



Vem pra UFMS Program: Popularizing Science and Promoting Sustainable Development Goals (SDGs)

Naiade Valenzuela de Alcântara, Rozana Vanessa Fagundes Valentim de Godoi, Lia Raquel Toledo Brambilla Gasques, Ana Paula Banyasz, Leonardo Chaves de Carvalho, João Vitor Costa, Cris Almeida Oruê, Jefferson Silva de Pádua Melo, Camila Celeste Brandão Ferreira Ítavo, Albert Schiaveto de Souza*

Federal University of Mato Grosso do Sul, Brazil

*Corresponding author: naiade.alcantara@ufms.br

Article Info

Received:

16 July 2025

Accepted:

1 October 2025

Published:

31 December 2025

DOI:

10.14710/jsp.0.29885

Abstract. The Federal University of Mato Grosso do Sul (UFMS), through the “Vem pra UFMS” (Come to UFMS) Program, promotes access to knowledge, science, and academic culture. This article aims to analyze how the program has contributed to the implementation of the United Nations Sustainable Development Goals (SDGs) within the context of higher education (HE). By disseminating courses, popularizing science, and presenting UFMS’s teaching, research, extension, and innovation spaces, the program strengthens the connection between university and society. Its initiatives include several projects such as “Thinking About the Future”, “Science for What?”, and the “UFMS Preparatory Course”, which expands the democratization of HE by exposing high school students to academic and professional opportunities, thereby reducing inequalities. Complementary projects such as “Science in Schools”, “Science Pills”, and the “Science Park” foster the popularization of science, building more informed communities prepared to address global challenges while promoting innovation and sustainability. The “UFMS Museum of Science and Technology” further contributes to these efforts by strengthening scientific and technological culture. Methodologically, the study adopted a qualitative approach, using secondary data from institutional reports, websites, and social media to evaluate the program’s impact and its contribution to the SDGs. Findings reveal that the program encompasses seven specific actions directly linked to SDGs 4 (4.1, 4.3, 4.4, 4.7) and 10 (10.2), and reached more than 50 schools and benefited over 11,540 people. These initiatives highlight the transformative role of UFMS in education and sustainable development, demonstrating how higher education institutions can positively influence society by integrating the SDGs into their practices.

Keywords:

Community, Knowledge, Popularization of science, Sustainability.

1. Introduction

The universities assume multiple commitments regarding social, environmental, and economic issues, positioning themselves as strategic partners in the promotion and dissemination of the Sustainable Development Goals (SDGs). This role stems from their responsibility to educate critical and engaged professionals, as well as to contribute to building a more just and equitable society. It is important to emphasize that the concept of sustainable development goes beyond environmental preservation, since poverty, social exclusion, and cultural domination also constitute forms of unsustainability [1,2]. Thus, sustainability must be understood as multidimensional, given that human well-being is associated with a wide range of interdependent factors [3].

On the other hand, we have higher education institutions (HEIs) that play a crucial role in society, training new professionals and fostering research in various fields of knowledge. Teaching, research, and extension are fundamental pillars of universities that contribute to social development. In this regard, this study will highlight university extension, which includes all actions and projects aimed at serving the external community through knowledge exchange and social transformation, and the practical experience of undergraduate and graduate students in everyday situations.

Public universities, as centers of teaching, research, and extension, are key pieces in the implementation of sustainable actions, especially in the social dimension of sustainability. In this context, the Federal University of Mato Grosso do Sul (UFMS) created the "Vem pra UFMS" ("Come to UFMS") Program, with the aim of bringing science closer to the population, expanding access to higher education, and fostering social development.

Inspired by spaces and initiatives created by various public and private organizations, whose main purpose is to generate knowledge, popularize science and culture, and foster environmental preservation, the Vem pra UFMS Program was structured to provide a similar experience within its own context, namely, the state of Mato Grosso do Sul, Brazil.

One of the reference models was the "Espaço Ciência" (Science Space), located in Recife, Brazil, and linked to the State Secretariat for Science, Technology, and Innovation of Pernambuco. This territorial museum offers leisure and learning opportunities to the community through educational practices in non-formal spaces, while also emphasizing the importance of mangrove preservation.

