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Municipal sustainability in social, environmental and economic-financial trilogy: an analysis of the allocation of public resources in the municipality of Porto Firme/MG

Sustentabilidade municipal na trilogia social, ambiental e econômico-financeira: uma análise da alocação dos recursos públicos do município de Porto Firme/MG

Sostenibilidad municipal en trilogía social, ambiental y económico-financiera: un análisis de la asignación de recursos públicos en el municipio de Porto Firme/MG

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KEYWORDS
Municipal sustainability. Social indicators. IMRS.

Abstract: The emancipationist breakout from which Brazil went through throughout the 20th Century, brought discussions about whether or not the creation of small municipalities was sustainable. Economically, for the disadvantaged, emancipation generates unsustainable municipalities, with increased expenses in the administrations of the executive and legislative branches. For the favorable, it is an opportunity to meet the demands of the districts abandoned by the headquarters. Advantages and disadvantages can be expressed in socioeconomic indicators. The study aimed to analyze and describe the sustainability configuration of the municipality of Porto Firme/MG, based on the allocation of public resources in the dimensions of the Minas Gerais Social Responsibility Index (IMRS), considering the social, environmental and economic-financial perspectives (Triple Bottom Line - Sustainability Trip). Quantitatively, data collected at the City Hall, in the databases of the João Pinheiro Foundation (FJP), the State Court of Accounts of MG (TCE-MG) and the Human Development Atlas were used as secondary sources. Qualitatively, as primary sources, structured interviews were conducted with municipal managers in their respective areas of activity. Thus, the verification of resource allocations in the dimensions of the IMRS was carried out in the period from 2007 to 2019, a panorama of the municipal collection was drawn up, as well as a comparison between three social indicators (IMRS, IEGM, MHDI) of the municipality with five bordering cities. It was observed that the collection situation demonstrated great dependence on the transfer of resources from the Union and the State, as well as the need to intensify forecasting and planning in order to

improve resource allocations on the path of sustainable development.

PALAVRAS-CHAVE
Sustentabilidade municipal.
Indicadores sociais.
IMRS.

Resumo: *O surto emancipacionista pelo qual passou o Brasil no século XX, trouxe discussões sobre ser ou não sustentável a criação de pequenos municípios. Economicamente, para os desfavoráveis, a emancipação gera municípios insustentáveis, com aumento das despesas nas administrações dos poderes executivo e legislativo. Para os favoráveis é uma oportunidade de atender as reinvindicações dos distritos abandonados pela sede. Vantagens e desvantagens podem estar expressas em indicadores socioeconômicos. O estudo teve por objetivo analisar e descrever a configuração da sustentabilidade do município de Porto Firme–MG, com base na alocação dos recursos públicos nas dimensões do Índice Mineiro de Responsabilidade social – IMRS, considerando as perspectivas social, ambiental e econômico-financeira (Triple Bottom Line -Tripé da Sustentabilidade). Quantitativamente, utilizou-se como fontes secundárias os dados coletados na Prefeitura Municipal, nas bases de dados da Fundação João Pinheiro (FJP), do Tribunal de Contas de Estado de MG (TCE-MG) e do Atlas de Desenvolvimento Humano. Qualitativamente, como fontes primárias, foram realizadas entrevistas estruturadas com os gestores municipais nas respectivas áreas de atuação. Procedeu-se assim a verificação das alocações dos recursos nas dimensões do IMRS no período de 2007 a 2019, foi traçado um panorama da arrecadação municipal, bem como foi apresentado um comparativo entre três indicadores sociais (IMRS, IEGM, IDHM) do município com cinco cidades limítrofes. Observou-se que a situação da arrecadação demonstrou forte dependência da transferência de recursos da União e do Estado, assim como a necessidade de intensificar a previsão e planejamento visando aperfeiçoar as alocações de recursos no caminho do desenvolvimento sustentável.*

PALABRAS CLAVE
Sostenibilidad municipal.
Indicadores sociales.
IMRS.

Resumen: *La oleada emancipacionista atravesada por Brasil a lo largo del siglo XX, provocó discusiones sobre si la creación de pequeños municipios era sostenible o no. Económicamente, para los desfavorecidos, la emancipación genera municipios insostenibles, con mayores gastos en las administraciones de los poderes ejecutivo y legislativo. Para los favorables, es una oportunidad para atender las demandas de los barrios abandonados por la sede. Las ventajas y desventajas se pueden expresar en indicadores socioeconómicos. El estudio tuvo como objetivo analizar y describir la configuración de sostenibilidad del municipio de Porto Firme-MG, a partir de la asignación de recursos públicos en las dimensiones del Índice de Responsabilidad Social de Minas Gerais - IMRS, considerando las perspectivas social, ambiental y económico-financiera (Triple Conclusión: viaje a la sostenibilidad). Cuantitativamente, se utilizaron como fuentes secundarias los datos recolectados en el Ayuntamiento, en las bases de datos de la Fundación João Pinheiro (FJP), el Tribunal de Cuentas del Estado de MG (TCE-MG) y el Atlas de Desarrollo Humano. Cualitativamente, como fuentes primarias, se realizaron entrevistas estructuradas con los administradores municipales en sus respectivas áreas de actividad. Así, la verificación de las asignaciones de recursos en las dimensiones del IMRS se realizó en el período de 2007 a 2019, se elaboró un panorama de la recaudación municipal, así como una comparación entre tres indicadores sociales (IMRS, IEGM, IDHM) del municipio con cinco ciudades limítrofes. Se observó que la situación de la recaudación evidenciaba una gran dependencia de la transferencia de recursos de la Unión y el Estado, así como la necesidad de intensificar la previsión y planificación para mejorar la asignación de recursos en el camino del desarrollo sostenible.*

Introduction

Recent history reveals that Brazil has undergone a process of political-administrative division, materialized by the fragmentation of its municipal network. The creation of a municipality, if unviable, means the creation of a city that is also unviable or unsustainable. There is no way to separate the part from the whole, since all the defects of origin are exacerbated and concentrated in cities, especially if we consider that most of the Brazilian population lives in urban centers, the seats of municipalities (Carvalho, 2002).

