of the discourse produced by them.

Going back to Herrera (2015), it is necessary for the Latin American community to go beyond the indiscriminate importation/emulation of agendas (and technologies), to a stage of adaptation and original creation, in order to increase its scientific capacity. The indiscriminate copying of research and development agendas does not contribute to our independence and, consequently, does not contribute to the resolution of our local and regional problems. Each region has its own particularities and, therefore, research and development agendas should not be the same as each other.

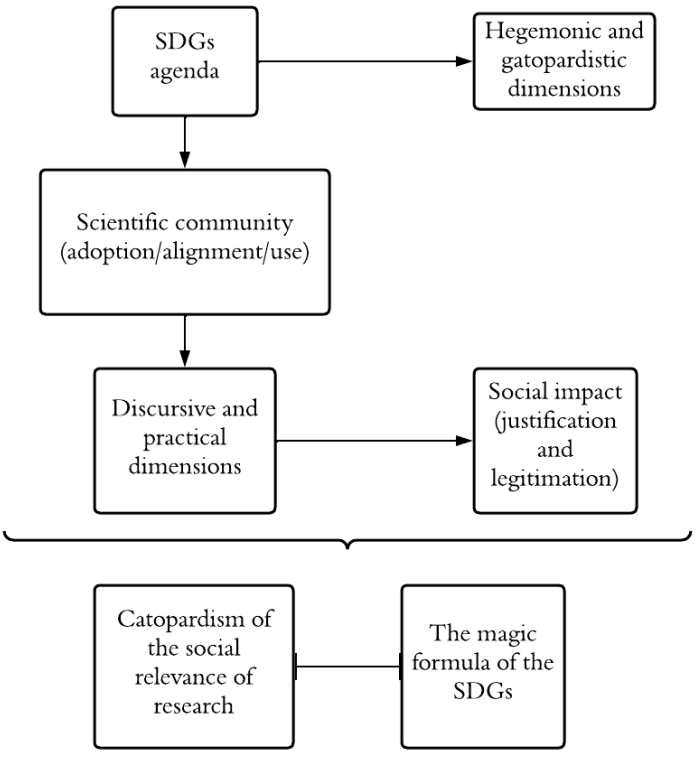
In Herrera words (1970, p. 3-4, own translation),

> "Modern scientific creation is an effort of society as a whole, and the scientific development of backward countries, as well as the economic and social development to which it is inextricably linked, cannot be achieved by simply copying the formulas created and applied in more advanced countries (…). In Latin America, on the other hand, most of the scientific research that is carried out has very little to do with the region's most pressing needs, is very little related to the most pressing needs of the region".

The need to compete and be visible among their peers leads to rapid and emulated adherence to the research agenda of countries in the Global North. Scientific and technological backwardness is preserved when the community behaves as passive in the adoption/importation of agendas that do not match the context we are part of. The rhetoric of "magic formula of the SDGs" does not match the effort that must be made by the community of the Global South to solve its own problems, and by extension, solve the problem of its scientific dependence.

In the case of Fapesp, this alignment has been carried out without dialogue with the São Paulo community and without adapting the SDG agenda to the local, national and regional context. A discursive and operational engagement can be observed, considering the creation of the Portal and the partnerships established with the Belmont Forum. However, the lack of framing (context) is noted in the design of the Portal and calls launched, considering the SDGs agenda itself. The protocol and masked use of the SDGs removes the critical thinking that should be preserved, in theory, by the academic community, with a view to the production of new knowledge. The use of the SDGs as a way to justify the relevance/importance of their activities give superficial discussion on the topic. Therefore, the “gatopardização” dimension of the SDGs is imported by the scientific community, which means that an imported “gatopardismo” is being used to provide an easy recipe/formula to produce and justify/legitimize the social relevance of research. In other words, it can be observed that the adoption/use of the SDGs by the scientific community aligns with a kind of "social relevance agenda gatopardismo" of research. The Figure below presents the argument highlighted in this session.

Figure 28. Synthesis of the argument



Source: Author’s elaboration.

Corroborating this line of argument, other studies also indicate that the scientific community in general has been taking advantage of this SDGs discourse in order to legitimize its activities, going through only the discursive dimension of the agenda (CUMMINGS et al., 2018; DIBBERN, SERAFIM, 2022; CRISTOFOLETTI, PINHEIRO, 2022). Although we have not found other studies on other funding agencies and their performance in relation to the SDGs[26], we have observed that there is a growing process of use of this agenda in relation to the direction of the activities developed by institutions of the science, research, and innovation system, including the case of research and development funding agencies.

According to Schoisswohl et al. (2023, p. 101), "European and national research and innovation (R & I) policies are increasingly oriented towards the task to tackle the unprecedented challenges reflected especially in the United Nations 17 Sustainable Development Goals (SDGs)". In our perspective, such process ends up influencing the unrestricted use of the SDGs by the scientific community in general and, in the case of the Latin American community, it ends up becoming a useful tool to justify its relevance in the face of criticism related to its performance (SERAFIM, LEITE, 2021; SERAFIM, DIAS, ETULAIN, 2021). In view of this, the idea of the SDGs should be used with caution, considering its adaptation to local contexts and, by extension, adopting a critical perspective to an agenda that shares a hegemonic and “gatopardista” dimension. Thus, despite the SDGs agenda being considered as a global trend, it is necessary to share a critical and regional dimension about its adoption or alignment.

[26] The author performed a combined search with the terms ("SDGs" OR "global goals" OR "sustainable development goals") AND ("funding agency" OR "funding") in the databases Scopus and Dimensions and no studies similar to ours were found, considering the performance of these agencies regarding the SDGs. The search was performed on December 20th, 2022.

CONCLUSION

This research aimed to investigate and analyze the process of adoption/alignment to the Sustainable Development Goals (SDGs) by the São Paulo Research Foundation (FAPESP). Through the methodology adopted (bibliographic and bibliometric reviews, document analysis and semi-structured interviews), it was possible to draw an overview about this process, considering the theoretical framework used. Indeed, we list the central points of each part of the thesis:

During the first part, we discuss the process of adoption and legitimization of the SDGs agenda by the international scientific community, with a view to obtaining an overview about the production of knowledge on the subject, mapping the performance of international scientific associations and launching the hypothesis about the establishment of epistemic communities in favor of achieving the SDGs.

In this part, we identify that the SDGs agenda does not share an approach that transcends the current economic system, and there are contradictions between its own goals. Despite this, the agenda has gained great popularity, becoming a "research agenda" in the context of the international scientific community. In this context, teaching, research, and outreach activities, as well as the establishment of partnerships and cooperation towards the SDGs have become a "trend topic". Based on a bibliometric study, we identified a growing scientific production on the SDGs, with the main producers being professors-researchers linked to universities in the Global North. As for scientific collaborations, we could observe a greater predominance in the establishment of collaborations between countries from the Global North, with sporadic collaborations with researchers from the Global South. Nevertheless, scientific productions from the Global South have also been increasing in relation to this topic, demonstrating that the community from this region has also been working with this theme.

Still in the first part, we analyzed the performance of three international scientific associations (SDSN, ICS and GUNi), considering the activities they have been performing on the SDGs theme. As main results, we mapped a series of activities developed in the context of the Global North, as well as its repercussion for the other regions of the globe. The establishment of cooperation and collaboration was also identified, allowing us to launch the hypothesis that the performance of this community aims to build epistemic communities in favor of achieving the SDGs.

The second part of the thesis sought to outline an overview of FAPESP, taking into account its founding context, its relationship with the topics involving the sustainable development agenda and the establishment of cooperations and partnerships. Other criticisms were also launched in relation to the SDG agenda, in view of its hegemonic and “gatopardista” dimension, as well as the dimension of power inherent to the agenda. As for the study on FAPESP, it is noted that the agency - and, by extension, the scientific community of São Paulo - has been concerned with issues related to sustainable development, in view of the launch of the BIOTA, Global Climate Change and BIOEN programs. As for the funding of scholarships and grants, a significant increase in funding is observed in relation to these themes, especially in the areas of Agricultural Sciences, Engineering and Exact and Earth Sciences. Regarding the establishment of cooperations, the agreements and conventions signed with agencies and institutions of the Global North, especially in Europe, stand out.

