



Ecological ICMS: Paraná State's Environmental Tax Revenue Sharing Program

Case Study Database

A compilation of good practices and lessons learned to bring innovative subnational solutions to global problems.

Introduction

Payments for Environmental Services (PES) are increasingly recognized as a key mechanism to promote environmental conservation. PES incentivize individuals and communities to protect ecosystems, combat biodiversity loss, secure clean water and mitigate climate change. The Brazilian state of Paraná's pioneering "Ecological ICMS" program stands as a beacon of PES innovation, showcasing its pivotal role in harmonizing economic development with environmental preservation. Ecological ICMS is an example of collaboration between the local and regional levels of government, and it offers valuable insights into how to effectively distribute resources while benefitting Protected Areas and water supply in the region.

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Project Summary

The "ICMS Ecológico" (Ecological ICMS) was created in Paraná in 1991 as a mechanism for distributing resources derived from a type of tax revenue (ICMS) to municipalities. This distribution is determined by predefined criteria related to environmental conservation and protection.

More specifically, its primary objective is compensating municipalities that host Protected Areas and/or serve as sources of water supply for neighboring cities. Therefore, the funding received by each municipality through the Ecological ICMS is directly tied to their commitment and efforts in conserving these vital environmental assets.

This initiative aims to encourage the expansion of Protected Areas and to enhance the sustainable management of natural resources within Paraná.

Key information

Location

Paraná, Brazil

Areas of focus

Payment for Environmental Services;
Protected Areas;
Ecosystem Restoration;
Multilevel Governance;
Water Supply Management

Founded in

1991

Investment

The state of Paraná, through the Ecological ICMS program, transfers approximately 500 million Brazilian reais per year to municipalities in Paraná. (Note: There is no direct investment in the program, only data on transferred amounts)

Aichi Biodiversity Targets addressed

Targets 1, 3, 11 and 14

Sustainable Development Goals addressed

SDGs 6, 11 and 13

Kunming-Montreal Global Biodiversity Framework targets addressed

Targets 2, 3, 11, 14, 19 and 21

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BACKGROUND AND CONTEXT

UNDERSTANDING ICMS: BRAZIL'S VALUE-ADDED TAX

ICMS is the abbreviation for “Imposto sobre Circulação de Mercadorias e Serviços,” which translates to “Tax on Circulation of Goods and Services.” The ICMS is one of the most significant taxes in Brazil and the major source of revenue for Brazilian states. The ICMS is not collected by the central government, unlike other VATs across the world. The states (the intermediate level of government) have the authority to set internal rates and are in charge of collecting the ICMS, which is a reflection of the fiscal autonomy enjoyed by Brazil's subnational governments (ECLAC, 2012).

THE BIRTH OF ECOLOGICAL ICMS

The Ecological ICMS was born from collaborative efforts between municipalities and the state government of Paraná, with the Legislative Assembly serving as a mediator.

Municipalities in the region were facing economic challenges due to land use restrictions caused by the presence of public water sources and Protected Areas within their territories. Meanwhile, the government sought to modernize its environmental policies. Thus, the Ecological ICMS was initially born with the premise of compensating these municipalities. However, it quickly evolved into a mechanism aimed at incentivizing environmental conservation, becoming a promising alternative for environmental conservation policies in Brazil (LOUREIRO, 2002).

ADDRESSING THE RESOURCE ALLOCATION CHALLENGE

According to Loureiro (2002), the central challenge between municipalities and the state government was the allocation of financial resources.

The solution came through the national legal framework. The Federal Constitution determines the resource allocation of tax revenues corresponding to the different levels of government, including municipalities. Clause II of Article 158 of the Federal Constitution defines that states (regional governments) have the authority to legislate on up to $\frac{1}{4}$ of the percentage that municipalities are entitled to receive from the ICMS. The clause was echoed by Article 132 of the State Constitution.

These constitutional principles were further solidified in the state of Paraná through other state laws (State Supplementary Laws, including Law No. 9,491/90 - later replaced by Law No. 249/22).

Notably, the pivotal moment arrived with the enactment of Law No. 59/91 (later replaced by Law No. 249/22), known as the Ecological ICMS Law. This law defines that resources from the Ecological ICMS must be allocated to municipalities that have environmentally Protected Areas or are directly impacted by them, as well as to those that house sources of public water supply. The resources to be transferred to the municipalities are equally divided, with 50% allocated to projects related to Protected Areas and 50% to projects related to water supply sources.

DEFINING PROTECTED AREAS AND WATER SUPPLY CRITERIA

In the Ecological ICMS Program:

- “Protected Areas” encompass areas of environmental preservation, ecological stations, parks, forest reserves, forests and areas of relevant interest, established by the federal, state or municipal laws or decrees, and they can be publicly or privately owned.
- Municipalities benefiting under the “water supply criteria” are those that have within their territories a portion or the entirety of water sources that supply neighboring municipalities.

ADMINISTRATIVE OVERSIGHT

In the state of Paraná, the verification of data and calculations related to the Ecological ICMS is carried out by the Instituto Água e Terra (IAT), (formerly the Environmental Institute of Paraná - IAP). Its Directorate of Natural Heritage (DIPAN) is responsible for the component related to Protected Areas, while the Directorate of Environmental Sanitation and Water Resources (DISAR) is responsible for the component related to public water supply sources.

“With this initiative, which evolved gradually, we can carry out a broader management of natural resources. It is a way of giving a response to actions that bring benefits to biodiversity and to the public supply sources of our state”, highlighted the Director-President of the IAT, Everton Souza.