Cities, in an evolutionary process towards balanced and healthy development, require a special focus from municipal management in the search for positive and constant results (Sarubbi & Moraes, 2018). To this end, various tools are used in the context of municipal management, the purpose of which is to carry out assessments and mitigate impacts in the pursuit of sustainable development. It is therefore necessary to generate knowledge and disseminate information, in addition to evaluating the performance of cities towards sustainability (Souza et al., 2019).

Municipal sustainability is defined as the capacity of a municipality to provide, to seek improvements in various areas, to reduce degradation through human action. It seeks the reduction of inequality and social exclusion provides essential measures for the well-being of the population such as: health, education, public safety, basic sanitation and environment, among others, and the creation of public policies to face current and future challenges. To this end, there is a need for fiscal sustainability. The municipality must have a balance between its income and expenditure, in the pursuit of its development (Guimarães Neto & Cunha, 2018).

Development can be conceptualized as a process of enriching countries and their inhabitants, related to social, political and sustainable growth. Development guarantees profit and investment, but it doesn't always guarantee equality to a population or nation (Kirst & Lang, 2019).

Thus, strengthening municipal management processes is fundamental to recovering and maintaining the quality of life in cities as well as their inhabitants, preserving the conditions for Sustainability. At the same time, it allows them to develop, which makes it essential to have tools capable of helping the managers incorporate sustainable development practices in the society (Lopes, 2016; Gonzáles-Garcia et al., 2019).

In this sense, one of the ways of checking the efficiency of a municipality's policies and actions is based on the development of sustainability indicators. These indicators make it possible to analyze possible shortcomings and suggest improvements, as well as helping public authorities make decisions and formulate public policies. It is an important tool for municipal management planning (Sarubbi & Moraes, 2018).

According to Gavira, Moraes and Dadario (2017), municipal indicators allow for better application of legislation, improved information by increasing the knowledge base, better investments and integration with policies in other areas. This highlights the importance of using sustainability indicators as planning and management tools, both because of their ability to transmit information and because of their power to influence.

Social indicators have been used in the literature to support public policies and government planning, with the aim of broadening knowledge and fostering discussions on human, social and environmental development (Jannuzzi, 2009; Oliveira, 2013).

In this respect, these indicators make it possible to recognize whether progress and improvements have been made in the administration, as well as to identify the need for changes during the management of public affairs. This demonstrates the importance of these instruments (Santos & Ferreira, 2017). To understand the socioeconomic characteristics or socioeconomic development of municipalities, socioeconomic indicators are used, such as the Municipal Human Development Index (IDHM), the Municipal Gross Domestic Product (GDP-M)

and, in the case of the State of Minas Gerais, the Index Social Responsibility Mining (IMRS) (FJP, 2019).

In the municipality under study, the aim is to analyze whether the spending/investment allocated to its budget structure between 2007 and 2019 has led the public administration to achieve advances and improvements that point to sustainability from the social, environmental and economic-financial perspectives, using the IMRS as a parameter. This index is an important tool for assessing the development of municipalities in Minas Gerais.

Given the context presented, the aim was to answer the following research problem: How is the sustainability of the municipality of Porto Firme - MG, based on the analysis of the allocation of public resources in the dimensions of the Minas Gerais Social Responsibility Index - IMRS?

In this way, the municipal sustainability indicator which is the subject of this study, although it has already been covered in the literature, is evolving as it uses a relatively long study period (2007 to 2019). Its contribution to the academia consists of enlarging the discussions about the municipal public policies based on the income and public expenditure, aiming to achieve sustainable development based on the allocation of public resources in the IMRS dimensions

This article is part of the master's dissertation developed and defended in 2020, which aims to analyze and describe the sustainability configuration of the municipality of Porto Firme/MG, based on the allocation of public resources in the dimensions of the Minas Gerais Social Responsibility Index (IMRS), considering the social, environmental and economic-financial perspectives.

In addition to the introduction, this study presents the theoretical elements of the research: Sustainability and sustainable development; Sustainability indicators; and the Minas Gerais Social Responsibility Index (MGSRI) from a social, environmental and economic-financial perspective; Constitutional transfers; Planning in public administration. The following sections present the methodological elements of the research, the results and discussions and the final considerations.

Theoretical elements of the research

Sustainability and sustainable development

Sustainability, being a dense construct, is not easy to define. This lack of precision in the concept highlights the absence of a theoretical reference framework capable of systematically relating the different contributions of specific resources and fields of knowledge (Rattner, 1999; Temponi et al., 2018).

However, according to Fenker and Ferreira (2011), the economy developed a concept of sustainability called Triple Bottom Line or Sustainability tripod. It covers the social, environmental and economic and financial perspectives, so that these three areas can interact. The proposal is to maximize the needs of each one of them: maximum profit and social, environmental and economic return.

Sustainable Development, being a means by which we aim to achieve Sustainability, in the generic concept, involves "meeting the needs of the present generation without compromising the ability of future generations to meet their own needs" referred to in (CMMAD - World Commission on Environment and Development, created by the UN). This concept came up in 1987 with the report “Our Common Future”, from the United Nations (UN). Also known as the Brundtland Report, elaborated by the CMMAD in 1987, it mentions the incompatibility between sustainable development and the patterns of production and consumption. It mentions the incompatibility between sustainable development and production and consumption patterns. This model suggests reconciling economic growth with environmental and social issues (CMMAD, 1991).

Sustainability indicators

According to Lopes (2016), one of the main issues discussed in the academic and governmental environment is the concern with sustainability in cities, municipalities and countries. Social, environmental, political and economic problems that are incompatible with the concepts established by sustainable development are being accentuated. As a result, sustainability indicators such as sanitation services, public safety, education, health, mobility and accessibility, among others, become useful tools for understanding the processes related to this development model, contributing to the planning and management of sustainable actions among the corresponding actors.