Furthermore, we analyzed the Foundation's internationalization process, giving special emphasis to the case of the cooperation established with the Belmont Forum, which is one of the main agreements signed on sustainable development. In this sense, it was observed that the relationship between both institutions began as of 2010, in view of the participation in joint calls, as well as in the Belmont construction process itself. The central axis of the joint calls is the interdisciplinary aspect of the proposals, covering mainly the areas of Exact and Earth Sciences. The SDGs could also be observed directly and indirectly in the calls conducted, with special emphasis on SDG 13, related to climate change.

Finally, the third part of the thesis sought to answer the main question of this research through the presentation of the theoretical-conceptual framework used and the analysis of the interviews conducted. Indeed, the concept of "scientific community" was approached from Kneller's (1980) perspective, as well as alignment between the Latin American perspective of Social Studies of Science and Technology and the studies on the Geopolitics of Knowledge. These references shed light on the particularities and asymmetries related to the production of knowledge and the establishment of research agendas, becoming the basis for the analysis of the results achieved through the interviews. This part also included the presentation of the process of legitimization and construction of the research agenda on the SDGs, considering the adopted theoretical framework. In this aspect, it was possible to observe that the locus of research on the SDGs is concentrated, above all, in the countries of the Global North and, more recently, has been gaining space in the research conducted in China. Other countries from the Global South have also been standing out in this production, considering the Brazilian case.

Furthermore, considering the study of this research, we identified the core elements that explain the process of rapprochement and alignment of FAPESP in relation to the SDGs, being connected with the hypothesis launched in the introduction of this thesis. Through the methodology of Content Analysis (BARDIN, 2004) and use of the Atlas.ti software, we describe and analyze the responses obtained. The establishment of international cooperation, considering the observation of activities developed by the international scientific community regarding the SDGs (especially as a way to gain visibility through the use of the SDG agenda in the categorization/ranking of funded research) and, the adoption of the SDGs by the Government of the State of São Paulo, seeking to follow a governmental guideline (even though there is institutional autonomy), highlights as main reasons of its "adoption".

In general, even though the term "adoption of the SDGs" has been used numerous times, it was observed that such a process is an alignment to the agenda, which is guided through a discursive dimension. In other words, it was observed that such alignment is not followed by the establishment of institutional actions that legitimize the adoption of the SDGs by the agency. From our perspective and based on the analyses carried out, it is a way for the Foundation to gain national and, especially, international visibility, given its alignment to a research agenda that is considered a "trend topic".

The criticism outlined in this research refers to the "adoption" or "alignment" of FAPESP regarding the SDGs, considering our position and dependence on the production of scientific knowledge, as well as its motivations. Firstly, it should be noted that, due to the criticism inherent to the SDG agenda, a more critical perspective related to this agenda is expected from the scientific community. Considering the Latin American context, an attempt to adapt the agenda to local and regional issues is expected.

Secondly, it should be noted that categorization/classification by SDGs has become common in the literature, especially when we consider bibliometric studies. The unrestricted and masked use of the agenda has already been the target of several criticisms, given the problems inherent to the interpretation of each SDG, as well as its categorization form. In the case of FAPESP, categorization was carried out without prior consultation by the scientific community of São Paulo, given the use of keywords. This process, however, is problematic in two senses: the first refers to the community's own lack of knowledge of the agenda, which may perceive such classification as something imposed by the Foundation; the second refers to the methodology used for such classification, given the lack of clarity regarding the criteria adopted. In this aspect, if the goal is to identify which SDGs research funded by FAPESP has been addressing, we suggest a consultation with the funded researchers themselves and/or a

more critical process of classification, considering the different levels of correlation between the research to be classified and the different goals and objectives of the SDGs.

In addition, and in line with the above argument, we highlight that the criticism outlined in this research also refers to the simplistic way of adopting the SDGs by Fapesp, which ends up weakening the discussion on the agenda topics, as well as the generation of projects that seek to effectively contribute to the goals and indicators adopted by the environmental agenda. Our concern is that by adopting and/or aligning itself to the SDGs in a "protocol" way, Fapesp may contribute - unintentionally - to the pasteurization of the discussion, since any research project, to a greater or lesser extent, ends up "fitting" into the SDGs agenda. Therefore, the fact that adherence to the SDGs is simplistic or protocol-based ends up making everything "fit". In practical terms, when projects are not minimally charged to demonstrate their contribution to the actual achievement of the SDGs goals or indicators, it is very common that research groups that already have their own agendas continue the same scientific trajectory.

In this sense, it is possible to observe that the SDGs have become an "umbrella", and there are no practical effects in terms of reorientation of the research already usually developed. The calls for proposals that have been organizing research collaboration networks (with international funding agencies) contemplate major themes, but not local and regional goals and indicators as indispensable requirements to be addressed by national projects and research groups. There are big global issues, such as climate change, which require joint efforts, but there are so many other social problems that will only be dealt with at local level. The definition of goals and subgoals of the SDGs, as well as their indicators, are defined by national governments. Thus, from the point of view of a funding agency that sets guidelines for Science and Technology policies and also proposes research agendas, this adoption/alignment with the context needs to be even clearer and qualified, including when we consider how to classify the funded projects.

Fapesp is required to better qualify what would be expected from research projects aligned to the SDGs. By not doing so, the agency weakens to some extent the potency of the contribution of scientific knowledge, failing to promote and foster projects that will actually contribute to the goals and indicators of the SDGs, being these aligned with local and regional problems of our context. Therefore, by emulating an agenda such as the SDGs, Fapesp ends up subjecting itself to a discussion posed by a hegemonic group, not focusing on the most important aspects for our local and regional context.

In practical terms and corroborating such argumentation, we return to the speech of Interviewee F, who highlights that "*Fapesp has not adopted the SDG agenda*". The adoption/alignment with the SDGs cannot only be a way to convince international agencies that the scientific community in São Paulo is guided by the SDGs, since the problems addressed by the agenda correspond to real-life problems that are, to a greater or lesser extent, aligned with our context. Therefore, since this is such a relevant issue for the scientific community and also for our local and regional context, it is necessary that the agency better ponders this discussion. It is not up to us to "demonize" the way other agencies and research groups are adhering to the SDGs, but to make observations about the emulation of an agenda in which the outputs and solutions do not adhere to our context.

Besides, the use of the agenda as a form of legitimizing the activities developed by the Foundation stands out. In this case, the critical scenario of delegitimization of science and technology activities by the Brazilian Government and even by society in general is understood. However, using the SDG agenda does not mean that the Foundation has greater social impact, especially due to the form of categorization performed, as well as in relation to the use of the agenda itself. Therefore, the adoption of other strategies is suggested, considering the establishment of greater contact with the São Paulo community. The SDGs agenda should be used with caution, considering its adaptation to local and regional contexts. Besides, it should not be considered as a magic formula, avoiding the “gatopardista” dimension of the social relevance of research in relation to the SDGs.

Finally, it should be noted that the reflections addressed in this research seek to contribute to the debate on (1) the pertinence and adherence of scientific research to the solution of local problems, indicated in the goals and subgoals of the SDGs, (2) the existence of a "window of opportunity" that allows us to reflect on the practice and institutional policies of funding agencies and their real alignment with the 2030 agenda, and, finally, (3) the establishment of more symmetrical partnerships in relation to our context, calling the foreign scientific community to think about local and regional problems.

Since this is a global agenda and, by understanding the scientific community's actions in relation to the topic is becoming more and more frequent, it is necessary to highlight that Fapesp's alignment in relation to the SDGs is an expected movement, just as other Brazilian funding agencies will probably incorporate this discussion into their agendas. The problem highlighted in this thesis refers to the way in which this alignment has been carried out. Therefore, it is worth highlighting some possibilities and recommendations so that Fapesp and other funding agencies can reflect on their actions: The first recommendation refers to the

adaptation of the agenda in relation to the local and regional context. In other words: which local and regional issues are included in the SDG agenda? which local and regional issues should be included in the agenda? what are the research priorities in relation to our context and this agenda?. The second recommendation refers to the communication of these research priorities to the São Paulo scientific community: how can this community contribute to the resolution and the scope of this agenda?. The third recommendation refers to the construction of indicators that may be able to map the results achieved from this redirection of the research agenda and, also, in relation to the production of knowledge itself in relation to the SDG agenda. The mapping of scientific production and the construction of indicators can become useful for understanding which topics should be promoted more in the medium and long term. The last recommendation refers to the institutional and organizational structure of Fapesp itself, which can also be remodeled in relation to these priorities. As an example, we highlight gender equality in top management positions within Fapesp.