KEY ACTIVITIES AND INNOVATIONS

ECOLOGICAL ICMS AS A PIONEER INITIATIVE

Historically, the integration of biodiversity conservation objectives within intergovernmental fiscal transfer mechanisms has been a rare and groundbreaking endeavor. Only Brazil and, more recently, Portugal, have implemented these initiatives.

In the Brazilian context, the state of Paraná emerged as a true pioneer in this field. It distinguished itself by introducing innovative approaches that not only utilized environmental criteria to redistribute ICMS, but also by incorporating the quality and preservation of Protected Areas as fundamental components of the rules governing fiscal resource transfers.

This innovative approach signifies a fundamental shift in fiscal policy, where environmental conservation and biodiversity protection are not just abstract ideals but tangible, quantifiable criteria for the allocation of resources.

The inclusion of such criteria not only sets a noteworthy precedent but also serves as inspiration for other regions grappling with the dual challenge of sustaining economic growth while safeguarding their natural heritage. Paraná's pioneering efforts demonstrate the potential of fiscal instruments to drive meaningful change in environmental policy, offering a blueprint for the integration of biodiversity conservation into fiscal transfer mechanisms on a global scale.

TAX ALLOCATION

As mentioned in the context section, according to Article 158, Clause II, of the Brazilian Federal Constitution, states (regional governments) in Brazil have the authority to decide on how **25% of the ICMS, which corresponds to municipalities, is allocated**. Thus, from the tax collected by the state of Paraná, 75% stays in the state and 25% is divided among the municipalities. **Of this 25%, the state allocates 65% to the Fiscal Added Value - VAF, 10% to the Paraná Education Quality Index - IQEP, 8% to Agricultural and Livestock Production, 6% to Rural Population, 5% to Ecological ICMS, 2% to Rural Properties, 2% to the Area Factor and 2% to the Equality Factor** (Figure 1).

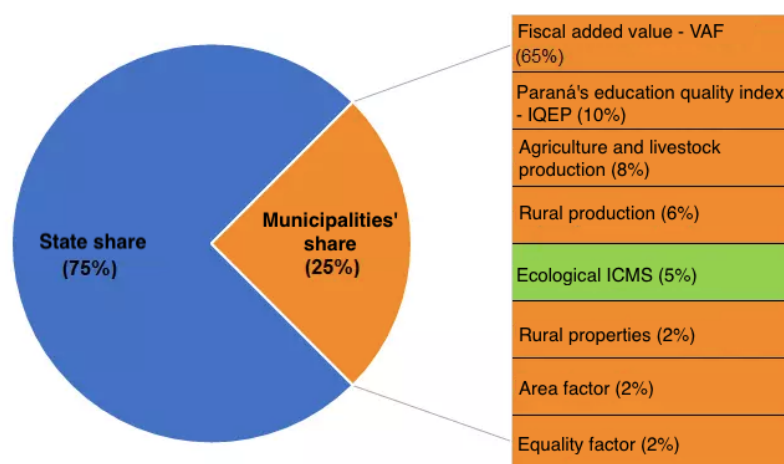


Figure 1. Distribution of ICMS in the state of Paraná. Graph retrieved from Parana's Ecological ICMS official website.

Of the 5% of the ICMS collected allocated to the Ecological ICMS, 2.5% is distributed to municipalities that have Protected Areas, Indigenous Land Areas and Special Areas of Regulated Use (ARESUR) within their territory, and 2.5% is distributed to municipalities that have water sources whose water is intended for the population supply of another municipality (Figure 2). In the case of municipalities with overlap between Protected Areas and areas with water supply sources, the criterion of greater financial compensation is considered.

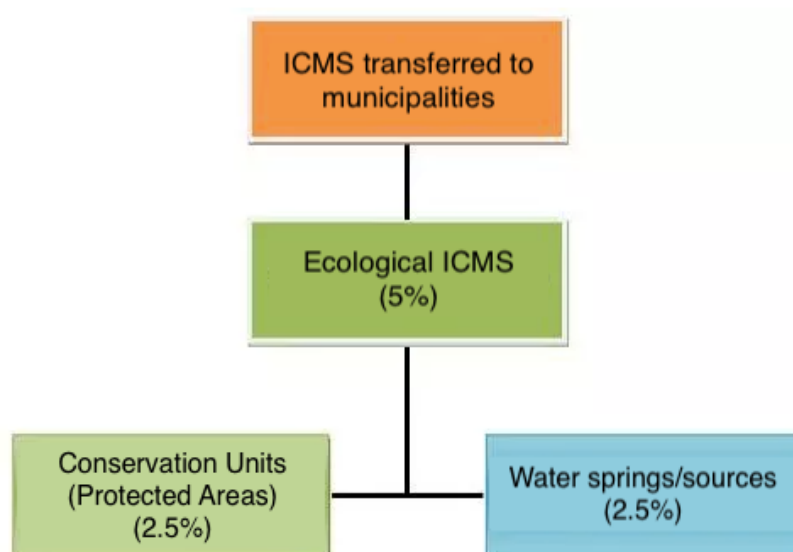


Figure 2. The two types of natural resources in municipalities. Graph retrieved from Parana's Ecological ICMS official website.

THE PRINCIPLES OF ECOLOGICAL ICMS

The philosophy of the Ecological ICMS is based on the Principle of Protector-Receiver. According to Ribeiro (1998, p. 2), *“Those who clean up receive, those who continue to pollute the environment lose money to those who clean up. Municipalities that do not invest in sanitation do not receive the resource: this is the Polluter-Non-Receiver Principle. Environmental management in countries with abundant resources applies the User-Polluter-Payer Principle, which is not yet common in financially scarce countries. In situations of poverty, it is necessary to turn that concept upside down and apply the Protector-Receiver and Non-Polluter Receiver principles, which underpin this type of incentive and prove effective in the concrete reality of societies that need to address sanitation infrastructure deficiencies.”*



THE FUNCTIONS OF ECOLOGICAL ICMS

Ecological ICMS has two primary functions attributed to it: Compensatory Function and Incentive Function.