Since the concept of Sustainability is defined abstractly, it is common to use an evaluation framework that seeks to achieve a parameter through a system of indicators. In this way, it consolidates the objectives of public policies related to the issue as a decision-making tool, as well as assessing and managing the actual status of sustainability in cities (Valentin & Spangenberg, 2000). However, there are many issues in defining, selecting, measuring and evaluating or monitoring sustainability in order to develop a system of indicators (Lützkendorf & Balouktsi, 2017).

Florissi (2009) believes that, although there are many indicators, one can assume that they set a standard, either for assessing the state of reality, through diagnosis or monitoring that subsidizes strategies and priorities, or for evaluating the performance of policies and programs. These indicators measure the achievement of objectives (effectiveness), the use of resources (efficiency) and the changes made (impact). For the author, this definition of the standard of the indicators is the first step for their construction.

For Rodrigues, Moreira and Colares (2016), the sustainability indicators are management and measurement tools which incorporate the dimensions of education, health, employment and income dimension of human development. They help municipal managers in the decision making in order to improve the best allocation of public resources. By interpreting these indicators, it is possible to assess the situation of each municipality in thematic areas, and thus make proposals for improving the quality of life of the population, with the MGSRI indicator being the subject of this study.

The Minas Gerais Social Responsibility Index (MGSRI)

The MGSRI was created by Law No. 14.172, of 15/01/2002, as amended by Law No. 15.011, of 15/01/2004, which assigned responsibility for its preparation to the João Pinheiro Foundation (JPF). It aims to portray the degree of development of the municipalities and regions in the state of Minas Gerais, assessing qualitatively aspects related to society, economy, infrastructure, public services, governance instruments, among other pertinent characteristics to the social responsibility of the three levels of government: municipal, state and federal. It provides Minas Gerais' leaders with information for planning public policies and allocating financial, material and human resources (JPF, 2019).

In order to do this, data which portrays the priorities of public policies and programs is collected, making it possible to assess the situation of municipalities and covering the dimensions of health, education, public safety, social vulnerability, the environment, sanitation as well as housing, culture, sport and leisure. Each dimension is subdivided into indicators which, after being transformed into indices, are aggregated to make up the index for their respective dimension. In this way, the MGSRI is the weighted average of the indices for each dimension, whose characterization ranges from 0 to 1 (JPF, 2019).

In view of the complex reality to be portrayed by social indices and indicators, the municipality is seen as a privileged space for investigating public policies, understanding it as a

living, delimited and socially constructed territory, where the current administrative and tax decentralization demands and makes available constant information pertinent to socio-demographic indicators, as demonstrated by the composition of the MGSRI (Junqueira, 2004).

Social perspective

The social perspective for this study encompasses the MGSRI in the following dimensions of health, education, public safety, social vulnerability, culture, sports and leisure, as described below:

Health – the Federal Constitution of 1988, Article 196 states that "health is everyone's right and the duty of the State, guaranteed through social and economic policies aimed at reducing the risk of disease and other illnesses and universal and equal access to actions and services for its promotion, protection and recovery" (Brasil, 1988).

For Brazilians, good health implies better living conditions and well-being, as well as affecting people's productivity and income.

The MGSRI database is made up of indicators organized according to three thematic areas: health status, access to and use of health services, subdivided into primary care and medica-hospital care and management. These indicators seek to portrait the conditions in which the population finds itself, in the municipality, at a given time, in terms of the objectives to be achieved by health policies (JPF, 2019).

Some studies used MGSRI indicators as a criterion for assessing the quality of health care in a population, either in terms of specific procedures or a network of services (Magalhães, 2015; Leal, 2017; Temponi et al., 2018).

Education – The education dimension in the assessment of social responsibility comes from the impact of improved educational conditions on other dimensions, such as improved prospects for increasing income, cultural development, environmental preservation and a drop in violence and crime.

A total of nine indicators were selected from this base to build the MGSRI Education sub-index, which sought to portray the educational situation in the municipality through the level of schooling of the population, access to the education system, the flow of students between school years and the quality of basic education (JPF, 2019). Some studies have used the education dimension of the MGSRI (Paula et al., 2015; Olher, 2018; Resende, 2019).

Public Safety - for Costa and Lima (2014, p. 482), it is an expression that lacks a precise definition. It is a concept that is constructed empirically, based on the way in which the various federal entities and different organizations "act directly or indirectly in the search for solutions to problems related to the maintenance of order, crime control and the prevention of violence".

The dimension index, MGSRI – Public Safety from the JPF (2019), sought to capture crime problems at the local level, the resources available for crime management and also how municipal authorities have been involved in these policies. The following indicators were selected for the index: intentional homicides recorded by police organizations, violent crimes against property recorded by police organizations, number of inhabitants per military police officer and percentage of the municipal budget spent on public safety (JPF, 2019). Some studies have used the public safety dimension of the MGSRI (Ervilha et al., 2015; Albuquerque & Karruz, 2018; Anjos et al., 2019).

Social Vulnerability – The Social Assistance Policy encompasses the concepts of vulnerability defined as broad plus the intersubjectivity established by relationships (affective, cultural, racial, gender, economic, among others), linked to the social structure and citizenship rights. The purpose of this policy is to respond to the demands for prevention and protection of individuals, groups and/or families, in relation to problems, risks or damages related to specific conditions or situations, survival and/or citizenship (JPF, 2019).

The characterization of this scenario is expressed in the MGSRI database by a set of indicators from the Social Assistance dimension, whose organization considered the following sub-dimensions: situation of vulnerability, care, institutionalization, human resources and spending (JPF, 2019). Below are some studies that sought to identify conditions of social vulnerability in different areas using the MGSRI (Santos et al., 2015; Matta et al., 2016; Gomes, 2018).