The research conducted has an exploratory approach and is therefore limited in several aspects: the first refers to the bibliometric analyses conducted, given the use of platforms that do not incorporate the totality of scientific production from the Global South, especially Latin American; the second refers to the restricted use of keywords in the consultation of research funded by FAPESP in relation to sustainable development and the SDGs; the third refers to the number of interviews conducted and their target audience (in this case, it is possible to conduct future research regarding what the researchers funded by FAPESP think about this alignment to the SDGs); the fourth refers to the very emergence of the theme (because it is a recent theme and, by extension, widely used internationally, there are possibilities to explore other aspects of the performance of the international, Latin American and national scientific community in relation to the SDGs). In general, the research explores an aspect that has been little researched in the literature, especially considering the case of the performance of research funding agencies. The results achieved allow funding agencies and other actors in the scientific community to discuss in greater depth and critically the process of alignment/adoption to the SDGs, considering the need to think and discuss the social impact of research activities.

Further research can also be conducted on the topic, aiming to understand the perception of researchers funded by Fapesp in relation to its alignment with the SDGs; as well as in relation to how other funding agencies have been aligning themselves in relation to this agenda.

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APPENDIXES

APPENDIX A - Scientific institutions who have initiatives on SDGs

Name / Year / Region (Official Institution)	Goals / Mission	Topics / Subjects / Strategic Axis
Global University Network for Innovation (GUNi) / 1999/ Global North	GUNi strives to gather knowledge and innovative experiences, from a holistic perspective, in order to help higher education institutions and systems to achieve involvement in and an impact on the development of societies	Sustainable Development Goals (SDGs); Responsible Research and Innovation (RRI); Synergies between Science, Technology & Humanities
Sustainable Development Solutions Network (SDSN) / 2012 / Global North	We promote integrated approaches to implement the Sustainable Development Goals (SDGs) and the Paris Agreement on Climate Change, through education, research, policy analysis, and global cooperation	Sustainable cities; Climate & Energy; Good governance of extractive & land resources; Health for all; Land use & food; SDGs
International Science Council (ISC) / 2018 / Global North	The mission of the International Science Council is to act as the global voice for science	Science in Policy and Public Discourse; The 2030 Agenda for Sustainable Development; The Digital Revolution; etc.
Asociación de Universidades Grupo Montevideo (AUGM) / 1991 / Global South	Contribute to the strengthening and consolidation of a critical mass of high-level human resources, taking advantage of the comparative advantages offered by the capacities installed in the region	Regional Academic Integration - Guide programs and institutional activities to address the most pressing regional problems, in line with the Objectives of Sustainable Development of the 2030 Agenda (ODS), and the Declaration of the III Regional Conference on Higher Education for America Latin and the Caribbean
University Global Coalition / 2019 /Global North	A collaborative platform of globally engaged universities and higher education associations working in partnership with the UN and other stakeholders to create a more sustainable future for all	Sustainable Development Goals (SDGs)
European University Association (EUA) / 2001 / Global North	EUA's mission is to promote the development of a coherent system of education and research at the European level through studies, projects, and services to members.	Covid-19 and universities; Diversity & Inclusion; Doctoral Education; Employability and qualifications; Energy & Environment; European Innovation Ecosystem; European neighborhood; EU Research & Innovation Programs; Funding; etc.
The World Academy of Sciences (TWAS) / 1983 / Global North	TWAS – The World Academy of Sciences for the advancement of science in developing countries – works to support sustainable prosperity through research, education, policy, and diplomacy	Promote South-South and South-North cooperation in science, technology, and innovation; Encourage scientific research and sharing of experiences in solving major problems facing developing countries, etc.
Belmont Forum / 2009 / Global North	The Forum operations are guided by the Belmont Challenge, a vision document that encourages: International transdisciplinary research providing knowledge for understanding, mitigating, and adapting to global environmental change	Freshwater Security, Coastal Vulnerability, Food Security and Land Use Change, Climate Predictability and Inter-Regional Linkages, Biodiversity and Ecosystem Services, Arctic Observing and Science for Sustainability, and Mountains as Sentinels of Change

Instituto Interamericano para la Investigación del Cambio Global (IAI) / 1992 / Global South	Achieving the principles of scientific excellence and integrity, international cooperation, diffusion of science and development of capabilities, as well as full and open exchange of relevant scientific information and global change to materialize the vision of a sustainable American continent	The study of tropical ecosystems and biogeochemical cycles; The study of the impact of climate change on biological diversity; The study of El Niño-Oscillation del Sur and interannual climatic variability; etc.
Centro Interuniversitario de Desarrollo (CINDA) / 1971 / Global South	It began its activities in 1971 with the aim of promoting links between universities and generating, systematizing, and spreading knowledge that allows it to contribute to the development of higher education policies and university management	University internationalization, Management and environmental sustainability, Administration and Finance
Latin American Council of Management Schools (CLADEA) / 2016 / Global South	The Latin American Council of Management Schools – CLADEA is an international organization that reunites both higher education institutions and international organizations committed to the teaching and research of management	Finance, accounting, capital markets and governance; Business and society, environment, and Social Responsibility; Public Management; Strategy and management; etc.
Pacific Science Association (PSA) / 1920 / Global South	The Pacific Science Association (PSA) is a regional, non-governmental, scholarly organization that seeks to advance science and technology in support of sustainable development in the Asia-Pacific	Biodiversity loss, climate change, infectious diseases, and the social implications of globalization, in which science can provide crucial information in a way that is required by both society and policymakers to make sound and informed decisions
Association of Academies and Societies of Sciences in Asia (AASSA) / 2012 / Global South	The Association of Academies and Societies of Sciences in Asia is a non-profit international organization with science, technology, and innovation (STI) interests	AASSA is a forum for scientists and technologists to discuss and provide advice on issues related to science and technology, research and development, and the application of technology for socio-economic development
Association of Science and Technology Centers (ASTC) / 1973 / Global North	The Association of Science and Technology Centers (ASTC) is a professional membership organization with a vision of increased understanding of—and engagement with—science and technology among all people and a mission to champion and support science and technology centers and museums	Support all types of science and technology centers and museums; Include diverse ideas, perspectives, and backgrounds; Collaborate through mission-driven partnerships; Engage globally from North America; Make data-driven decisions and adapt to change
Council for the Development of Social Science Research in Africa (CODESRIA) / 1973 / Global South	Promote and facilitate research and knowledge production in Africa using a holistic, multi-disciplinary approach. The Council is committed to combating the fragmentation of knowledge production, and the African community of scholars along various disciplinary and linguistic/geographical lines	Governance Monitoring Programme in West Africa; Responsive Forest Governance Initiative (RFGI) Research Programme; CODESRIA/HSRC; South-South Programme; Consortium for Development Partnership (CDP)
European Association of Development and Training Institutes (EADI) / 1999 / Global North	To generate and stimulate and exchange of information among European academics and researchers concerned with development issues	European Joint Doctorate (EJD) ADAPTED, EnerSHelF - Energy Supply for Healthcare Facilities in Ghana, Bridge 47 – Building Global Citizenship, Bonn Sustainability Portal, Tracking SDGs in Research and Practice, Social and Health Policies for Inclusive Growth (SHPIG)
European Consortium for Political Research	Delivering methodological and professional training and career development to PhD students and early career researchers	Gender and Politics, International Relations and the European Union, Food Policy and Governance, Political