The Compensatory Function benefits municipalities that face limitations in managing their territories due to the presence of Protected Areas or areas with usage restrictions. These municipalities usually receive less money in the state's revenue sharing, as they typically have fewer revenue-generating activities subject to ICMS (commerce, industry and services).

The Incentive Function acts as an incentive for municipalities, sparking interest in creating or expanding conservation areas or other criteria relevant to the Ecological ICMS, including qualitative aspects (BENSUSAN, 2002).

ECOLOGICAL ICMS DEADLINES CALENDAR

Transfers to municipalities are always made in the year following the current year. Therefore, Protected Areas registered in the program in the year 2023 will receive the funds in the year 2024 and so forth. Each year, the data for each Protected Area in the program is updated, causing the allocated values to fluctuate, due to both the conservation status of the area and the amount of tax collected by the state in that year.

The Ecological ICMS follows a schedule:

BY APRIL 30th

Municipalities have to register new Protected Areas.

The technicians from the regional offices of the Instituto Água e Terra (IAT) have to create the Evaluation Tables and submit them to the Directorate of Natural Heritage (DIPAN).

BY MAY 31st

The technicians from the regional offices of the IAT have to submit the Technical Investigative Inspection Report, a document produced by the technicians to report on the state and quality identified in the inspection of the Protected Areas.

BY JUNE 15th

The Conservation Incentive Division of the IAT has to send the provisional environmental factors¹ to the Secretariat for Sustainable Development (SEDEST) for publication in the Official State Gazette.

1. Environmental factors refer to the percentage of the total resources of the Ecological ICMS that each municipality is entitled to receive, according to the variables and calculation formulas indicated in the next sub-section of the case study.

Within 30 days after SEDEST publishes the provisional environmental factors, municipalities have the opportunity to challenge the provisional environmental factors. The Conservation Incentive Division has until August 15th to analyze, respond and send the final environmental factors to SEDEST for publication in the Official State Gazette if there have been changes to the factors previously published. After the publication of the final environmental factors, there is no further possibility of changing the environmental indices, and municipalities start receiving the allocated funds starting in January of the subsequent year.

VARIABLES AND CALCULATION FORMULAS

Environmental factors for Protected Areas are calculated using 5 basic variables: municipality area, unit area, Basic Conservation Factor - FCb (value defined in Ordinance 263/1998), maximum score (value defined in Ordinance 263/1998) and Evaluation Table score. With these variables, coefficients are calculated, and these are transformed into indices, which are then used as a basis for distributing the resources of the Ecological ICMS for Protected Areas (also called Ecological ICMS for Biodiversity).

PROCESS FOR PROTECTED AREAS ALREADY INCLUDED IN THE ECOLOGICAL ICMS FOR BIODIVERSITY

Annually, the evaluation is done through the Evaluation Tables², where actions taken within the Protected Area are weighted against predefined aspects such as planning and management, natural environment, socioeconomic factors, organizational resources, threats and impacts. At the end of the evaluation, a score from 0 to 1 is generated, with 1 being the maximum score.

The Evaluation Tables are applied by qualified technicians from the 21 regional offices of the IAT, who use the ArcGIS Survey123 software to apply the tables.

PROCESS FOR THE INCLUSION OF NEW PROTECTED AREAS IN THE ECOLOGICAL ICMS FOR BIODIVERSITY

Parallel to the evaluations of Protected Areas already included in the Ecological ICMS, analysis of requests for new inclusions of Protected Areas in the program are conducted. After analyzing and approving the relevant documentation and georeferencing, the request undergoes a Technical Investigative Inspection of the area of interest to assess the environmental situation of the location. If the area holds significant ecological interest, it is added to the Ecological ICMS for Biodiversity program.

2. Models of Evaluation Tables can be found [here](#), and the guidelines developed to fill them correctly can be found [here](#). These tables are reviewed periodically.

VALUES OF TRANSFERS FOR EACH MUNICIPALITY

The IAT maintains comprehensive disclosure and full transparency of calculated data on its Ecological ICMS for Biodiversity webpage, allowing all interested parties to access information about Environmental Factors. The data can be filtered by Municipality, by Protected Area, by Final Environmental Factors, Provisional Environmental Factors and the Calculation Memo.

The IAT also offers an interactive query of Ecological ICMS-related information through a [dashboard on its webpage](#), where refined searches can be conducted based on year, municipalities, modality, Protected Area sphere, Protected Area group, Protected Area domain and category (Protected Area / Water Source). Furthermore, interested parties can use the Ecological ICMS for Biodiversity transfer simulation tool provided by the IAT on its website to estimate the transfer amount (Figure 3).