Culture, Sport and Leisure - Culture is conceptualized as any symbolic creation or human manifestation and its interrelationship with the environment that integrates a broad system of meanings, that is, in addition to buildings, works, objects and documents, forms of expression and ways of creating, doing and living, as well as the scientific, artistic and technological creations of the different social groups that make up Brazilian society. With regard to sport, the 1988 Federal Constitution defined the state's duty to promote formal and non-formal sports practices and recognized sport as a right for all. Thus, leisure was included in the list of social rights in the 1988 Federal Constitution in its sixth article (Brasil, 1988).

The dimension of the MGSRI – Culture, Sport and Leisure has the following indicators: existence of libraries, plurality of cultural facilities (except libraries), plurality of artistic and cultural groups, existence of a music band, score for the management and preservation of cultural heritage, score for the execution of sports programs, percentage of students in schools that have sports courts (JPF, 2019). Some studies have portrayed this dimension (Nunes & Oliveira, 2015; Azara, Pessanha, & Barbosa Neto, 2017; Costa et al., 2019).

Environmental perspective

The environmental perspective for this study encompasses the MGSRI dimension of environment, sanitation and housing together. Basic sanitation is one of the basic components of environmental health and its essential nature was recognized even before the Industrial Revolution, when sanitation initiatives were identified as an important instrument for preventing human health problems. Regarding the environment, the United Nations Conference, which took place in Stockholm in 1972, defined the environment as a set of physical, chemical, biological and social components capable of causing direct or indirect effects, in a short or long term, on living beings and human activities. The way a municipality relates to the environment and its natural resources is very important for living conditions and, above all, for sustainable development (Heller, 1998).

The basic sanitation and housing dimension was treated together with the environment dimension to make up the MGSRI sub-index - environment, sanitation and housing (FJP, 2019). Some studies seek social, economic and environmental quality, through actions and evaluations of indicators in programs that provide an assessment of efficiency, efficacy and effectiveness, the purpose of which is social well-being and quality of life for citizens (Conrado, 2015; Sgarbi, 2016; Siqueira et al., 2018; Magalhães, Wakim & Gomes, 2019).

Economic and financial perspective

According to Costa et al. (2015), the provision of goods and services to the population becomes relevant when analyzing the efficiency of the management of the public resources in the sphere of government spending. For Draibe (2006), the social policy is characterized as a premise for economic development, since it provides well-being and improves the quality of life of citizens.

For Sen (2000), the Welfare State and development can go hand in hand with mutual benefits, since the State is essential for a country's development, being the economic agent that will guarantee the condition of citizen for all, providing the necessary freedoms for social well-being. For the author, development goes beyond

economic growth and wealth. It also encompasses the income distribution, the life quality and the freedom of the population.

Colman and Nixson (1985) understand that the development is the improving desirable aspects for a society. However, there is not always agreement on which perspectives these are, leading to the conclusion that the desires and needs of a population involve a certain value judgment. Souza (1999) says that the economic development is characterized by sustained growth, outstripping the pace of population growth, and encompasses structural transformations associated with improved economic and social indicators. This phenomenon is of a long-term nature, resulting in the strengthening of the national economy, the expansion of the sphere of the market economy and a general increase in productivity.

In this sense, a number of studies have been carried out aiming at sustainable economic development using social indicators combined with economic and financial factors (Ferreira, 2015; Gomes, 2018; Guimarães Neto & Cunha, 2018)

Constitutional transfers

The 1988 constitutional reform led to fiscal decentralization, when states and municipalities were given greater political, legislative and financial autonomy, with an increase in their powers and responsibilities. As far as financial autonomy is concerned, the attribution of distinct tax competencies to these entities made them relatively independent, considering the collection from their own sources (Nunes, Garcia, & Ferreira, 2018).

The Constitution, in turn, ensured the partial tax capacity of federal entities, especially municipalities, since, in addition to participating in the tax revenues of the Union and the State in which they are located, there is the alternative of generating their own revenues (Corbari, 2008; Bernardi, 2012). Partial decentralization in Brazil aimed, among other measures, at greater distribution of resources between the federative entities, but it did not guarantee an improvement in the levels of inequality between the country's states and municipalities (Costa, 2012).

As a result, the reality experienced by municipalities is adverse. Most municipalities have a low fiscal effort, which implies insufficient revenue to fulfill their basic functions and competencies. This creates dependency and a consequent increase in intergovernmental transfers (Leroy et al., 2017).

This scenario is experienced in all nations, where the level of revenue is higher at the broader level and lower at the local level, making it necessary to transfer resources from the central level to the sub-national governments. These transfers, in addition to correcting the vertical imbalance in the Federation, i.e. the differences between attributions and revenues at the different levels of government, represent an opportunity to mitigate regional disparities, since the territory of a nation is rarely homogeneous from an economic and social point of view (Baião, Cunha, & Souza, 2017).

Municipalities have the power to impose taxes on urban property (ITUP - IPTU), the ***inter vivos*** transfer of real estate (IVTRE - ITBI) and on the provision of services of any kind (ISS), as well as fees and contributions for which they are responsible, in addition to intergovernmental transfers (Brasil, 1988).

The institutional relationships between the union, states and municipalities are complex. The release of funds for the budget execution of infrastructure projects such as: education, health, social development, housing, among other examples, derives from the Federal Power. Municipalities have low tax collection power and therefore have to constantly rely on the federal sphere to make up for their budget deficits and guarantee the implementation of projects to improve public administration at the municipal level, with the Municipal Participation Fund (MPF - FPM) being a diffuser of this mechanics of transfers (Arretche, 2012; Kerbauy, 2014).