(ECPR) / 1970 / Global North		Culture and Voting Advice Applications
International Arctic Social Sciences Association (IASSA) / 1990 / Global North	The objectives are to promote and stimulate international cooperation and to increase the participation of social scientists in national and international Arctic research	The social sciences encompass disciplines relating to behavioral, psychological, cultural, anthropological, archaeological, linguistic, historical, social, legal, economic, environmental, and political subjects, as well as health, education, the arts and humanities, and related subjects
International Association for Hydro-Environment Engineering and Research (IAHR) / 1935 / Global South	The International Association for Hydro-Environment Engineering and Research (IAHR), is a worldwide independent organization of engineers and water specialists working in fields related to the hydro-environmental sciences and their practical application	IAHR stimulates and promotes both research and its application, and by so doing strives to contribute to sustainable development, the optimization of the world's water resources management and industrial flow processes
International Astronomical Union (IAU) / 1919 / Global North	Its mission is to promote and safeguard the science of astronomy in all its aspects, including research, communication, education, and development, through international cooperation	Contribute significantly to at least half of all Sustainable Development Goal (SDG) indicators; develop a number of global OAD “signature” projects
International Cartographic Association (ICA) / 1959 / Global North	The aim of ICA is to ensure that cartography and GIScience are employed to maximum effect and full potential for the benefit of society and science through promotion and representation of the disciplines and professions of cartography and GIScience internationally	The keywords are Geographic information; Metadata and SDIs; Geospatial analysis and modelling; Usability; Geovisualization, visual analytics; etc. In the light of the International Map Year (IMY), the ICA and its commissions are highlighting the value of cartography by “mapping” the UN sustainable development goals
Social Science Research Council (SSRC) / 1923 / Global North	It fosters innovative research, nurtures new generations of social scientists, deepens how inquiry is practiced within and across disciplines, and mobilizes necessary knowledge on important public issues	Media, Technology and Politics; Peace, Conflict and Security; Economy and Social Policy; Global and Regional Connections; Health and Environment; Higher Education; Governance, Democracy and Civil Society
Society for Social Studies of Science (4S) / 1975 / Global	The Society for Social Studies of Science (4S) is an international, nonprofit association founded in 1975 that fosters interdisciplinary and engaged scholarship in social studies of science, technology, and medicine (a field often referred to as STS)	The field of STS includes Science and Technology Studies; Science, Technology, and Society
Global Environment Facility (GEF) / 1992 / Global North	In combination with its traditional investments under the Conventions, the GEF is strategically focusing its investments to catalyze transformational change in key systems that are driving major environmental loss, in particular energy, cities, and food	Biodiversity, Chemicals and Waste, Climate Change, Forests, International Waters, Land Degradation, Blended Finance, Capacity Development, Capacity-Building Initiative for Transparency, etc.
Society for the Advancement of Science in Africa (SASA) / 2011 / Global North	Coordinate and disseminate African scientific research advancements for local and international consumption. Mobilize resources to cover funding gaps and resource needs necessary for driving the research agenda in Africa	Agriculture and Fisheries; Economic development; Education (Science, Technology, Engineering, and Math “STEM”); Energy and Environment Health; Technology; Women and Science in Africa

Organization for Women in Science for the developing Worlds (OWSD) / 2017 / Global North	Increase the participation of women in developing countries in scientific and technological research, teaching and leadership; Promote the recognition of the scientific and technological achievements of women scientists and technologists in developing countries; etc.	Promote the participation of women scientists and technologists in the sustainable and economic development of their country
International Federation of Library Associations and Institutions (IFLA) / 1927 / Global North	Our aims are to promote high standards of provision and delivery of library and information services; encourage widespread understanding of the value of good library & information services	Its activities without regard to citizenship, disability, ethnic origin, gender, geographical location, language, political philosophy, race, or religion The United Nations' 2030 Agenda, and its 17 Sustainable Development Goals
International Federation of Surveyors (FIG) / 1878 / Global North	Surveying is a modern profession acting worldwide for a better infrastructure for our society and planet earth. The International Federation of Surveyors (FIG) wants to keep, and even improve, its role as the premier non-governmental organization that represents the interests of surveyors worldwide	The Task Force on Sustainable Development Goals (SDGs) has two aims. First, it does investigate where and how the surveyor can contribute most to the fulfilment of the SDGs. In a second step, the Task Force should then coordinate the activities of our Commissions and networks regarding the SDGs
International Foundation for Science (IFS) / 1972 / Global North	The IFS Mission is to secure resources and draw on its extensive global network of reviewers, scientific advisors, alumni, and Secretariat to enhance the capacity of promising early career women and men scientists in LLMICs to acquire the skills	Biological Resources in Terrestrial Systems; Water and Aquatic Resources, and Food Security, Dietary Diversity and Healthy Livelihoods
International Geographical Union (IGU) / 1922 / Global South	The purposes of the IGU are primarily to promote Geography through initiating and coordinating geographical research and teaching in all countries of the world. Its work is conducted through the instruments of its National Committees, Commissions and Task Forces	African Studies; Agricultural Geography and Land Engineering; Applied Geography; Biogeography and Biodiversity; Climatology; Coastal Systems; Cold and High-Altitude Regions; Cultural Approach in Geography; Dynamics of Economic Spaces; Environment Evolution; Gender and Geography; etc.
International Institute for Applied System Analysis (IIASA) / 1972 / Global North	Through its research programs and initiatives, the institute conducts policy-oriented research into issues that are too large or complex to be solved by a single country or academic discipline	Advancing Systems Analysis; Biodiversity and Natural Resources Program; Economic Frontiers Energy, Climate, and Environment; Population and Just Societies Program; Strategic Initiatives; Large-scale Initiatives
International Network for Advancing Science and Policy (INASP) / 1992 / Global North	Our work aims to strengthen the capacity of individuals and institutions to produce, share and use research and knowledge in Africa, Asia, and Latin America	Academic publishing; Capacity development; Convening; Gender & equity; Higher education & learning; Influencing; Information access; Learning & adapting; Partnership; Research Capacity; Research Communication; SDGs
International Political Science Association (IPSA) / 1949 / Global North	The general purpose of the Association shall be to promote the advancement of political science throughout the world, by such means as: a) encouraging the establishment and development of political science associations; b) facilitating the spread of information about developments in political science; etc.	Women and Politics in the Global South; Legislative Specialists; Comparative Judicial Studies; Electronic Democracy; Science and Politics; Biology and Politics; Democratization in Comparative Perspective; Politics and Ethnicity; Political and Cultural Geography;

		Socio-Political Pluralism; Gender Politics and Policy; etc.
International Society for Digital Earth (ISDE) / 2006 / Global South	The mission of ISDE is to benefit society by promoting the development and realization of Digital Earth	Science and Technology for Digital Earth; Industry Engagement for Digital Earth; Citizen Engagement and Empowerment in Digital Earth; Education and Capacity Building for Digital Earth; Contribution of Digital Earth to SDGs
International Society for Ecological Economics (ISEE) / 1989 / Global North	The purpose of the Society shall be the advancement of our understanding of the relationships among ecological, social, and economic systems and the application of this understanding to the mutual well-being of nature and people, especially that of the most vulnerable including future generations	The International Society for Ecological Economists (ISEE) facilitates understanding between economists and ecologists and the integration of their thinking into a trans-discipline aimed at developing a sustainable world. Modelling; Equity; Indicators; Limits; Trade and Development; Valuation; Policy Instruments
International Society for Photogrammetry and Remote Sensing (ISPRS) / 1968 / Global North	The International Society for Photogrammetry and Remote Sensing is a non-governmental organization devoted to the development of international cooperation for the advancement of photogrammetry and remote sensing and their applications	Photogrammetry; Remote sensing; Spatial Information Science; Education and Capacity Building Initiatives; SDGs
International Sociological Association (ISA) / 1948 / Global North	The goal of the Association is to advance sociological knowledge throughout the world. In its structure, the Association recognizes the aspirations of sociologists in all parts of the world and endeavors to support and strengthen the free development of sociology in cooperation with similar associations of social scientists	Human Rights and Global Justice; Senses and Society; Digital Sociology; Sociology of Risk and Uncertainty; Sociological Teaching; Violence and Society; Sociology on Local-Global Relations; Famine and Society; Community Research; Sociology of Education; Racism, Nationalism, Indigeneity and Ethnicity; etc.
International Studies Association (ISA) / 1959 / Global North	The Purpose of the Association is to serve the needs and enhance the capacities of scholars, practitioners, and others without regard to nationality having a professional interest in expanding, disseminating, and applying knowledge of interrelations among nations and peoples	Ethnicity, Nationalism, & Migration Studies; Environmental Studies Section; Foreign Policy Analysis Section; Feminist Theory and Gender Studies Section; Global Development Studies Section; Global Health Studies Section; Historical International Relations Section; Human Rights Section; etc.
International Union for Pure and Applied Biophysics (IUPAB) / 1919 / Global North	While IUBS promotes excellence in all topics of Biological Sciences, it aims to understand and find solutions to several scientific questions and to serious and tough challenges, such as the effects of climate change on the Earth, by facilitating collaboration across all disciplines and promoting inputs from science in all policy discussions	Governance of Global Taxonomic Lists; Global Integrative Pastorales Project (GIPP); Open Biodiversity and Health Big Data Initiative (BHBD); Conservation of Paleobiology in Africa (CPIA)
International Union for Quaternary Research (INQUA) / 1928 / Global North	INQUA's basic goal is to promote improved communication and international collaboration in experimental and applied aspects of Quaternary research, in order to contribute in practical ways to an evaluation of the scale and rates of global environmental changes during the recent geological past	Coastal and Marine Processes (CMP); Humans & Biosphere (HABCOM); Paleoclimate (PALCOM); Stratigraphy & Chronology (SACCOM); Terrestrial Processes, Deposits & History (TERPRO)