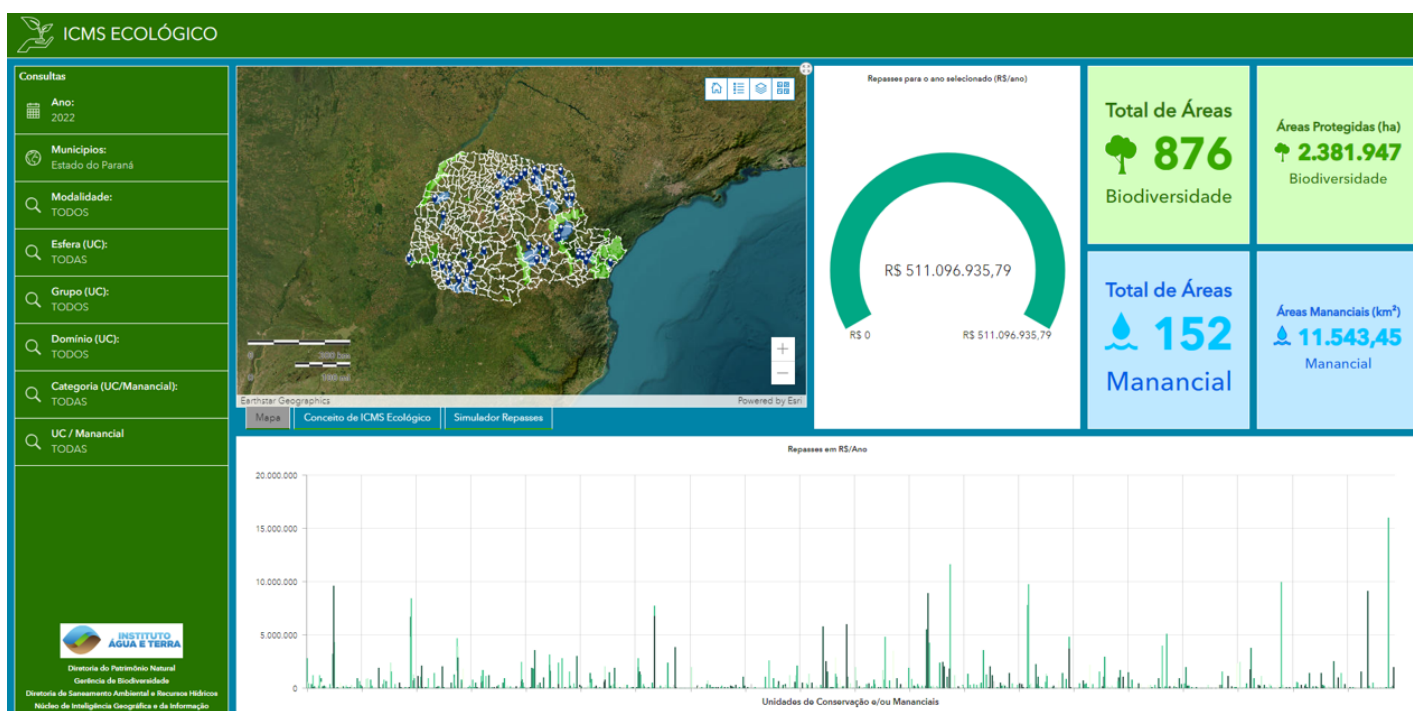


Figure 3. Dashboard on Ecological ICMS webpage which provides information about the Protected Areas and water supplies in the municipalities that receive the Ecological ICMS resources

As mentioned, the annual amounts disbursed to municipalities undergo fluctuations due to the conservation status of the Protected Area, as well as the value of the tax collected by the state in that year.



LESSONS LEARNED

One of the challenges encountered in the management of the Ecological ICMS program in the state of Paraná was related to the municipalities' questions. They had many doubts about the calculations and the transfers received regarding the Ecological ICMS and sought the teams responsible for the project to seek clarification. The main questions were about the annual amount received and how to improve this transfer. Providing individual support to each participating municipality required a significant amount of time from the teams. As a way to provide more transparency to the data and facilitate management, a Dashboard was developed for interactive querying of Ecological ICMS information. It serves as a simulator for Ecological ICMS transfers based on biodiversity.

The online tool presents actual amounts transferred to municipalities since 1991 as well as information on areas covered by the ICMS by biodiversity and water source. On the left side, users can select filters for the years 2019, 2020 and 2021, by municipalities, modalities, spheres, groups, domains and categories. The system includes maps with georeferencing and interactivity, as well as graphs and information regarding the number of protected areas and water supply sources.

The Ecological ICMS simulator aims to assist in the planning and implementation of new Protected Areas. Municipal managers can simulate how much a new Protected Area will receive annually by entering municipality data, the category of the Protected Area and the area's size in hectares. The simulated transfer amount (R\$/year) is based on equivalent scores of 10%, 50% and 90% in the Evaluation Table (qualitative factor of the Protected Area).

The dashboard and simulator were developed using the ArcGIS Survey 123 tool and the project's database. They are available for public consultation through the website <https://www.iat.pr.gov.br/Pagina/ICMS-Ecologico-por-Biodiversidade>.

Another issue encountered in the management of the Ecological ICMS program in the state of Paraná was related to the management of Protected Areas data. Most of the unit data were in physical processes, and the technology at the time did not allow for such precise mapping of location and size of the areas. To address this, the CEUC System was developed with the aim of constructing the official database of the State System of Protected Areas. Representatives from municipalities register in the system and input information about Municipal Protected Areas and Private Natural Heritage Reserves (RPPNs). Information about State and Federal Protected Areas is entered by the IAT. After that, the IAT analyzes and approves the data.



ENVIRONMENTAL IMPACTS

In 1991, when the Ecological ICMS program was established, there were 8,485.50 hectares protected by Municipal Protected Areas in Paraná. By the year 2022, this value had increased to 395,412.05 hectares (Figure 4)

In the year 2022, the total number of Protected Areas and Specially Protected Areas in the state of Paraná was 680, covering an area of 2,565,321.32 hectares, representing 12.87% of the state's territory (Figure 5 and Figure 6)

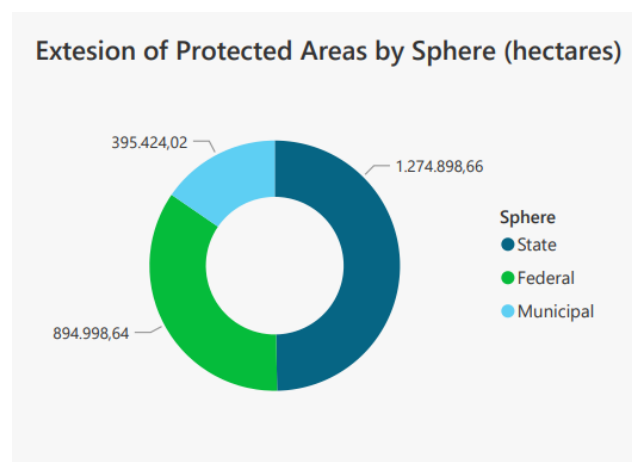


Figure 4. Graphics indicating the extension of Protected Areas by sphere (hectares).