Another inspiration was "Parque Explora" (Explore Park), in Medellín, Colombia. This interactive museum includes a planetarium, experimental laboratories, and an educational aquarium focused on conservation and animal welfare. Created by the city's Department of Public Works, now operates with sponsorship from private companies and support from educational institutions and professors. The Park offers a wide range of educational services designed to transform schools and bring science and technology closer to society.

Finally, the Science and Technology Park of the University of São Paulo (USP), located in São Paulo, Brazil, is an open-air museum with significant goals related to promoting scientific literacy among the population. It disseminates science and technology in an engaging, enjoyable, and accessible manner, using simple language and everyday examples.

By drawing inspiration from these spaces and the experiences described in the results of this research, the Vem pra UFMS Program has progressively created opportunities for the development of a variety of activities. Its mission is to ensure that the University remains

open and connected to the community, serving as an important channel for scientific communication and dissemination, and forming a more conscious and informed society.

The Vem pra UFMS Program aims to provide students and visitors with contact with the academic culture promoted by the institution, presenting teaching, research, extension, and innovation spaces, disseminating courses and knowledge produced within the University, and popularizing science so that people understand that science is part of their daily lives. The program has several projects to achieve its objectives, which are directly related to social aspects, especially the SDG 4 (Quality Education), which aims to ensure inclusive, equitable, and quality education that promotes lifelong learning opportunities for all. It should be noted that the program is also linked to SDG 10 (Reduced Inequalities).

The popularization of science is very present in the Vem pra UFMS program and goes far beyond simple scientific dissemination, as it is committed to reaching those excluded from scientific culture and making knowledge easy to understand. Projects such as "Science in Schools," "Science Pills," and the "Science Park" permeate popular participation in the construction of a science culture and reinforce the building of more informed communities prepared to face global challenges. In the three projects listed above, we focus on serving public schools in peripheral and remote areas, although we also serve private schools, but on a smaller scale. In the "Science in Schools" project, university professors register their ongoing and/or completed projects, research, and actions for presentation by undergraduate and graduate students in elementary and high schools.

The university leaves its facilities and goes to these schools with banners, models, simulations, exhibitions, among others, to carry out this exchange of knowledge, providing access to science and various types of knowledge, which often do not reach some locations. The project is carried out twice a year and takes place in several basic education schools in the 10 cities where we have campuses.

The "Science Pills" project consists of lectures and activities aimed at a specific basic education class, aligned with the curriculum planning of the subject students are studying, occurring twice a month, each time in a different school. In the "Science Park" project, schools or other groups come to the university to learn about science monuments; they learn science through play, which is a fun and relaxed way to learn. After the Park, visitors are directed to laboratories or other scientific and cultural spaces of the institution, all previously scheduled with the university's science popularization team.

To encourage access to higher education with the aim of reducing inequalities, the Vem pra UFMS Program features projects like "Thinking About the Future," which consists of live sessions with university professors and students in a chat about courses, their subjects, and professional career possibilities. In the "Science for What?" project, live sessions are held in university laboratories, teaching, both in-person and virtually, about the functioning of the space and how the science produced there impacts our lives.

Finally, the "UFMS Preparatory Course" project offers preparatory classes for the assessment processes required to enter HE. The Vem pra UFMS Program is very robust and is being improved each year with the experiences gained. Other projects are underway, such as the "Museum of Science and Technology", which will be another exhibition space to receive people and popularize science for the entire community. Universities impact the societies in

which they are inserted, and this relationship must be analyzed and improved daily, as discussions on the topic only enrich our experience as a community.

Thus, the objective of this study is to analyze how the Vem pra UFMS Program has contributed to the implementation of the SDGs within the context of HE. This analysis is based on the description of activities and the comparison of collected data, which makes it possible to assess how the university disseminates, promotes, and implements the SDGs.

2. Theoretical Approach, Methodology, and Scenario

2.1. Theoretical Approach

It is common knowledge that universities are places for training professionals for the job market; however, the function of these institutions goes far beyond that, since scientific research and university extension, together with teaching, make up the fundamental structure of universities. In this regard, we highlight university extension, which serves as a bridge between academia and the community, enabling the knowledge and skills developed in universities to be applied in a sociocultural interaction [4].