International Union for the Scientific Study of Population (IUSSP) / 1928 / Global North	The IUSSP mission is to promote the scientific study of population, encourage exchange between researchers around the globe, and stimulate interest in population issues	Abortion Research; Contraceptive Transition Theories: Models for contemporary patterns of use; Couples' Reproductive Health and Fertility; Digital Demography; Family Behavior in East Asia and Southern Europe; Family Demography and Family Law; Family Planning, Fertility and Urban Development; Historical Demography; etc.
International Institute for Sustainable Development (IISD) / 1990 / Global North	The International Institute for Sustainable Development (IISD) is an award-winning independent think tank working to fulfill a bold commitment: to create a world where people and the planet thrive	Climate, Resources, Economies, Act Together and Engage, which together form our CREATE strategy and guide our actions. They will lead to a stronger, more sustainable future
The Association of Commomwealth Universities (ACU) / 1913 / Global North	Our strategic priorities are to champion the power of higher education to improve lives; to support the long-term vitality of universities; to engage and connect universities across borders, and promote collaboration among them; to deliver educational opportunities that make a positive and lasting difference; to uphold the ACU's reputation for excellence and demonstrate its impact	Global challenges; International collaboration; Access and inclusion; Supporting research; Strengthening universities; 60 stories of change
International Union of Food Science and Technology (IUFoST) / 1970 / Global North	To promote international co-operation and information exchange, to provide education and training to food scientists and technologists around the world and to promote professionalism and profession organization among food scientists and technologists	Dynamic Planet; Global Development; Transformations towards Sustainability Dynamic Planet
International Union of Forest Research Organizations (IUFRO) / 1892 / Global North	IUFRO's mission is to advance research excellence and knowledge sharing, and to foster the development of science-based solutions to forest-related challenges for the benefit of forests and people worldwide	Forest Education; Economic Drivers of Global Wildland Fire Activity; Forests and Water Interactions in a Changing Environment; Gender Equality in Forestry; Resilient Planted Forests Serving Society & Bioeconomy; etc.
International Union of Geodesy and Geophysics (IUGG) / 1919 / Global North	IUGG is dedicated to the international promotion and coordination of scientific studies of Earth (physical, chemical, and mathematical) and its environment in space	International Lithosphere Programme; Global Geodetic Observing System; World Climate Research Programme; Integrated Research on Disaster Risk; International Year on Global Understanding; Mathematics of Planet Earth; World Data System
International Union of Geological Sciences (IUGS) / 1961 / Global South	The International Union of Geological Sciences (IUGS), founded in 1961, with 121 national members, representing over a million geoscientists, is one of the World's largest scientific organizations. It encourages international co-operation and participation in the Earth sciences in relation to human welfare and is a member of the International Science Council (ISC)	IUGS is currently involved in: identifying and defining the problems critical to an improved understanding of terrestrial and planetary geological processes; encouraging formulation and testing of new geological concepts, models, and methodologies; focusing effort internationally on the study of critical economic or environmental problems whose resolution may depend on an understanding of geology, etc.
International Union of Nutritional Sciences	The Mission and Objectives of the International Union of Nutritional Sciences	The Global Challenge of Obesity; The nature and determinants of child

(IUNS) / 1946 / Global North	are: To promote advancement in nutrition science, research, and development through international cooperation at the global level. To encourage communication and collaboration among nutrition scientists as well as to disseminate information in nutritional sciences through modern communication technology	development and their implications for programmatic interventions with young children; The IUNS also embraces global nutrition agenda to address: Food and nutrition problems in developing countries; Food safety training for nutritionists
International Union of Pure and Applied Chemistry (IUPAC) / 1919 / Global North	The International Union of Pure and Applied Chemistry (IUPAC) is the world authority on chemical nomenclature and terminology, including the naming of new elements in the periodic table; on standardized methods for measurement; and on atomic weights, and many other critically evaluated data	Physical and Biophysical Chemistry Division; Inorganic Chemistry Division; Organic and Biomolecular Chemistry Division; Polymer Division; Analytical Chemistry Division; Chemistry and the Environment Division; Chemistry and Human Health Division; Chemical Nomenclature and Structure Representation
International Union of Soil Sciences (IUSS) / 1924 / Global North	The objectives of the IUSS are to foster all branches of the soil sciences and their applications, and to give support to soil scientists in the pursuit of their activities. In addition, the IUSS aims to put soils and soil science on the global agenda	Soils in Space and Time; Soil properties and processes; Soil Use and Management; The Role of Soils in Sustaining Society and the Environment
International Union of Speleology (UIS) / 1965 / Global North	The purpose of the UIS is to promote fellowship between people in all countries who are interested in caves, karst, and related features and terrains (called “speleologists” in UIS documents), to develop and promote all aspects of speleology (scientific, technical, cultural, sporting, social, and economic), and the protection and management of the world’s speleological and karst heritage in ways conducive to sustain-able development in all locations where caves or speleological activities occur	Archeology and Paleontology in Caves Commission; Artificial Cavities Commission; Arts and Letters Commission; Bibliography Commission; Biology Commission; Cave Diving Commission; Cave Mineralogy Commission; Cave Rescue Commission; Education Commission; etc.
International Union of Toxicology (IUTOX) / 1980 / Global North	IUTOX is the voice of toxicology on the global stage; the organization which seeks to increase the knowledge base of toxicological issues facing humankind and to extend this knowledge to developing societies and nations	Provide an international platform and leadership to promote scientific cooperation and exchange in toxicology; Provide advances in toxicology; Enhance opportunities for educational development and exchange in toxicology; Broaden the geographic base of toxicology as a discipline; etc.
International Water Association (IWA) / 1998 / Global South	The International Water Association is an open yet ordered platform in which both innovators and adopters of new technologies and approaches can generate creative friction. It is a place for diffusion, benchmarking, and evidence	Digital Water; Water and Sanitation Services; Cities of the Future; Basins of the Future; Agriculture; Energy; Climate Change; Environment; Health; Industry; Society; Urbanization

APPENDIX B – Semi-structured interview script

Identification Questions:

1. Name:

2. E-mail:

3. Nationality: 4:

4. Unit/Institutional affiliation:

5. Academic background (undergraduate/masters/specialization/doctorate/post-doctorate):

6. Great area of knowledge:

( ) Major Area 1. Exact and Earth Sciences

( ) Major Area 2. Biological Sciences

( ) Large Area 3. Engineering

( ) Large Area 4. Health sciences

( ) Main Area 5. Agricultural sciences

( ) Large Area 6. Applied Social Sciences

( ) Large Area 7. Human Sciences

( ) Main Area 8. Linguistics, Letters and Arts

( ) Main Area 9. Multidisciplinary / Interdisciplinary

( ) Main Area 10. Others

7. Comment on your role within the São Paulo Research Foundation (Fapesp).

Questions on the adoption of the SDG agenda by FAPESP:

8. Has Fapesp been acting in relation to the SDG agenda? In what way? Does this action have any kind of impact on the national (and international) academic community? What do you think about it?

9. Are the SDGs considered a strategic issue for Fapesp? If yes, why? If not, why?

10. Why do you think Fapesp has been incorporating this global agenda?

11. In your opinion, what are the trends regarding the adoption of SDGs as a research agenda at Fapesp? Does the Covid-19 pandemic support this adoption?

12. In your opinion, what were the conditioning factors for the SDGs to become part of Fapesp's research agenda?

13. Recently, Fapesp launched an institutional portal that addresses its relationship with the SDGs. Could you comment on the construction of this portal?

Questions about the establishment of International Cooperations:

14. Is your position related to the establishment of international research cooperations?

If yes and if no

15. Regarding international cooperations (specifically calls for research proposals), do the SDGs appear in these calls? (Which SDGs?) In what way do they appear?

16. Do the SDGs incorporated in the calls explicitly refer to Brazilian social problems?

17. What are the main cooperation agreements involving the SDGs? What is the impact of these agreements within the scientific community?

18. How are international cooperation agreements implemented? How is the theme(s) of the call(s) defined? What are the criteria? How is the research agenda constructed?

19. Which actors participate in establishing these agreements? Which agencies and HEIs are most present in this process? How do these actors relate to each other?