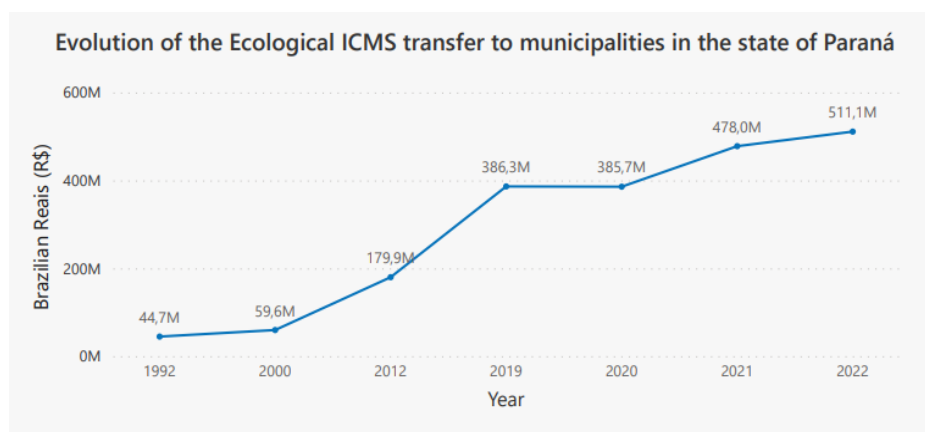


Figure 5. Graphics summarizing the evolution of the Ecological ICMS transfer to municipalities in the state of Paraná.

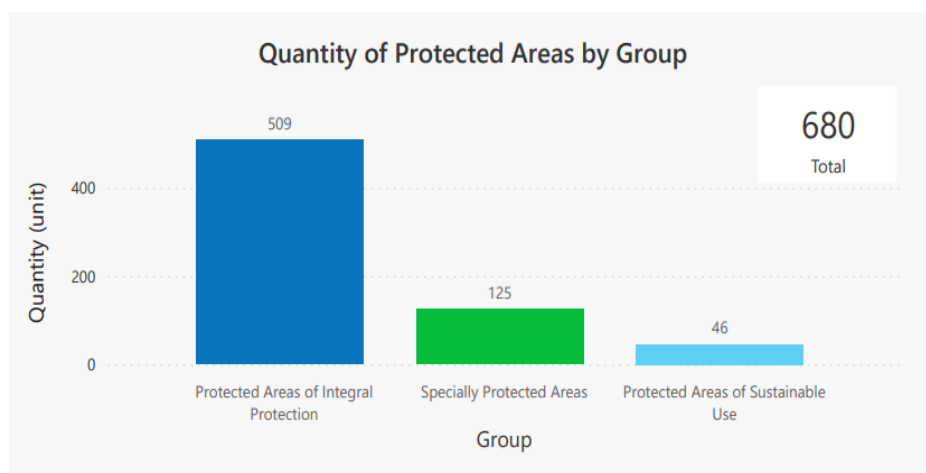


Figure 6. Graphics indicating the quantity of Protected Areas by group.

The categories of Federal, State and Municipal Protected Areas registered in the Ecological ICMS for Biodiversity are: Environmental Protection Area, Park, Ecological Station, Area of Relevant Ecological Interest, Forest, Natural Monument, Biological Reserve and Wildlife Refuge (Figure 7)

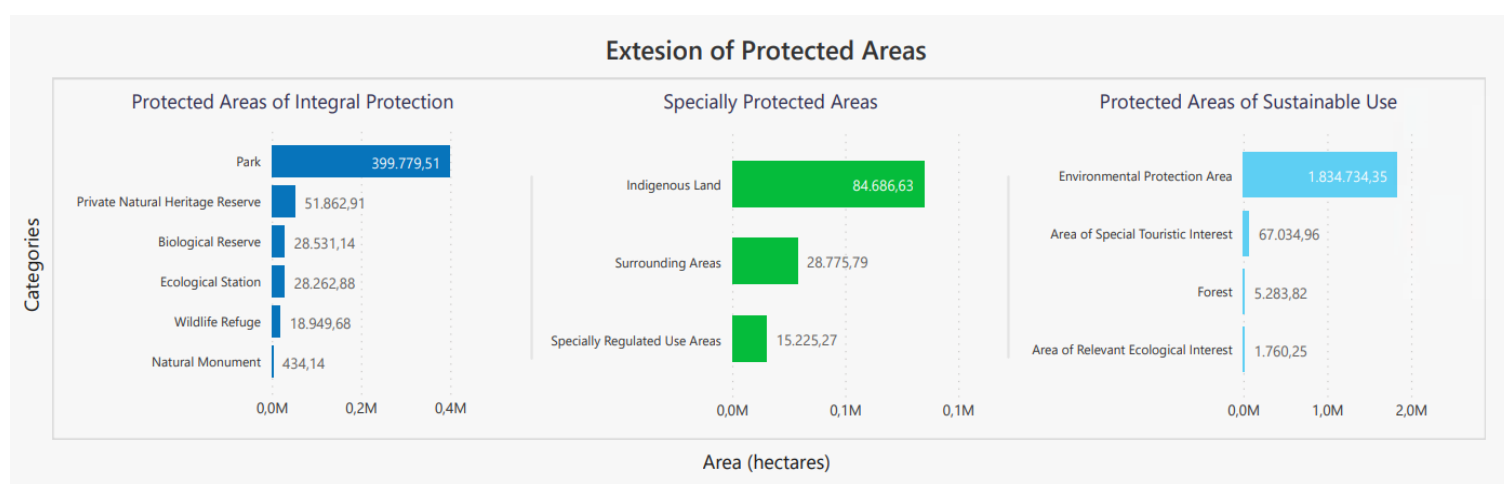


Figure 7. Graphics summarizing the evolution of Protected Areas in Paraná.