University extension is a process that breaks with traditional pedagogical methodologies by expressing itself through real practices, establishing a social commitment in the relationship between university and society, in a continuous teaching-learning process, with exchanges of knowledge, science, and mutuality [5,6].

Universities seek to fulfill a social role, thus aligning with the SDGs. It is noted that of the 17 SDGs, eleven are focused on social aspects, suggesting that facing development challenges requires strengthening, capacity, and willingness of a society so that all people can prosper over time [7]. Scientific research generated by universities is fundamental to ensure human survival and generate processes necessary to achieve global SDGs [8].

Given this scenario, we find in the popularization of science a way to achieve social development and fulfill the university's function. But what is the popularization of science? To popularize is much more than to disseminate; it is to place science in the field of popular participation, at the service of oppressed majorities and minorities in a cultural action, respecting the daily life and symbolic universe of the other [9].

In other words, popularizing science means considering citizens' ability to interpret scientific discoveries and their impact [10,11]. This concept has been asserting itself as a carrier of a dialogical and proactive dimension [12], collaborating for the perception of issues that influence people's lives and that dogmas, paradigms, and ideologies would not allow them to see. This process leads to the formation of an autonomous conscience, which is an indispensable condition for structuring a critical view of the world [13].

The dissemination of science to the public is as old as science itself and has served, throughout history, the most diverse motivations. The forms of dissemination and popularization of science have evolved, generating a great variety of dissemination methods, ranging from congresses, lectures, books, newspapers, social medias to the creation of museums with exhibitions open to the public, botanical gardens, planetariums, theme parks, events in schools, films, videos, radio and TV programs and science centers [14].

Spaces used for scientific initiation awaken students' creative spirit and establish the fundamental relationship between education and citizen life [15]. The innovative character of access to diverse knowledge makes science more attractive to the public, but there are challenges that accentuate the inequality, such as the lack of dialogue between teacher and student, due to involvement with many tasks that can hinder more effective work [16].

To face these difficulties, internal strategies can be developed, such as partnerships between schools, universities, and other cultural and scientific spaces, via university extension, for the planning and execution of programs/projects aimed at popularizing science, since educational establishments are always open to receiving these activities [17].

Activities with exhibitions of scientific and technological materials have been increasingly disseminated in educational spaces with the aim of achieving the goal of scientific literacy for the development of citizens aware of their role in society and strengthening teaching, by allowing the association of theoretical content seen in the classroom with concrete materials that are on display for appreciation [16].

In Latin America, there are several initiatives aimed at promoting the articulation of science and technology popularization actions, such as the Network for the Popularization of Science and Technology in Latin America and the Caribbean (Rede POP), created by United Nations Educational, Scientific and Cultural Organization (UNESCO) in 1990 to enable the exchange of experiences and information related to popularization.

Among Rede POP's activities are the identification of regional cooperation programs and projects for science popularization, dissemination of existing projects at national and regional levels, improvement of the quality of popularization centers and programs, study of identified problems and search for solutions that take advantage of existing structures, contribution to the training and qualification of professionals in the area linked to centers and programs, as well as the creation and development of databases [18].

In Brazil, the Brazilian Association of Science Centers and Museums (ABCMC) emerged in the same decade as Rede POP and with similar objectives: to contribute to the strengthening, exchange, and cooperation of science centers and museums, in addition to supporting Brazilian scientific dissemination programs and proposing a national policy for the popularization of science [13].

The José Reis Award, created by the National Council for Scientific and Technological Development (CNPq), is for professionals and institutions that stand out in the area of science popularization; it has been an important incentive for recognizing and valuing the role of popularization in Brazil. The award encourages the creation of diverse languages and mechanisms for the dissemination and popularization of scientific knowledge [19].

The acquisition of knowledge and citizen formation are broad issues that transcend the school environment; that is, they are not acquired only there, but in several other spaces. Research conducted in the United States of America corroborates this statement, the study identified that North Americans spend less than 5% of their lives in classrooms, highlighting the need to ensure science information in the remaining citizens' time [20].

Engaging in scientific dissemination with interaction, aiming at popularization, involves trying to balance the presentation of the known and the unknown and allowing the target audience to make relevant connections [21]. Society, including universities and the common citizen, needs to understand that science production is at the service of humanity and its prosperity, in pursuit of a more ethical, just, and sustainable world [22].