20. In your opinion, what is the degree of receptivity on the part of international groups and researchers regarding the approaches and problems inherent to the Brazilian discussions?

APPENDIX C – FAPESP and SDGs platform information

Descrição Plataforma: Ciência, Tecnologia e Inovação são instrumentos fundamentais para que os países membros da Organização das Nações Unidas (ONU) alcancem os 17 Objetivos de Desenvolvimento Sustentável (ODS) até 2030. Alinhada à Agenda 2030, institucionalizada pelo governo do Estado de São Paulo, a FAPESP indexou seu portfólio de programas e de projetos apoiados a cada um dos 17 ODS com o objetivo de facilitar o acesso às pesquisas relacionadas e subsidiar políticas públicas nas diferentes áreas. Esse site dá acesso ao conjunto de programas, iniciativas e projetos apoiados pela FAPESP articulados com os ODS, assim como a um conjunto de reportagens sobre pesquisas, cujos resultados têm permitido ao Estado de São Paulo avançar na direção da Agenda 2030.		
Nº ODS	**Nº iniciativas**	**Iniciativas vinculadas**
1	2	O **Centro de Pesquisa em Alimentos** (FoRC), na USP, tem foco em pesquisas sobre alimentos e nutrição. http://forc.webhostusp.sti.usp.br/index.php O **Núcleo de Estudos da Violência** (NEV), na USP, desenvolve pesquisas sobre temas relacionados à violência, democracia e diretos humanos. https://nev.prp.usp.br/
2	7	O **Programa Modernização de Institutos Estaduais de Pesquisa** (PDIP) investe na modernização da infraestrutura e capacitação de pessoal de 12 instituições de pesquisas paulistas. https://bv.fapesp.br/pt/615/ O **Centro de Pesquisa Avançada de São Paulo para Controle Biológico** (SPARCBio), apoiado pela FAPESP e a Koppert e com sede na Esalq-USP, desenvolve modelo de controle biológico de pragas para regiões tropicais por meio de pesquisa internacional competitiva. https://fapesp.br/cpe/50 O **Centro de Pesquisa em Genômica Aplicada às Mudanças Climáticas** (GCCRC), constituído pela FAPESP e a Embrapa e com sede na Unicamp, tem como missão gerar ativos biotecnológicos que aumentem a resistência de plantas à seca e ao calor e transferir tecnologias ao setor produtivo. https://fapesp.br/cpe/16 O **Centro de Pesquisa em Alimentos** (FoRC), na USP, tem foco em pesquisas sobre alimentos e nutrição. http://forc.webhostusp.sti.usp.br/index.php **NPOP - Núcleo de Análise e Síntese de Soluções Baseadas na Natureza – BIOTA Síntese**, constituído no âmbito do programa Ciência para o Desenvolvimento, realiza a análise de soluções baseadas na natureza para dar respostas a desafios da agricultura sustentável, segurança hídrica e controle de zoonoses. **NPOP/PBIS – Plataforma Biotecnológica Integrada de Ingredientes Saudáveis**, criado no âmbito do programa Ciência para o Desenvolvimento, tem sede no Instituto de Tecnologia de Alimentos (ITAL) da Secretaria de Agricultura e Abastecimento de São Paulo. **NPOP – Estratégias Biotecnológicas e Genômicas para Qualidade, Produtividade e Manejo Sustentável de Citros, Café e Cana-de-açúcar no Estado de São Paulo**, constituído no âmbito do programa Ciência para o Desenvolvimento, tem sede no Instituto Agronômico de Campinas (IAC), da Secretaria de Agricultura e Abastecimento de São Paulo.
3	**23**	**Ciência e Inovação no combate à COVID-19.** A FAPESP apoia projetos de pesquisa e de desenvolvimento de novas tecnologias voltadas ao combate da COVID-19. https://covid19.fapesp.br/ Na série de **Webinars de Pesquisa COVID-19** da FAPESP, pesquisadores do Brasil e de outros países debatem descobertas e resultados de estudos relacionados ao avanço do conhecimento sobre o COVID-19. https://covid19.fapesp.br/webinars O repositório **COVID-19 Data Sharing/BR** é uma iniciativa da FAPESP em cooperação com a Universidade de São Paulo, que reúne dados demográficos e resultados de exames clínicos e laboratoriais anonimizados de pacientes, disponibilizados por hospitais e laboratórios parceiros, com o objetivo de contribuir para pesquisas sobre a doença. https://repositoriodatasharingfapesp.uspdigital.usp.br/ O **Programa de Pesquisa em Políticas Públicas** apoia projetos de pesquisa voltados ao atendimento de demandas sociais concretas. https://fapesp.br/politicaspublicas O **Programa de Melhoria do Ensino Público** apoia pesquisas que tenham como objetivo contribuir para a melhoria da qualidade do ensino público no Estado de São Paulo. https://fapesp.br/ensinopublico

		O **Programa de Pesquisa para o SUS: Gestão Compartilhada em Saúde** financia pesquisas voltadas à solução de problemas prioritários de saúde e o fortalecimento da gestão do Sistema Único de Saúde (SUS) no Estado de São Paulo. https://fapesp.br/ppsus O **Programa Modernização de Institutos Estaduais de Pesquisa** (PDIP) investe na modernização da infraestrutura e capacitação de pessoal de 12 instituições de pesquisas paulistas. https://bv.fapesp.br/pt/615/programa-modernizacao-de-institutos-estaduais-de-pesquisa/ O **Centro de Excelência para Pesquisa em Química Sustentável** (CERSusChem) foi criado pela FAPESP em parceria com a GSK, tem sede na UFSCar investiga produtos e processos químicos sustentáveis que possam ser utilizados na descoberta e no desenvolvimento de novos medicamentos. https://fapesp.br/cpe/centro_de_excelencia_para_pesquisa_em_quimica_sustentavel/4 O **Centro de Excelência para Descoberta de Alvos Moleculares** (CENTD), apoiado pela FAPESP e GSK, tem como objetivo identificar alvos moleculares e vias de sinalização envolvidas em doenças de base inflamatória. https://fapesp.br/cpe/centros_de_excelencia_em_pesquisa_basica_orientada/5 O **Centro de Pesquisa e Inovação em Biodiversidade e Fármacos** (CIBFar), na USP/São Carlos, realiza pesquisa e desenvolvimento em áreas de biodiversidade e descoberta de novos fármacos. https://cibfar.ifsc.usp.br/ O **Centro de Pesquisa em Alimentos** (FoRC), na USP, tem foco em pesquisas sobre alimentos e nutrição. http://forc.webhostusp.sti.usp.br/index.php O **Centro de Pesquisa em Doenças Inflamatórias** (CRID), com sede na USP/Ribeirão Preto, realiza pesquisas integrativas e translacionais para identificar e validar novas rotas biológicas envolvidas na indução e resolução da inflamação. http://crid.fmrp.usp.br/ O **Centro de Pesquisa em Obesidade e Comorbidades** (OCRC), na Unicamp, busca soluções mais eficientes para prevenir e tratar a obesidade e as principais doenças a ela associadas. https://ocrc.org.br/ O **Centro de Pesquisa em Processos Redox em Biomedicina** (Redoxoma), na USP, desenvolve pesquisa sobre mecanismos redox relevantes na homeostase celular e em patologias, com ênfase em doenças crônico-degenerativas. http://redoxoma.iq.usp.br/ O **Centro de Pesquisa em Toxinas, Resposta Imune e Sinalização Celular** (CeTICS), no Instituto Butantan, investiga a resposta sistêmica de células, tecidos e organismos usando toxinas peptídicas definidas quimicamente como ferramentas moleculares. http://www.cetics.com.br/ O **Centro de Estudos do Genoma Humano e Células-Tronco** (HUG-CELL), na USP, realiza pesquisas em genética humana e médica e mantém serviço de aconselhamento genético e testes genéticos para a população https://genoma.ib.usp.br/ O **Centro de Pesquisa, Inovação e Difusão em Neuromatemática** (Neuromat), na USP, tem como missão desenvolver a nova matemática necessária para construir uma Teoria do Cérebro que contemple os dados experimentais coletados pela pesquisa em neurociência. https://neuromat.numec.prp.usp.br/ O **Centro de Terapia Celular** (CTC), na USP/Ribeirão Preto, estuda a biologia das células-tronco com o objetivo de desenvolver novas tecnologias para o tratamento de doenças. https://ctcusp.org/ O **Instituto de Pesquisa sobre Neurociências e Neurotecnologia** (Brainn) desenvolve novos métodos e técnicas inovadoras para melhorar o tratamento e a prevenção de doenças cerebrais debilitantes, em especial a epilepsia e o acidente vascular cerebral. https://www.brainn.org.br/ **NPOP/ NuTeC - Núcleo de Terapia Celular**, implementado no âmbito do programa Ciência para o Desenvolvimento, com sede na Fundação Hemocentro de Ribeirão Preto, tem como objetivo disponibilizar a terapia celular e imunoterapias inovadoras para pacientes com neoplasias, entre outros objetivos. **NPOP - Programa Multicêntrico Utilizando Radioligantes de PSMA para o Diagnóstico e Terapia de Pacientes com Câncer de Próstata**, constituído no âmbito do programa Ciência para o Desenvolvimento, com sede no Instituto de Pesquisas Energéticas e Nucleares (Ipen). **NPOP - Centro de Pesquisa e Desenvolvimento em Imunobiológicos**, ligado ao programa Ciência para o Desenvolvimento, com sede no Instituto Butantan.