The MPF is a mechanism for transferring

public funds from the Federal Government and its main purpose is to meet the needs and supplement the budgets of municipalities. This transfer of resources is redistributive in nature, linked to transfers from Income Tax (IT - IR) and the tax on industrialized products (TIP - IPI). According to the Controladoria Geral da União (General Controller of the Union Office) (GCUO - CGU), the MPF is an irrevocable and non-transferable right to maintain the balance of public accounts throughout the year.

However, these constitutional transfers, according to the EC nº 29/2000, regulated in 2012 by the Complementary Law Number 141, defines that the municipalities must allocate at least 15% of their tax revenues and transfers in health actions. Similarly, according to article 212 of the Federal Constitution, municipalities must spend at least 25% of their revenue from taxes and tax transfers on the maintenance and development of education.

Planning in public administration

Duarte (2011, p. 26) defined planning as "the set of measures taken to achieve the desired objectives, taking into account the available resources and the external factors that may influence this process". In this way, planning takes into consideration the tendencies as well as the natural propensities that can lead to their full development. Moreover, the act of planning establishes the rules of land occupation, defines the municipality's main strategies and policies and spells out the restrictions, prohibitions and limitations that must be observed in order to maintain and increase the quality of life for its municipalities (Rezende & Castor, 2006).

In any good administration the act of planning the actions is very important in order to obtain the best results. In public administration this practice is even more evident, since the resources come from the population. Thus, making good use of planning tools and carrying out actions in accordance with their precepts is of fundamental importance if the expected results are to be achieved. For Bernardi (2012) planning is not a casual act, but something thought out, reflected upon, a constant procedure that has rules and regulations to be followed in order to reach the desired goal. An example of that is what happens in public administration, which has to follow various bureaucratic procedures and specific legislations.

An example of this specificity is fiscal decentralization, which, since the 1988 Federal Constitution, has elevated municipalities to the category of federal entities, bringing, according to Corbari (2008), consequences for planning and fiscal balance, with a direct impact on the revenues and expenses of the federal entities. With regard to spending, the problem centers around the lack of a clear definition of the competencies and attributions of each government, since the decentralization of public responsibilities does not go hand in hand with the decentralization of resources. Social demands have increased and there is a shortage of resources for certain goods and services from the federal government, forcing state and municipal governments to take on these responsibilities by increasing their spending (Corbari, 2008).

For Costa (2008) fiscal decentralization can generate inefficiency in the different spheres of government due to poor distribution of resources, concentration of income in certain areas, regional imbalances, among others. The current transfer system in Brazil is characterized by the vertical flow of resources downwards, i.e. the federal government makes transfers to states and municipalities, and the states in turn transfer resources to their municipalities. For Tristão (2003) these transfers are relevant due to the financial imbalances between income and expenditure, a consequence of the different degrees of economic development between the country's regions and natural geographical aspects that benefit certain localities to the detriment of others.

From this context, the Brazilian scenario was marked by a growing debt trajectory, greater pressure on public spending and responsibility in

fiscal management. Among the structural adjustment measures adopted by the government is Complementary Law 101, enacted on May 4, 2000, known as the Fiscal Responsibility Law (FRL - LRF). This law aims to regulate the management of public finances at all levels of government, establishing limits for spending on personnel, revenue waivers, social security and other costs. (Santana, 2017).

Methodological elements of the research

This study is characterized as documentary, descriptive and explanatory, with a quantitative and qualitative approach, and the method used is a case study. The unit of analysis in question is the Porto Firme City Hall, in the state of Minas Gerais, MG, Brazil, with the planning and budget execution instruments (multi-annual plan, budget guidelines law and program budgets) as well as the annual accounts analyzed by the Minas Gerais State Court of Auditors and approved by the City Council as the unit of observation.

Information was collected from the database and physical archives of Porto Firme City Hall in Minas Gerais, from the João Pinheiro Foundation's database on the MGSRI for the municipality of Porto Firme, as well as MGSRI data from neighboring municipalities. We also used the database of the Minas Gerais Court of Auditors (TCE-MG), to learn about and use the Municipal Management Effectiveness Index (IEGM), and the database of the Atlas of Human Development, responsible for the Municipal Human Development Index (MHDI - IDHM), the latter used in this study for comparative purposes only.

In the quantitative approach, the items that cover the social, environmental and economic-financial trilogy (Triple Bottom Line) were analyzed. The social perspective was represented by budget items that include spending or investments in the MGSRI dimensions of health, education, public safety, vulnerability, culture, sport and leisure. The environmental perspective was represented by the items that include spending or investments in the MGSRI dimension of the environment, sanitation and housing. Finally, in the economic and financial perspective, we used the items that include expenses or investments that were not included in the previous dimensions of the IMRS, because they are not currently part of the index base, namely: the expenses of the Porto Firme City Council, cabinet funds; advisory services, the Administration Secretariat, the Finance Secretariat and the Construction Secretariat.

In this way, all the municipality's revenue and expenditure variables were covered, and all the information was extracted from the municipality's budget planning and execution instruments (multi-annual plan, budget guidelines law and program budgets), as well as from the accounts already analyzed by the Minas Gerais State Court of Auditors (TCE-MG) and approved by the Municipal Council. Thus, with the data resulting from the documentary research, it was possible to carry out the proposed comparative analyses together with the IMRS indicators, available on the João Pinheiro Foundation website.

In the qualitative approach, a content analysis was carried out of the data identified through the interviews carried out in comparison with the data elucidated in the quantitative research. Therefore, the findings of the quantitative research were further developed in the qualitative research, enabling a greater understanding of the case under study. The interviews were recorded, with the authorization of the participants by signing the Informed Consent Form (ICF). Thus, each manager was named according to their area of responsibility, as follows: Health Manager (HM); Education Manager (EM); Public Safety Manager (PSM); Social Vulnerability Manager (SVM); Culture, Sport and Leisure Manager (CSLM); Environmental Manager (EM); and, Economic and Financial Manager (EFM).