2.2. Methodology

With the aim of discussing how the Vem pra UFMS Program is contributing to the SDGs, this study used a qualitative and descriptive approach as its methodology, given the complexity of the social units studied and the interpretation process linked to different sources, since phenomena are complex in social sciences in general [23].

In the qualitative perspective, the natural environment is the direct source of data and

the researcher is the main instrument, with the collected data being predominantly descriptive. Furthermore, the concern with the process is much greater than with the product; that is, the researcher's interest in studying a certain problem is to verify how it manifests itself in activities, procedures, and daily interactions [24].

Descriptive research, on the other hand, aims to carefully describe the facts and phenomena of a given reality, in order to obtain information about what has already been defined as the problem to be investigated [25]. The contribution of descriptive research is to provide new perspectives on an already known reality. Regarding data collection, secondary data were used, as these refer to information that does not have a direct relationship with the event, having been gathered for some other purpose than the study at hand [26].

For this study, data was gathered from websites and public documents about existing science popularization exhibition spaces in Brazil, as well as from institutional reports, which document the annual number of visitors for each Vem pra UFMS Program initiative, making it possible to compare and analyze its growth over time. Moreover, we collected qualitative data from social media platforms and institutional websites, analyzing photos and feedback from university professors, students, and most importantly, from school students and other community groups who participated in the science popularization events. This feedback focused on their experiences and what they learned during the activities.

It is interesting to note that documentary research, although little explored in this context, is a technique that can be valuable, either by revealing new aspects of a topic or problem, or by complementing information obtained by other techniques [27]. We focused our searches on the projects "Science in Schools," "Science Pills," "Science Park," "Thinking About the Future," "Science for What?" and "UFMS Preparatory Course," which are recurrent in the Vem pra UFMS Program, as they have a pre-established annual schedule.

On the other hand, the UFMS "Museum of Science and Technology" was analyzed for the expectation it holds of accommodating more visitors and disseminating art, history, and science, being another space that will compose the university's science popularization complex and contribute to sustainable development.

The collected data was examined using thematic content analysis, organizing the information according to the SDGs associated with each program action. This process allowed for the identification of the contributions to each SDG. This approach sought to understand the community's perception and engagement with the initiatives. The results aimed to ascertain whether the actions positively impact participants and successfully achieve the objective of promoting and implementing the SDGs for the target audience.

2.3. Scenario

The study takes place at the Federal University of Mato Grosso do Sul (UFMS). This public HEI originated in 1962, with the creation of the Faculty of Pharmacy and Dentistry of Campo Grande, in the then state of Mato Grosso (MT). In 1966, these courses were absorbed by State Law No. 2,620 with the creation of the Institute of Biological Sciences of Campo Grande (ICBCG), which reformulated the previous structure, established departments, and created the Medicine course. In 1967, the State Government of Mato Grosso created the Higher Institute of Pedagogy in Corumbá and the Institute of Human Sciences and Letters in Três Lagoas, thus expanding the state public HE networks.

Integrating the Institutes of Campo Grande, Corumbá, and Três Lagoas, State Law No. 2,947/1969, created the State University of Mato Grosso (UEMT). In 1970, the Pedagogical Centers of Aquidauana and Dourados were created and incorporated into UEMT. With the

division of the Mato Grosso state, the federalization of the institution was completed, and it became known as Federal University of Mato Grosso do Sul, by Federal Law No. 6,674/1979.

Currently, the Cidade Universitária *campus* (University City), UFMS headquarters, is located in the capital Campo Grande, with the following academic units: Digital and Distance Education Agency (Agead), Faculty of Pharmaceutical Sciences, Food and Nutrition (Facfan), Institute of Biosciences (Inbio), Integrated Health Institute (Inisa), Faculty of Human Sciences (Fach), Faculty of Education (Faed), Faculty of Arts, Letters and Communication (Faalc), Faculty of Computing (Facom), Faculty of Law (Fadir), Faculty of Medicine (Famed), Faculty of Veterinary Medicine and Animal Science (Famez), Faculty of Dentistry (Faodo), Faculty of Engineering, Architecture and Urbanism and Geography (Faeng); Institute of Mathematics (Inma), Institute of Chemistry (Inqui) and Institute of Physics (Infi).