The Atlantic Forest is one of the most diverse biomes in the world. However, unfortunately, it is also one of the most devastated and threatened on the planet. Due to its characteristics of high biodiversity and rapid loss of vegetative cover, the Atlantic Forest is considered a biodiversity hotspot, being one of the 25 global areas of greatest interest in terms of conservation (GALINDO-LEAL; CÂMARA, 2005).

The Ecological ICMS is an efficient tool to protect this biome, increasing both the number and extent of Protected Areas, while promoting enhancements in environmental preservation. In addition to encompassing Protected Areas, this mechanism enables the implementation of specific actions in other Protected Areas, such as indigenous lands, legal forest reserves, riparian forests, other permanent preservation areas, special sites, “faxinais”³ and other forests that allow the connection between vegetative fragments near Protected Areas. One of the most promising contributions of the Ecological ICMS is the promotion of biodiversity corridors, networks and conservation mosaics. These management models aim to connect vegetative fragments, creating favorable conditions for wildlife reproduction and recolonization. Thus, the Ecological ICMS has demonstrated to be an important tool to stimulate environmental conservation in a broader and more integrated manner (LOUREIRO, 2002).

3. Faxinais are traditional communities present in the state of Paraná that are characterized by: a) free-range animal production on land in common use; b) family-based agricultural production and subsistence food polyculture for consumption and sale; c) low-impact forest extraction combined with biodiversity conservation; d) their own culture, bonds of community solidarity and preservation of their traditions and social practices (Law on Faxinais - N° 15673 - 13/11/20).

The biodiversity of the state of Paraná is predominantly represented by Protected Areas. These areas concentrate opportunities to drive the process of conservation and protection of the scarce natural remnants, mainly through the establishment of connectivity between preserved fragments (LOUREIRO, 2002).

“Bringing this subject to public debate is to remember the importance of tools and instruments for the protection of the environment. The Ecological ICMS is a program that combines quality of life with economic, social and environmental development. This is a tool that makes the difference” - Rafael Andreguetto, Director of Natural Heritage.

SOCIOECONOMIC IMPACTS

The first Ecological ICMS transfers were distributed in 1992, totaling R\$ 44,709,977.06, benefiting municipalities that had Protected Areas and public water supply sources. In the year 2001 this value increased to R\$59,618,264.49 (LOUREIRO, 2002).

In 2021, the total transferred amount was R\$ 477,985,067.96, and in 2022, this number reached R\$ 511,096,935.80 (around 94,124,665 euros). From 1992 to 2022, the percentage increase in transfers was 1043%. This variation is an indicator of how significant and positive this financial impact can be on municipality revenues, especially for those that shelter Protected Areas and public water supply sources.

In the year 2022, Municipal Protected Areas were responsible for the highest collection of Ecological ICMS for Biodiversity, generating a transfer of R\$94,543,920.69, followed by Federal Protected Areas (R\$83,587,554.73) and State Protected Areas (R\$73,468,182.06). Municipal Protected Areas have a higher Basic Conservation Factor than the others, which is why their transfers are higher. This serves as a way to incentivize the creation and management of Protected Areas by municipalities.

According to Loureiro (2002), between 1992 and 2000, there was an increase of 97% in the number of municipalities benefiting from the Ecological ICMS

in Paraná, rising from 112 to 221 municipalities favored by this transfer since its implementation (the state is composed of 399 municipalities). In the year 2022, this number rose to 270 benefited municipalities.

In an article by Nascimento et al. (2011), it was found that approximately 29% of the total municipalities in Paraná had over 5.1% of their ICMS revenue coming from ecological criteria. In this way, the environmental factor became the main source of funding for around 116 municipalities in Paraná.

Furthermore, the increase in resource allocation is accompanied by active community participation, benefiting from environmental education projects, restoration of degraded areas and research conducted within the Protected Areas. Between 2021 and the present year, 2023, around 113 studies have been conducted in State Protected Areas in Paraná. These studies encompass various fields, including fauna, flora, hydrology, geology and many others.

Hence, the qualitative criteria incorporated into the Ecological ICMS play a fundamental role in promoting sustainability. These criteria aim at preserving biodiversity and ecosystems, as well as fostering harmonious integration between humans and nature through the development of various forms of voluntary work (NASCIMENTO et

al., 2011).

Moreover, according to Article 167, Section IV, of the Constitution of the Federative Republic of Brazil of 1988, revenues derived from the Ecological ICMS can be applied in different sectors, without specific obligatory allocation, allowing the municipality to decide in which activities the funds will be invested. This is why this benefit is so important for certain municipalities, sometimes serving as their primary source of revenue and contributing to investments in education, healthcare, infrastructure, culture and other pertinent areas.

Finally, to maximize the effectiveness of Ecological ICMS, it is essential that public administrators are engaged and that there is a robust, long-term institutional program focused on biodiversity

conservation. This requires significant investments in human and financial resources, as well as strengthened oversight.