Qualitative Comparative Analysis (QCA) was used. It is a methodological resource used to analyze cases in a comparative way, without

losing sight of their qualitative aspects, where the search is not for statistical generalization, but for generalization in time and space. Thus, QCA aims to combine some of the strengths of quantitative and qualitative research methods (Alves & Gonçalves, 2017).

Among the main points addressed in this study are the diagnosis and comparative analysis of indicator methodologies currently used as instruments to assist municipal management, and how their application helps and encourages development and good practices in municipalities, with a view to creating sustainable cities and/or societies.

Presentation and results discussion

This section describes and analyzes the results, taking into account the general objective of the study, which is to analyze and describe the sustainability configuration of the municipality of Porto Firme - MG, based on the allocation of public resources in the dimensions of the Minas Gerais Social Responsibility Index (MGSRI), considering the social, environmental and economic-financial perspectives.

Through the comparative analysis of the data, we specifically aimed to diagnose the sustainability situation of the municipality of Porto Firme, through the analysis of planning instruments, budget execution and accountability reports; analyze the allocation of resources in the municipality of Porto Firme - MG in the dimensions of the MGSRI within the social, environmental and economic-financial perspectives in the period from 2007 to 2019; identify the strengths and weaknesses of municipal management in the same period; compare Porto Firme's sustainability indicators with neighboring municipalities and analyze and describe the perception of Porto Firme's municipal managers about municipal sustainability in their area of operation.

The municipality of Porto Firme - MG, classified as a small municipality in the *Zona da Mata Mineira*, has an estimated population of 11,279 inhabitants, an area of 284.777 km2 and a population density of 36.58 inhabitants/km2 (IBGE, 2019). The average annual population growth rate between 2010 and 2017 was 0.964%. It is noteworthy that the municipality has a positive migration balance, meaning that, comparing the 2000 and 2010 census, it received more people than it expelled, thus generating a Net Migration Rate of 3.15 in 2010, showing how much the municipality's population has grown due to the migration process (JPF, 2019).

Correlation between municipal budget structure, MGSRI dimensions and sustainability prospects

The allocation of resources was aligned with the dimensions of the MGSRI and the prospects for sustainability, which were duly classified under the accounting headings or accounts that make up the municipality's budget structure (chart of accounts). To this end, this study developed the following correlation, as shown in Frame 1, by analyzing the budget planning and execution instruments, as well as the accountability reports.

Frame 1
Correlation between municipal budget structure, MGSRI dimensions and sustainability prospects

CORRELATION BETWEEN THE MUNICIPALITY'S BUDGET STRUCTURE (CHART OF ACCOUNTS) - DIMENSIONS OF THE MGSRI - PROSPECTS FOR SUSTAINABILITY		
PMPF Budget Structure (large groups)	MGSRI Dimensions	Sustainability Perpectives
01 – Porto Firme Town Hall	Economic and financial	Economic and financial
02 Porto Firme City Hall 02.01 - Office	Economic and financial	Economic and financial
02.02 – Consultancy	Economic and financial	Economic and financial
02.03 – Administration secretariat	Economic and financial	Economic and financial
02.03.01 – Partnership with the Military Police	Public Safety	Social

02.03.02 – Partnership with the Civil Police	Public Safety	Social
02.04 – Finance Secretariat	Economic and financial	Economic and financial
02.05 – Education Secretariat	Education	Social
02.06 – Culture, Sport, Leisure and Tourism Secretariat	Culture, Sport, Leisure and Tourism	Social
02.07 – Environment and Agriculture Secretariat	Sanitation, Environment and Housing	Environmental
02.08 – Health Municipal Secretariat	Health	Social
02.09 – Construction Secretariat	Economic and financial	Economic and financial
02.10 – Social Assistance Secretariat	Social Vulnerability	Social
02.11 – Municipal Social Assistance Fund	Social Vulnerability	Social
02.12 – Municipal Health Fund	Health	Social

The first column of Frame 1 refers to the budget structure (Chart of Accounts) of the Porto Firme Municipal Government (PMPF), where the items with the allocations of budget appropriations, already committed, settled and paid, have been grouped into the major groups of accounts (government departments and programs).

The second column includes the MGSRI dimensions used as parameters in this study, such as: health; education; public safety; social vulnerability; the environment, sanitation and housing; culture, sport and leisure; as well as the economic and financial dimension.

The third column refers to the perspectives of sustainability according to the economic concept known as the Triple Bottom Line, which covers the social, environmental and economic-financial areas. Based on the allocation of municipal public resources, the sustainability configuration was analyzed, taking into account the trilogy presented.

With regard to the economic and financial perspective, the items classified in the budget structure (chart of accounts) that were not included in the previous dimensions were used, as they are not currently part of the index base, namely: the expenses of the Porto Firme City Council, cabinet funds; advisory services, the Administration Department, the Finance Department and the Works Department. In this way, all the municipality's income and expenditure variables were covered. It should be noted that expenditure on personnel or human resources was included in the respective major group of the PMPF's budget structure (Chart of Accounts), program or department in which the civil servant works.

Overview of the evolution of resource allocations from 2007 to 2019

This section will outline the evolution of resource allocations in the municipality of Porto Firme - MG, from the perspective of sustainability between 2007 and 2019. For each perspective the strengths and weaknesses of the municipal management were analyzed in line with the data collected and the latest data on the profile of the municipality of Porto Firme – MG, published by the João Pinheiro Foundation in the MGSRI database. It will also describe the perception of Porto Firme's municipal managers regarding Sustainability in their activity area.