In addition, UFMS maintains campuses in the cities of Aquidauana, Chapadão do Sul, Corumbá, Coxim, Naviraí, Nova Andradina, Paranaíba, Ponta Porã, and Três Lagoas, thereby decentralizing education to reach the state's main development hubs. The University offers undergraduate and graduate courses, delivered in-person and through distance learning. Its graduate education encompasses specialization, master's, and doctoral degrees. In pursuit of its core mission of advancing teaching quality while fostering research and extension activities, UFMS has also played an active role in preserving the natural resources of Mato Grosso do Sul, with particular attention to the Pantanal and Cerrado biomes.

Its organizational structure includes the Pro-rectorate of Extension, Culture, and Sports (Proece), responsible for fostering socially relevant and democratic university extension, which creates and supports programs and projects defined according to the university's strategic objectives and demands of society. Within the scope of extension, Proece works together with the Pro-rectorate for Citizenship and Sustainability (Procids), mainly regarding sustainability, given that all institutional projects are linked to the SDG [28,29].

3. Results and Discussions

We begin our discussions by presenting the existing science spaces in Brazil, these places that promote scientific knowledge in a practical and engaging way. The Newton Freire Maia Science Park, located in Pinhais, Paraná, has thematic pavilions on energy, water, earth, and cities, an indigenous planetarium, a chemistry laboratory, and a giant model of Paraná. School visits must be scheduled, and events are open to the general public.

The USP Science and Technology Park (CienTec), located in the Fontes do Ipiranga State Park, offers activities such as astronomical observation, trails and interactive exhibitions, a planetarium, a historical telescope, and a heritage collection. The Butantan Science Park, located within the Butantan Institute, has museums (biological, vaccine, microbiology), animal enclosures, and trails in the Oswaldo Cruz Horto. Entry to the park is free, with admission fees for visiting the museums; however, the prices are accessible.

The Fiocruz Museum of Life, located at the Oswaldo Cruz Foundation in Rio de Janeiro, features a science train, a butterfly house, an experiment pyramid, a tent for cultural activities, and science popularization projects. The Guamá Science and Technology Park, the first technology park in the North region, has activities focused on biotechnology, energy, Information and Communication Technologies (ICT), environment, and mining. The Guamá Park has partnerships with universities and institutions such as the National Institute for Space Research (INPE) and the Brazilian Agricultural Research Corporation (Embrapa).

Finally, the UFMS Science Park, located in Campo Grande, state of Mato Grosso do Sul,

gathers science monuments in an open space that can be used by the entire community. The Park is open to the public; however, there is the possibility of scheduling a guided tour, with trained monitors who explain the monuments, giving practical examples from our daily lives, making the experience much more profitable. During guided tours, after visiting the Park, visitors have the opportunity to see one of the institution's laboratories, gaining a broad experience of the science produced at the university.

All the spaces mentioned above provide scientific information about the biomes in which they are inserted, contributing to identification with the place where one lives. Through this identification, the visitor establishes an emotional and symbolic connection with their environment, directly influencing their attitudes and behaviors towards nature [30]. UNESCO reinforces this need in its 2030 Agenda, which includes Education for Sustainable Development (ESD), aiming to awaken a new awareness in individuals, helping them to better understand the world they live in and to face challenges such as poverty, predatory consumption, environmental degradation, and urban deterioration [31]. Analyzing the reports of the Vem pra UFMS Program, we can verify a significant increase in demand for visits to the Science Park, which combines a visit to the Park with a laboratory or scientific space. From 2021, when the Science Park project began its first steps, until the end of 2024, there was an increase of approximately 1,230% in the number of people who visited the space and were able to have this social interaction - in 2021 there were 262 visitors, rising to 1.532 in 2022, 2.556 in 2023 and 3.490 in 2024. This increase demonstrates that the Vem pra UFMS Program is achieving its goal of popularizing science, given that people who visit the Park become more aware and share their experiences with family, friends, and close acquaintances, which generates interest in more people to learn about science and the university. We can perceive that science parks, as well as museums, bring dialogue closer to the population, promoting critical thinking, curiosity, and learning in accessible and interactive environments. More than providing knowledge about science, they transform social reality by teaching about various possibilities, and also by demonstrating how humans and their relationships impact the environment, social life, and consequently, the economic issue.