		NPOP/IViS – Inovação para Vigilância em Saúde, constituído no âmbito do programa Ciência para o Desenvolvimento, com sede na Coordenadoria de Controle de Doenças da Secretaria de Saúde de São Paulo.
4	3	O **Programa de Pesquisa em Políticas Públicas** projetos de pesquisa voltados ao atendimento de demandas sociais concretas. https://fapesp.br/politicaspublicas O **Programa de Melhoria do Ensino Público** apoia pesquisas que tenham como objetivo contribuir para a melhoria da qualidade do ensino público no Estado de São Paulo. https://fapesp.br/ensinopublico O **Programa de Pesquisa para o SUS: Gestão Compartilhada em Saúde** financia pesquisas voltadas à solução de problemas prioritários de saúde e o fortalecimento da gestão do Sistema Único de Saúde (SUS) no Estado de São Paulo. https://fapesp.br/ppsus
5	2	O **Núcleo de Estudos da Violência** (NEV), na USP, desenvolve pesquisas sobre temas relacionados à violência, democracia e diretos humanos. https://nev.prp.usp.br/ O **Centro de Estudos da Metrópole** (CEM), com sede na USP, desenvolve pesquisa avançada em Ciências Humanas sobre temas relacionados às transformações sociais, econômicas e políticas das metrópoles contemporâneas. http://centrodametropolE.F, man, Exact and Earth Sciencesflch.usp.br/pt-br
6	0	Não há indicação de iniciativas
7	6	O **Programa FAPESP de Pesquisa em Bioenergia** (BIOEN) estimula e articula atividades de pesquisa e desenvolvimento para promover o avanço do conhecimento e sua aplicação em áreas relacionadas á produção de bioenergia no Brasil. https://fapesp.br/bioen/ www.bioenfapesp.org O **Centro de Pesquisa em Engenharia em Produção de Energia e Inovação** (Epic), criado pela FAPESP e a Equinor Brasil Energia, tem sede na Unicamp e o objetivo de buscar soluções inovadoras para otimizar a produção de energia. https://fapesp.br/cpe/39 O **Centro de Pesquisa para Inovação em Gás** (RCGI), financiado pela FAPESP e Shell e com sede na USP, desenvolve estudos avançados no uso sustentável do gás natural, biogás, hidrogênio e gestão, transporte e armazenamento de emissões de CO2. https://fapesp.br/cpe/1 O **Centro em Pesquisa em Engenharia Prof. Urbano Ernesto Stumpf**, constituído pela FAPESP e o Grupo PSA, desenvolve pesquisas em motores a biocombustíveis, desde a fenomenologia básica da combustão de biocombustíveis até a interação entre o motor e veículo. https://fapesp.br/cpe/2 O **Centro de Inovação em Novas Energias** (CINE), criado pela FAPESP e Shell e sedes na Unicamp e no Ipen, desenvolve novos dispositivos de armazenamento de energia com baixa emissão de gases de efeito estufa e novas rotas tecnológicas para a conversão de metano em produtos químicos. https://fapesp.br/cpe/12 O **Centro de Desenvolvimento de Materiais Funcionais** (CDMF), desenvolve materiais funcionais e nanoestruturados com foco em energia renovável, saúde e sustentabilidade ambiental. http://cdmf.org.br/
8	1	O **Centro de Estudos da Metrópole** (CEM), com sede na USP, desenvolve pesquisa avançada em Ciências Humanas sobre temas relacionados às transformações sociais, econômicas e políticas das metrópoles contemporâneas. http://centrodametropolE.F, man, Exact and Earth Sciencesflch.usp.br/pt-br
9	15	O **Programa Pesquisa Inovativa em Pequenas Empresas** (PIPE) apoio iniciativas inovadoras de startups e pequenas empresas de base tecnológica com até 250 funcionários fapesp.br/pipe O **Programa Pesquisa em Parceria para Inovação Tecnológica** (PITE) apoia projetos de pesquisas desenvolvidas em universidade e institutos de pesquisa em cooperação com pesquisadores de empresas fapesp.br/pite O **Centro de Inteligência Artificial** (C4AI), constituído pela FAPESP e a Shell, com sede na USP, investiga aspectos fundamentais da inteligência artificial (IA) com aplicações em setores como agronegócio, clima e saúde. www.fapesp.br/cpe/76 O **Centro de Ciência Matemáticas Aplicadas à Indústria** (CeMEAI) articula pesquisadores de diversas áreas na busca de soluções para problemas industriais aplicando técnicas das ciências matemáticas em ambiente de colaboração. www.cemeai.icmc.usp.br O **Centro de Pesquisa em Engenharia em Produção de Energia e Inovação** (Epic), criado pela FAPESP e a Equinor Brasil Energia, tem sede na Unicamp e o objetivo de buscar soluções inovadoras para otimizar a produção de energia. www.fapesp.br/cpe/39

		O **Centro de Pesquisa para Inovação em Gás** (RCGI), financiado pela FAPESP e Shell e com sede na USP, desenvolve estudos avançados no uso sustentável do gás natural, biogás, hidrogênio e gestão, transporte e armazenamento de emissões de CO2. www.fapesp.br/cpe/1 O **Centro de Excelência para Pesquisa em Química Sustentável** (CERSusChem) foi criado pela FAPESP em parceria com a GSK, tem sede na UFSCar investiga produtos e processos químicos sustentáveis que possam ser utilizados na descoberta e no desenvolvimento de novos medicamentos. www.fapesp.br/cpe/4 O **Centro em Pesquisa em Engenharia Prof. Urbano Ernesto Stumpf**, constituído pela FAPESP e o Grupo PSA, desenvolve pesquisas em motores a biocombustíveis, desde a fenomenologia básica da combustão de biocombustíveis até a interação entre o motor e veículo. www.fapesp.br/cpe/2 O **Centro de Inovação em Novas Energias** (CINE), criado pela FAPESP e Shell e sedes na Unicamp e no Ipen, desenvolve novos dispositivos de armazenamento de energia com baixa emissão de gases de efeito estufa e novas rotas tecnológicas para a conversão de metano em produtos químicos. www.fapesp.br/cpe/12 O **Centro de Pesquisa em Genômica Aplicada às Mudanças Climáticas** (GCCRC), constituído pela FAPESP e a Embrapa e com sede na Unicamp, tem como missão gerar ativos biotecnológicos que aumentem a resistência de plantas à seca e ao calor e transferir tecnologias ao setor produtivo. https://fapesp.br/cpe/16 O **Centro de Desenvolvimento de Materiais Funcionais** (CDMF), desenvolve materiais funcionais e nanoestruturados com foco em energia renovável, saúde e sustentabilidade ambiental. http://cdmf.org.br/ O **Centro de Pesquisa em Óptica e Fotônica** (Cepof), na USP/São Carlos, tem como objetivo promover avanços tecnológicos na área de óptica por meio de uma ampla e colaboração interdisciplinar com empresas privadas e parceiros internacionais. http://cepof.ifsc.usp.br/ O **Centro de Pesquisa em Engenharia e Ciências Computacionais** (CCES), na Unicamp, dedica-se à modelagem computacional avançada em ciências moleculares físicas e químicas, engenharia mecânica computacional e materiais, biologia computacional e bioinformática, geofísica computacional e ciência da computação. https://cces.unicamp.br/ O **Centro de Pesquisa, Educação e Inovação em Vidros** (CeRTEV), na UFSCar, pesquisa e desenvolve novos vidros ativos e vitrocerâmicos, como alta resistência mecânica e condutividade elétrica, atividade biológica, ótica ou catalítica. www.certev.ufscar.br/ **NPOP – Desenvolvimento da Cadeia de Produção de Componentes Metálicos por Manufatura Aditiva**, constituído no âmbito do programa Ciência para o Desenvolvimento, tem sede no Instituto de Pesquisas Tecnológicas do Estado de São Paulo (IPT)
10	4	O **Programa de Pesquisa em Políticas Públicas** projetos de pesquisa voltados ao atendimento de demandas sociais concretas. https://fapesp.br/politicaspublicas O **Programa de Melhoria do Ensino Público** apoia pesquisas que tenham como objetivo contribuir para a melhoria da qualidade do ensino público no Estado de São Paulo. https://fapesp.br/ensinopublico O **Programa de Pesquisa para o SUS: Gestão Compartilhada em Saúde** financia pesquisas voltadas à solução de problemas prioritários de saúde e o fortalecimento da gestão do Sistema Único de Saúde (SUS) no Estado de São Paulo. https://fapesp.br/ppsus O **Centro de Estudos da Metrópole** (CEM), com sede na USP, desenvolve pesquisa avançada em Ciências Humanas sobre temas relacionados às transformações sociais, econômicas e políticas das metrópoles contemporâneas. http://centrodametropolE.F, man, Exact and Earth Sciencesflch.usp.br/pt-br
11	5	O **Programa Modernização de Institutos Estaduais de Pesquisa** (PDIP) investe na modernização da infraestrutura e capacitação de pessoal de 12 instituições de pesquisas paulistas. https://bv.fapesp.br/pt/615/programa-modernizacao-de-institutos-estaduais-de-pesquisa/ O **Centro de Estudos da Metrópole** (CEM), com sede na USP, desenvolve pesquisa avançada em Ciências Humanas sobre temas relacionados às transformações sociais, econômicas e políticas das metrópoles contemporâneas. http://centrodametropolE.F, man, Exact and Earth Sciencesflch.usp.br/pt-br