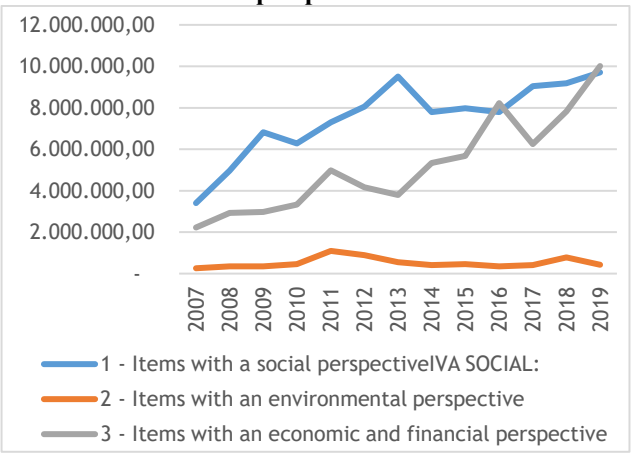
The allocative function refers to the allocation of resources by public management when private initiative is inefficient, or when the nature of the activity indicates the need for its presence. In turn, its distributive function is to improve the distribution of income within the concept of economic development. To this end, all available legal instruments are used, such as

taxes, subsidies, incentives, exemptions, transfers and others (Baião, Cruz, & Souza, 2017).

Figure 1 summarizes the three perspectives, social, environmental and economic-financial for the period from 2007 to 2019.

Figure 1

Evolution of the three perspectives from 2007 to 2019



Source: research data.

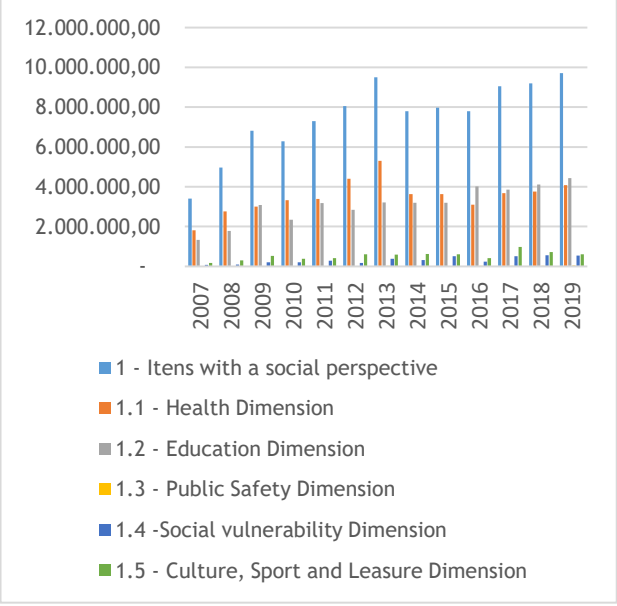
Social Perspective

In the period from 2007 to 2019, the sum of all the spending/investments in the MGSRI dimensions which correlate with the social perspective, there was an increase in resource allocations, in absolute values, of 285,43%. Taking into consideration that the RCL (Net Current Revenue – NCR), in the same period, increased by 342,53%, one notices a disproportion between the use of resources in this area and the NCR This data allows us to infer that, throughout the period, there was a shift in the allocation of resources from the social perspective to other government actions prioritized by the PMPF managers. Figure 2 shows the evolution of resource allocations in the municipality of Porto Firme from 2007 to 2019, from a social perspective.

The social perspective accounted for 57.83% of the NCR in 2007 and in 2019 it accounted for 48.19% of the NCR, making it possible to see that resources are being shifted to meet other budget priorities. Analyzing the separate allocations, over the period, in the MGSRI dimensions, based on the NCR , it was found that: the health dimension represented 30.95% in 2007 and in 2019 it represented 20.24%; the education dimension represented 22.52% in 2007 and in 2019, 21.99%; the public safety dimension 0.11% in 2007 and in 2019 it represented 0.19%; the social vulnerability dimension 1.28% in 2007 and in 2019 it represented 2.71%; the culture, sport and leisure dimension 2.96% in 2007 and in 2019 it represented 3.05%.

Figure 2

Evolution of resource allocations from the social perspective 2007/2019



Source: research data.

There was a decrease in the percentage of the NCR allocated to health and education, with an increase in public safety, social vulnerability and culture, sport and leisure. However, this shift in resources between the MGSRI dimensions did not make it impossible to meet the basic needs of the municipality' population. There was an increase in the number of consultations, exams and emergency procedures carried out over the period. There were 9,936 consultations in 2007 and 18,863 in 2019, an increase of 89.85%. As for the number of tests, 6,182 were carried out in 2007 and 16,161 in 2019, an increase of 161.42%. Regarding elective or emergency procedures, 1,060 were performed in 2007 and

1,925 in 2019, an increase of 81.60%.

With regard to the education dimension, the number of pupils enrolled in 2007 was 449 and in 2019 the municipality had 342 pupils, a drop of 23.83%. This scenario of a reduction in the number of students over the period is consistent with the age pyramid and the ageing of the population in the municipality of Porto Firme, as in most Brazilian cities, leading education managers to adopt the system of multi-grade classes or promote the nucleation of municipal schools, which consists of joining schools with a small number of students with another closer to the locality or hub.

As far as public safety dimension is concerned, one should note that the service is provided by the Detachment of the Military Police of Minas Gerais – PMMG, which belongs to the 3rd Platoon of the District of Piranga– MG, which in turn, is subordinate to the 65th PMMG Cia of Ouro Branco, MG, under the jurisdiction of the 31st Battalion of the PMMG of Conselheiro Lafaiete, MG. It should also be noted that the number of events recorded became available in the database in 2013, the year in which the municipality began to use the Social Defense Events Registry (SDER - REDS). In that first year, 1,643 events were recorded and in 2019, 4,001 events were recorded, an increase of 143.52%.

As for the social vulnerability dimension, Porto Firme City Hall provides assistance to people in vulnerable conditions through the Social Assistance Reference Center (CRAS), created in the municipality in 2013.Thus, the data has been made available since this year and starts with the number of 1,312 *Bolsa Família* beneficiaries, rising to 1,977 in 2019, representing a 50.69% increase in the granting of the benefit. The number of vulnerable people served rose from 348 in 2013 to 1,233 in 2019, representing an increase of 254.31%.