In the "Science in Schools" project, which is also part of the Vem pra UFMS program, the idea is for the University to go to schools to popularize science, since there are schools, especially public ones, that often lack resources or transportation to bring students to the Institution. This project creates an opportunity for science to reach the most distant places, to people who have little or no access to science.

The motivation for creating this project came from the need to strengthen the relationship between the university and the community, to truly create a university "beyond its walls", that popularizes science by making scientific knowledge more accessible. As basic education schools are forming citizens for the future, the idea is to contribute to the formation of more informed and critical citizens.

In posts on the UFMS institutional website, we found testimonials from students and professors of the institution who have already presented proposals in schools, such as that of a UFMS professor who reported, "It is the second time I participate in the Vem Pra UFMS: Science in Schools program, this year presenting the Math Show project, in which we take didactic materials to work with Mathematics in an attractive way. It was very cool to feel the enthusiasm, enchantment, and curiosity of the students, especially those from the 6th grade. May the seeds of science sown during the program's actions bear fruit in future university students and researchers."



Figure 1. Science Park welcomes students from the Federal Institute of Mato Grosso do Sul.



Figure 2. Science Park welcomes students from the Open University for the Elderly (Unapi)

Another interesting testimonial was from an undergraduate student who said, "I found it a very interesting project, with a very sensitive and current theme, and directly linked to adolescents, who have a lot of contact with the internet, whether through social networks or platforms. It was a good experience; I always wanted to talk about these topics with people, as it seems that many still do not understand the seriousness of cyberbullying and the legal consequences of these acts."

There are no formal testimonials from teachers and students from the schools, but the science popularization secretariat reported that it receives many requests to host the project in their schools. When the action takes place in schools, teachers always seek contact for subsequent negotiations, and basic education students comment that they loved understanding the proposals; they get excited just knowing that the university is in their schools.

Due to this issue, the program generated a smaller project based on "Science in Schools," which is "Science Pills." In it, UFMS students and professors go to a school, but this time to present a single proposal to a single class, usually aligned with the curriculum planning of the subject they are studying. This allows for a greater focus on knowledge transmission

and can be carried out more times throughout the year. As a rule, presentations are made biweekly, each time with a different school and proposal.



Figure 3. Science Park receiving students from the Dr. Plínio Barbosa Martins Municipal School

These two projects aim to serve students, teachers, and other school professionals, managing to transmit knowledge and demonstrate science in its details. Consolidating the results of this research, from the component projects of the "Vem pra UFMS" Program, we identified that the program has already served more than 50 schools and more than 17,000 people with actions aimed at the sustainable development goals. Below is a list of the SDGs worked on in each project.

The projects "Science Park," "Science in Schools," and "Science Pills" are linked to SDG 4.1 - By 2030, ensure that all girls and boys complete free, equitable and quality primary and secondary education leading to relevant and effective learning outcomes, and SDG 4.3 - By 2030, ensure equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university.

They also align with SDG 4.7 - By 2030, ensure that all learners acquire the knowledge and skills needed to promote sustainable development, including, among others, through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship and appreciation of cultural diversity and of culture's contribution to sustainable development. And to SDG 10.2 - By 2030, empower and promote the social, economic and political inclusion of all, irrespective of age, sex, disability, race, ethnicity, origin, religion, economic or other status. With this, we can infer that in addition to teaching and research, the projects socially serve the community by being committed to serving people, sharing experiences, and going where science is still distant.

The other projects aimed at disseminating courses and admission to the institution, such as "Thinking About the Future," "Science for What?" and "UFMS Preparatory Course," are also aligned with the objective of social sustainability, as they encourage the pursuit of education, demonstrating that the university is for everyone and contributing to people getting to know the courses and preparing for evaluation processes.



Figure 4. Science in schools at State School Coronel Alves Ribeiro – Aquidauana/MS



Figure 5. Science in schools at Wlandislau Garcia Gomes State School – Paranaíba/MS

The aforementioned projects contribute to SDG 4.3 - by 2030, ensure equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university – and to SDG 4.4 - By 2030, substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship.