		NPOP - Centro de Pesquisa e Desenvolvimento sobre Conhecimento ao Vivo, implementado no âmbito do programa Ciência para o Desenvolvimento, com sede no Instituto de Matemática e Estatística da USP, desenvolve pesquisa e tecnologia para o monitoramento em tempo real de vídeo ao vivo, com o objetivo de oferecer informações para segurança pública, transporte inteligente e vigilância epidemiológica. **NPOP/NInDA – Núcleo de Inteligência de Dados para o Gerencimento de Cidades e Segurança**, constituído no âmbito do programa Ciência para o Desenvolvimento, com sede no Instituto de Ciência, Matemática e de Computação da USP. **NPOP/CCAS/FGV – Centro de Ciência Aplicada à Segurança**, criado no âmbito do Ciência para o Desenvolvimento, com sede na Escola de Administração de Empresas de São Paulo da Fundação Getúlio Vargas (FGV).
12	2	O **Centro de Pesquisa em Alimentos** (FoRC), na USP, tem foco em pesquisas sobre alimentos e nutrição. http://forc.webhostusp.sti.usp.br/index.php **NPOP - Pescado para a Saúde**, desenvolvido no âmbito do programa Ciência para o Desenvolvimento, com sede no Instituto Oceanográfico da USP, busca melhorar a qualidade nutricional do pescado cultivado para consumo humano.
13	7	O **Programa FAPESP de Pesquisa em Mudanças Climáticas** apoia a pesquisas com foco na análise de mudanças nos estoques de carbono, padrões de precipitação, aumento do nível do mar, extremos climáticos, entre outros temas. O objetivo é entender os processos críticos que controlam o clima e desenvolver estratégias de mitigação e adaptação com base científica. https://fapesp.br/pfpmcg/ O **Programa Modernização de Institutos Estaduais de Pesquisa** (PDIP) investe na modernização da infraestrutura e capacitação de pessoal de 12 instituições de pesquisas paulistas. https://bv.fapesp.br/pt/615/programa-modernizacao-de-institutos-estaduais-de-pesquisa/ O **Centro de Pesquisa em Engenharia em Produção de Energia e Inovação** (Epic), criado pela FAPESP e a Equinor Brasil Energia, tem sede na Unicamp e o objetivo de buscar soluções inovadoras para otimizar a produção de energia. https://fapesp.br/cpe/39 O **Centro de Pesquisa para Inovação em Gás** (RCGI), financiado pela FAPESP e Shell e com sede na USP, desenvolve estudos avançados no uso sustentável do gás natural, biogás, hidrogênio e gestão, transporte e armazenamento de emissões de CO2. https://fapesp.br/cpe/1 O **Centro em Pesquisa em Engenharia Prof. Urbano Ernesto Stumpf**, constituído pela FAPESP e o Grupo PSA, desenvolve pesquisas em motores a biocombustíveis, desde a fenomenologia básica da combustão de biocombustíveis até a interação entre o motor e veículo. https://fapesp.br/cpe/2 O **Centro de Inovação em Novas Energias** (CINE), criado pela FAPESP e Shell e sedes na Unicamp e no Ipen, desenvolve novos dispositivos de armazenamento de energia com baixa emissão de gases de efeito estufa e novas rotas tecnológicas para a conversão de metano em produtos químicos. https://fapesp.br/cpe/12 O **Centro de Pesquisa em Genômica Aplicada às Mudanças Climáticas** (GCCRC), constituído pela FAPESP e a Embrapa e com sede na Unicamp, tem como missão gerar ativos biotecnológicos que aumentem a resistência de plantas à seca e ao calor e transferir tecnologias ao setor produtivo. https://fapesp.br/cpe/16
14	2	O Programa **BIOTA-FAPESP** tem por objetivo catalogar, caracterizar e, quando necessário, recuperar a biodiversidade brasileira, promover seu uso sustentável, estabelecer mecanismos para sua conservação, fornecer informações a gestores públicos e privados, conscientizar a população sobre o assunto e desenvolver novos produtos e tecnologias para o setor privado. www.biota.org.br O **Programa Modernização de Institutos Estaduais de Pesquisa** (PDIP) investe na modernização da infraestrutura e capacitação de pessoal de 12 instituições de pesquisas paulistas. https://bv.fapesp.br/pt/615/
15	3	O Programa **BIOTA-FAPESP** tem por objetivo catalogar, caracterizar e, quando necessário, recuperar a biodiversidade brasileira, promover seu uso sustentável, estabelecer mecanismos para sua conservação, fornecer informações a gestores públicos e privados, conscientizar a população sobre o assunto e desenvolver novos produtos e tecnologias para o setor privado. www.biota.org.br O **Programa Modernização de Institutos Estaduais de Pesquisa** (PDIP) investe na modernização da infraestrutura e capacitação de pessoal de 12 instituições de pesquisas

		paulistas. https://bv.fapesp.br/pt/615/ O **Centro de Pesquisa em Toxinas, Resposta Imune e Sinalização Celular** (CeTICS), no Instituto Butantan, investiga a resposta sistêmica de células, tecidos e organismos usando toxinas peptídicas definidas quimicamente como ferramentas moleculares. http://www.cetics.com.br/
16	1	O **Núcleo de Estudos da Violência** (NEV), na USP, desenvolve pesquisas sobre temas relacionados à violência, democracia e diretos humanos. https://nev.prp.usp.br/
17	4	O **Programa de Pesquisa em Políticas Públicas** apoia projetos de pesquisa voltados ao atendimento de demandas sociais concretas. https://fapesp.br/politicaspublicas O **Programa de Melhoria do Ensino Público** apoia pesquisas que tenham como objetivo contribuir para a melhoria da qualidade do ensino público no Estado de São Paulo. https://fapesp.br/ensinopublico O **Programa de Pesquisa para o SUS: Gestão Compartilhada em Saúde** financia pesquisas voltadas à solução de problemas prioritários de saúde e o fortalecimento da gestão do Sistema Único de Saúde (SUS) no Estado de São Paulo. https://fapesp.br/ppsus O **Programa Modernização de Institutos Estaduais de Pesquisa** (PDIP) investe na modernização da infraestrutura e capacitação de pessoal de 12 instituições de pesquisas paulistas. https://bv.fapesp.br/pt/615/programa-modernizacao-de-institutos-estaduais-de-pesquisa/

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