These elements, combined with political determination and societal engagement, will result in remarkable socio-environmental advancements. The Ecological ICMS, as a simplified solution, plays a pivotal role in promoting the expansion of environmental preservation areas and enabling the establishment of mechanisms for improved environmental management. With a comprehensive strategy and the commitment of all involved parties, far-reaching positive outcomes can be achieved for sustainability and environmental protection (ROSSI; MARTINEZ; NOSSA, 2011).

POLICY IMPACTS

The implementation of Ecological ICMS has had far-reaching policy impacts, reshaping the legal and regulatory landscape in the region to address environmental conservation and fiscal resource allocation.

Currently, two main regulatory frameworks govern the Ecological ICMS:

1 *IAP Ordinance No. 263/98 standardized the procedures related to the compliance with the Ecological ICMS for Biodiversity:*

It establishes, organizes and updates the State Registry of Protected Areas (CEUC);

It defines concepts, parameters and procedures for calculating Biodiversity Conservation Coefficients and Municipal Environmental Indices by Protected Areas;

It establishes procedures for publication, democratization of information, planning, management, evaluation and capacity building, standardizing the compliance with State Supplementary Laws No. 059/91 and No. 067/93.



2 *SUDERHSA Ordinance No. 044/1996 establishes concepts, parameters, procedures and technical criteria for calculating the environmental factor related to municipalities benefiting from the presence of public water supply sources.*

Additionally, the other laws and regulations that frame Ecological ICMS are the following:

Article 158, Section IV, Federal Constitution:

- 25% of the ICMS collected by the states will be transferred to their municipalities;
- A maximum of 25% is distributed according to state legislation.

Federal Complementary Law 63/1990:

This law outlines criteria and deadlines for distributing tax revenue shares to municipalities, collected by the States, and includes various related measures.

State Law 9.491/1990:

Defines criteria for determining the revenue sharing rates of municipalities from ICMS collections.

State Complementary Law No. 249/22:

Environmental criteria for distributing 5% of the ICMS portion in the state of Paraná, with 50% allocated to water supply sources and the remaining 50% designated for Protected Areas. Specific criteria for allocation are also established.

State Decree 974/1991:

Definition of the technical criteria for allocation of resources referred to in Article 5 of Complementary Law No. 59 of October 1, 1991.

State Complementary Law 67/1993:

Amends Article 2 of Complementary Law No. 59 of October 1, 1991.

State Decree 2.124/1993:

Provides for the inclusion of the paragraph in item II of paragraph 1 of Article 3 of Decree No. 974 of December 9, 1991, with the wording mentioned in this decree.

State Decree 2.791/1996:

- Regulates Law 059/91 of the Ecological ICMS;
- Provides technical criteria for distribution, indicators and calculation formulas.

Complementary Law 228/2020:

Amends provisions of Complementary Law No. 59 of October 1, 1991.

Informative Note 01/2022:

Guidance on the scope of action of state and municipal agencies in the Ecological ICMS Program.

State Decree 4.262/1994:

Creation of the management category of Protected Area called Private Natural Heritage Reserve in the territory of the state of Paraná.

State Decree 3.446/1997:

Creation of Special Areas for Regulated Use - ARESUR in the state of Paraná.

State Decree 1529/2007:

This legislation introduces the State Statute for Supporting Biodiversity Conservation on Private Lands in Paraná, updates procedures for establishing Private Natural Heritage Reserves (RPPN) and includes additional measures.

IAP Ordinance No. 11/2012:

Establishes concepts for certain categories of protected area management as stipulated by Federal Law No. 9958/2000.

IAT Ordinance 231/2020:

Amends and repeals parts of the text of IAP Ordinance 263/1998.

IAT Ordinance 186/2022:

- Amends IAP Ordinance 263/1998;
- Georeferencing and documentation requirements;
- CEUC Electronic System;
- Repeal of area limit for UCM repass calculation;
- Repeal of municipal area acquisition bonuses.

IAT Ordinance 204/2022:

Inserts a sole paragraph into Article 1 of SUDERHSA Ordinance No. 044/96.

Moreover, internationally, the Ecological ICMS contributes to the global biodiversity treaties and agendas, like the Aichi Biodiversity Targets (targets 1, 3, 11 and 14) and the Kunming-Montreal Biodiversity Framework (targets 2, 3, 11, 14, 19 and 21). It also contributes to the Sustainable Development Goals (goals 6, 11 and 13).

PARTNERSHIPS

The Ecological ICMS program works because different sectors of the IAT, regional offices, state secretariats, and municipalities, as well as federal entities like FUNAI and ICMBio, work together.

Instituto Água e Terra Headquarters: It is the organization responsible for verifying data and calculations related to the Ecological ICMS, with the Directorate of Natural Heritage (DIPAN) in charge of the component related to Protected Areas and the Directorate of Environmental Sanitation and Water Resources (DISAR) overseeing the component of water supply sources. The main activities carried out by the IAT include:

- Establishing regulations and defining calculation parameters
- Managing the registry of Protected Areas and permits for the right to use water for public supply
- Calculating biodiversity and water source coefficients
- Forwarding environmental factors to the Secretariat of State for Sustainable Development and Tourism (SEDEST) and the Secretariat of State for Finance (SEFA)
- Providing municipalities with guidance on technical matters related to actions for better environmental and tax utilization of the project
- The IAT/Headquarters has the autonomy to conduct audits and perform technical verification of variables, parameters and computable coefficients used in calculations

Regional Offices/Local Branches of the IAT: Regional Offices of the IAT deal with:

- Application of the evaluation table in Protected Areas

- Inspection of areas submitted for registration in the Ecological ICMS for Biodiversity and water supply sources
- Technical inspection for the recognition of State Private Natural Heritage Reserves (RPPNs)

The Regional Office/Local Branch has autonomy for evaluating the areas and providing technical opinions that support Ecological ICMS registrations, following the principles established in the National System of Protected Areas (SNUC) and other relevant legislation related to Protected Areas and water supply sources.