The UFMS Museum of Science and Technology aims to contribute to all the aforementioned SDGs, being another instrument for the popularization of science that will compose the Vem pra UFMS Program, always aiming for sustainability in all its aspects, although the social area is the one that stands out the most.

4. Conclusions

The Vem pra UFMS Program, developed by the Federal University of Mato Grosso do Sul, has consolidated itself as an important science popularization initiative aimed at promoting social sustainability. By implementing projects that take scientific knowledge

beyond the university walls, the program concretely responds to several SDGs, especially those focused on SDG 4 (Quality Education) and SDG 10 (Reduced Inequalities).

Projects like "Science in Schools," "Science Pills," and the "Science Park" directly act in the democratization of access to knowledge, bringing the university closer to peripheral communities and public schools in distant regions. These actions expand the reach of scientific knowledge, making it accessible, understandable, and socially relevant. At the same time, initiatives like "Thinking About the Future," "Science for What?" and "UFMS Preparatory Course" encourages entry and permanence in HE, reinforcing the role of education as a driver of social transformation.

The expressive growth in adherence to the projects and the involvement of the academic and school community prove the program's positive impact, which promotes inclusion, equity, empowerment, and sustainable development. The proposal for the Museum of Science and Technology, still under development, reinforces UFMS's intention to expand and diversify its channels of scientific popularization, contributing permanently to the formation of a more critical, participatory, and conscious society.

Thus, the Vem pra UFMS Program highlights how public universities can and should be protagonists in achieving the SDGs, placing science at the service of the population and promoting, through university extension, effective, transformative, and lasting social sustainability. For future research, we suggest mapping the universities in Latin America or globally that have actions aimed at the SDGs, including the number of institutions, their names and what actions they carry out in this regard, as for this research we found scattered information and felt the lack of a consolidated and consistent database.

Acknowledgment

The authors would like to thank the Federal University of Mato Grosso do Sul (UFMS) for its institutional support and the Pro-rectorate of Extension, Culture, and Sports (Proece) and the Pro-rectorate of Citizenship and Sustainability (Procids) for their collaboration in the development of this work.

Conflict of Interest

The authors declare that there is no conflict of interest regarding the publication of this article.

Authors Contribution

All authors contributed substantially to the work. **N.V.A.** was responsible for conceiving the research idea and writing the original draft. **L.C.C.** and **J.V.C.** contributed to data curation and institutional information management. **R.V.F.V.G.**, **L.R.T.B.G.**, **A.P.B.**, **C.A.O.**, and **J.S.P.M.** provided support in the investigation, data collection, and validation of information. **C.C.B.F.I.** and **A.S.S.** contributed to the critical revision of the manuscript. All authors reviewed and approved the final version of the manuscript.

References

1. Gomes MF, Ferreira LJ. Public policies and the objectives of sustainable development. Law and

- Development. 2018;9(2):155-178.
2. Mafra JR. The sustainability paradigm in the Brazilian legal system: a fundamental material right. *Rev Eletrôn Dir Polít.* 2015;10(1):547-566.
 3. Freitas J. Sustainability: the right to the future. 3rd ed. Belo Horizonte: Fórum; 2016; 16(1):239.
 4. Da Silva Junior CA, Filho JI, Romão, Dias NKF. Sustainable development and institutionalization of extension: impacts of a virtual extension project in chemistry during COVID-19. *Res Soc Dev.* 2022;11(7):e6811729616
 5. Gadotti M. University extension: what for. Paulo Freire Institute. 2017;15:1-18.
 6. Marques GEC. University extension in the current scenario of the COVID-19 pandemic. *Rev Prát Extens.* 2020;4(1):42-43.
 7. Barron PJ, Cord LJ, Cuesta Leiva JA, Espinoza SA, Larson GM, Woolcock M. Social sustainability and the development process: what is it, why does it matter, and how can it be enhanced? [Internet]. Policy Research Working Paper No. 10487. Washington, D.C.: World Bank; 2022. Available from: <http://documents.worldbank.org/curated/en/099741206152335619>.
 8. Fayomi OSI, Okokpujie IP, Udo M. The role of research in achieving sustainable development goals. *IOP Conf Ser Mater Sci Eng.* 2018;413(1):012002
 9. Germano MG, Kulesza WA. Popularization of science: a conceptual review. *Cad Bras Ens Fís.* 2007;24(1):7-25.
 10. Schwartz DC. On the growing popularization of social science: the expanding publics and problems of social science utilization. *Am Behav Sci.* 1966;9(10):47-50.
 11. UNESCO. Science popularization in a changing world. *Impact Sci Soc.* 1988;(152):301-409.
 12. Ferreira JR. Popularizing scientific culture through science centers and museums: the experience with mobile units. In: *Educação em Rede: mediação de linguagens nas Salas de Ciências.* Rio de Janeiro: SESC; 2012.
 13. Ferreira JR. Popularization of science and public policies in Brazil (2003-2012) [thesis]. Rio de Janeiro: Federal University of Rio de Janeiro; 2014.
 14. National Council for Scientific and Technological Development - CNPq. Why popularize? [Internet]. Brasília: CNPq; 2019. Available from: <http://memoria.cnpq.br/por-quepopularizar>.
 15. Paraná State Department of Education - SEED. Curriculum Guidelines for Basic Education: Sciences [Internet]. Curitiba: SEED; 2008. Available from: https://www.educacao.pr.gov.br/sites/default/arquivos_restritos/files/documento/2019-12/dce_cien.pdf.
 16. França E, Barboza MR, Kiel CA, Silveira RMCF. The popularization of scientific knowledge and itinerant natural science museums. In: Crisostimo AL, Silveira RMCF, editors. *University extension and the production of knowledge: paths and intentions.* Guarapuava: Unicentro; 2017. p. 187-202.
 17. Cardoso WC, de Oliveira AS, Guerreiro IC, dos Passos LB, Júnior JFGC, de Souza KM, et al. Traveling Museum: a post-pandemic look through the window of science and sustainability in Belém-PA. *Ensino & Pesquisa.* 2025;23(1):236-50.
 18. Navas AM. Conceptions of popularization of science and technology in political discourse: impacts on science museums [dissertation]. São Paulo: Universidade de São Paulo; 2008.
 19. Simões LC. Darwin's paths in the state of Rio de Janeiro: a tourist route from the perspective of the history of science [dissertation]. Rio de Janeiro: UFRJ; 2014.
 20. Falk JH, Dierking LD. The 95 percent solution: school is not where most Americans learn most of their science. *Am Sci.* 2010;48:486-93.
 21. Oliveira SR. Some practices in science communication: the importance of interactive language. *RUA.* 2009;(15):2.
 22. Magalhães PC, Brotas AMP, Bortoliero ST, editors. *Dialogues between science and science communication: contemporary readings.* Salvador: EDUFBA; 2011. (SciELO Books)

23. Martins HE. Qualitative research methodology. *Educ Pesqui.* 2004;30(2):289-300.
24. Creswell JW. *Research design: qualitative, quantitative and mixed methods.* 2nd ed. Porto Alegre: Artmed. 2007.
25. Triviños ANS. *Introduction to research in the social sciences: qualitative research in education.* São Paulo: Atlas. 1987.
26. Richardson RJ. *Social research: methods and techniques* 3rd ed.. São Paulo: Atlas. 1999.
27. Ludke M, André ME. *Research in education: qualitative approaches.* São Paulo: EPU. 1986:.
28. De Carvalho LC, Nunes NTC, Costa JV. Report on Sustainable Development Goals at UFMS | Advances in 2024 [Internet]. Campo Grande, MS: Ed. UFMS; 2025. Available from: <https://procids.ufms.br/relatorio-dos-ods-na-ufms/>.
29. Costa, JV, de Carvalho, LC, Turine, MAS, Ítavo, CCBF. Sustainability Management at the Federal University of Mato Grosso do Sul - Brazil: Integrating Institutional Projects with the SDGs. *Journal of Sustainability Perspectives.* 2024;4:485–501.
30. Leite CMC. *Place and the construction of identity: the meanings constructed by elementary school geography teachers* [thesis]. Brasília: University of Brasília; 2012.
31. UNESCO. *Education: from school closures to recovery* [Internet]. Paris: UNESCO; 2010. Available from: <https://www.unesco.org/pt/covid-19/education-response>.



©2025. The Author(s). This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution-Share Alike 4.0 (CC BY-SA) International License (<http://creativecommons.org/licenses/by-sa/4.0>)