Public Water Supply Companies: They focus on obtaining permits for the right to use water sources for public supply.

FUNAI and ICMBio: They focus on the management of protected areas and provision of baseline data for calculations.

Municipalities: Municipalities carry out the following activities:

- Maintenance and improvement of areas already registered in the Ecological ICMS
- Creation of Municipal Protected Areas Request of registration of new areas in the Ecological ICMS
- Promotion of the creation of State Private Natural Heritage Reserves (RPPNs)
- Support the management of State and Federal Protected Areas, Indigenous Lands, and Faxinais (traditional community land use system) areas

Municipalities have autonomy to conduct studies, mapping and define areas for the creation of municipal Protected Areas.



REPLICATION AND APPLICABILITY

To ensure the replicability of the project, it is essential that the regional government has a mechanism for intergovernmental fiscal transfers, through which public policies can be developed to ensure biodiversity conservation with well-defined criteria.

In Brazil, the Federal Constitution includes a provision in the Constitutional Tax System that allows the State to institute taxes initially for the primary purpose of revenue collection, i.e., to finance government activities. This is known as the fiscal function of taxes. However, based on this revenue base, it is possible to establish mechanisms that promote the transfer of resources for biodiversity conservation, provided there is an appropriate political and legal framework to support this initiative.

Paraná became known for its pioneering implementation of the Ecological ICMS, adopting criteria for Protected Areas and water supply sources.

The novelty of the Ecological ICMS Law in the field of Environment gained international recognition from the United Nations (UN), and it also received the Henry Ford Award for being considered one of the top ten projects in the world in the field of ecology (BRITO; MARQUES, 2017).

So far, 16 Brazilian states have been identified as using environmental criteria for the distribution of ICMS resources among municipalities.

São Paulo was the second state to implement the Ecological ICMS, allocating 0.5% of financial resources to municipalities with Protected Areas and another 0.5% to municipalities with “water reservoirs for electricity generation.” (Laws nº 9.146 de 09.03.95, nº 8.510 de 29.12.93 e nº 3.201 de 23.12.81)

In addition to criteria related to Protected Areas, Minas Gerais includes others such as waste or sewage disposal and cultural heritage. The main innovation lies in the progressive level of implementation, where the percentages increase gradually over the years, minimizing the impacts on municipalities that previously relied mainly on value-added tax revenue. Furthermore, the distribution of the tax takes into account both quantitative and qualitative aspects, as established by Law No. 13.803 of 27.12.00.

In Rondônia, the exclusive criterion used is Protected Areas and other specially protected areas. The state's legislation stands out by imposing a reduction of Ecological ICMS on municipalities facing invasions, illegal exploitation or other violations in their Protected Areas. The value of this reduced ICMS is shared among municipalities that comply with the state's environmental legislation, as established by Decree No. 9.787 of 20.12.01, Complementary Law No. 147 of 15.01.96, and Complementary Law No. 115 of 14.06.94. Rondônia's Ecological ICMS is notably characterized by having a more compensatory purpose than in other states where the instrument was implemented. This is due to approximately 30% of the state's total area being considered protected, making compensation even more relevant for environmental conservation in the region.

Amapá adopts the sole criterion for redistributing the Ecological ICMS among municipalities: the existence of Protected Areas. Quantitative and qualitative criteria are analyzed following the calculation model of the state of Paraná (Law No. 322 of 23.12.96).

Pernambuco's proposal is considered to be comprehensive, now referred to as "Socio-Environmental ICMS," as it includes both ecological criteria for allocating waste and Protected Areas, as well as social criteria related to health and education (Decree No. 25.574 of 25.06.03, Law No. 12.206 of 20.05.02, and Law No. 11.899 of 21.12.00).

In Tocantins, the criteria are all related to seeking solutions to environmental problems, including biodiversity conservation, support for indigenous nations, fire control, water conservation, providing clean water, sewage treatment, waste collection and disposal, structuring municipal environmental policies and budget allocation for addressing local environmental demands (Law No. 1.323 of 04.04.02 and Decree No. 1.666 of 26.12.02).

Established in 2007 by Law 5.100/2007, Ecological ICMS in Rio de Janeiro provides for the distribution of 2.5% to municipalities based on environmental conservation criteria. These resources are successively and progressively transferred, according to Article 2 of the mentioned Law.

Thus, it can be observed that the Ecological ICMS Law can be replicated according to the characteristics and needs of each state. These measures encourage environmental protection and the adoption of sustainable practices, making the Ecological ICMS an important tool for promoting biodiversity conservation and stimulating compliance with current environmental legislation. Discussions on this topic involve various social actors to preserve the participatory and democratic nature of the instrument.

In all states that have adopted this type of transfer, there have been considerable increases in the preservation of Protected Areas in their territories as well as municipalities, increasing their revenues and consequently contributing to environmental preservation.

Adapted from the text "The Importance of the Ecological ICMS as a Financial Compensation Instrument in the Application of the Protector-Receiver Principle" by Wilca et al., and the article "The Effect of Ecological ICMS in Brazilian States" by Bianca Celestino Santos and Rodolfo Santin Rodrigues.



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FOR MORE INFORMATION

For more information about this project, please visit
<https://www.iat.pr.gov.br/Pagina/ICMS-Ecologico-por-Biodiversidade>

You can also contact us at info@regions4.org to set up an informative meeting, solve doubts and get support in implementing similar projects.



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ABOUT

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