There has been an increase in assistance to families in situations of social vulnerability, both in the *Bolsa Família Program* and in other cases of social vulnerability (*NOTE: The Bolsa Família Program is a federal direct and indirect income transfer program that integrates social assistance, health, education and employment benefits for families living in poverty. In addition, the program offers tools for the socio-economic emancipation of families in situations of social vulnerability. In order to be eligible for this program, the families with children must make sure they are enrolled in school as well). The figures corroborate the increase in the percentage of the municipality's NCR allocated to this dimension, which in 2007 was 1.28%, rising to 2.71% in 2019.

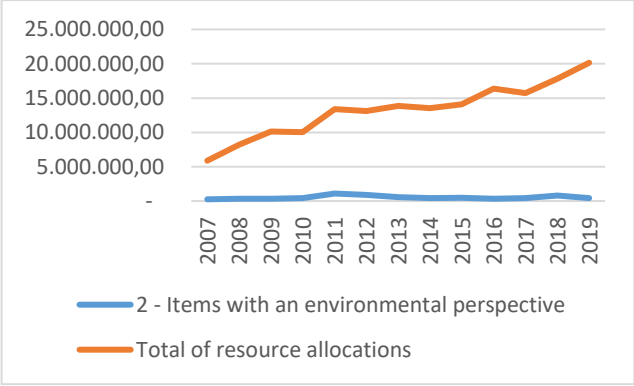
The Social Assistance Policy encompasses the concepts of vulnerability linked to the social structure and citizenship rights. Such policy has the purpose of responding to demands for the prevention and protection of individuals, groups and/or families from problems, risks or damage related to specific conditions or situations, survival and/or citizenship. Thus, this study aims to collaborate to the literature in the social vulnerability dimension and using the MGSRI as part of the analysis Thus, this study seeks to collaborate with the literature on the social vulnerability dimension and using MGSRI as part of the analysis (Santos, 2015; Matta et al., 2016; Gomes, 2018; FJP, 2019).

Environmental perspective

In the environmental perspective, from 2007 to 2019, there was an increase of 65.30% in resource allocations in absolute terms. Considering that the NCR, over the same period, grew by 342.53%, there is a disproportion between the use of resources from this perspective and the NCR. These data allow us to infer that, over the course of the period, there was a shift in resource allocations from the environmental perspective to other government actions prioritized by the PMPF managers, just as there was in the social perspective. Figure 3 shows an evolution of the resource allocations from the environmental perspective in relation to the NCR over the period 2007 to 2019.

Figure 3

Evolution of resource allocations from an environmental perspective 2007/2019



Source: research data.

The environmental perspective accounted for 4.37% of the NCR in 2007 and in 2019 it accounted for 2.11% of the NCR, and it can be seen not only in absolute figures, but also in the shift of resources to other budget priorities.

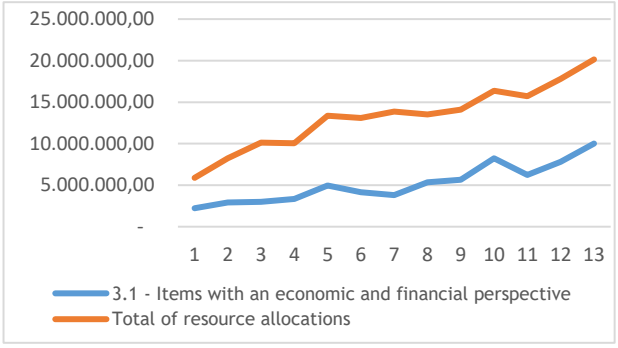
One can see that investment peaked in 2011, 2012 and 2018, representing 8.18%, 6.79% and 4.43% of the municipality's NCR, respectively. However, when analyzed together over the period, it can be seen that the municipality gives less priority to the environmental perspective.

Economic and financial perspective

With regard to the economic and financial outlook, in the period from 2007 to 2019, there was an increase in resource allocations, in absolute figures, of 350.35%. Taking into consideration that the NCR, in the same period, evolved by 342.53%, one can note that, unlike previous perspectives, there is no disparity in the proportion of resource allocations in this perspective. On the contrary, the spending/Investments that took place exceeded, in percentual terms, the increase in the municipality's NCR. These data allow us to infer that there was a shift in the allocation of resources from the other perspectives to the economic-financial one. It should be remembered that in this dimension, this study considered the Cabinet/Assessor's Office, the Secretariat for Administration, the Secretariat for Finance, the Secretariat for Administration, the Secretariat for Works and the City Council. One should also note that the allocative function is elastic, and managers should strive for a fair and equitable distribution of resources. Investments in infrastructure, works and maintenance of the public machine are also important and bring benefits to the population. However, the data shows a tendency to prioritize appropriations for these areas. Figure 4 illustrates the evolution of resource allocations from the economic-financial perspective in relation to the NCR from 2007 to 2019.

Figure 4

Evolution of resource allocations in the economic-financial perspective 2007/2019



Source: research data.
Note: 1 corresponds to the year 2007 until 13:2019.

Figure 4 shows that, from this perspective, allocations have evolved in such a way as to proportionally exceed the evolution of the NCR over the period. In 2007 it represented 37.80% of the NCR for the year and in 2019 it represented 49.70% of the NCR, showing a favorable shift. There has been an evolution in spending in this dimension, with a drop in 2012, 2013 and 2017.

Given the data on Porto Firme's profile, the municipality's Economic and Financial Manager (EFM) was asked to answer which factors could contribute to a higher level of economic and financial sustainability in Porto Firme, in his opinion:

> As a factor contributing to a higher sustainability index, I can cite the increase in revenue, both own and from transfers, and the good distribution of resources in the budget

heading. (EFM)

In addition to the increase in resources available through state and federal tax collection and transfers, good management in the distribution of resources is mentioned. From the manager's point of view, what could be done for greater sustainability in the future would be:

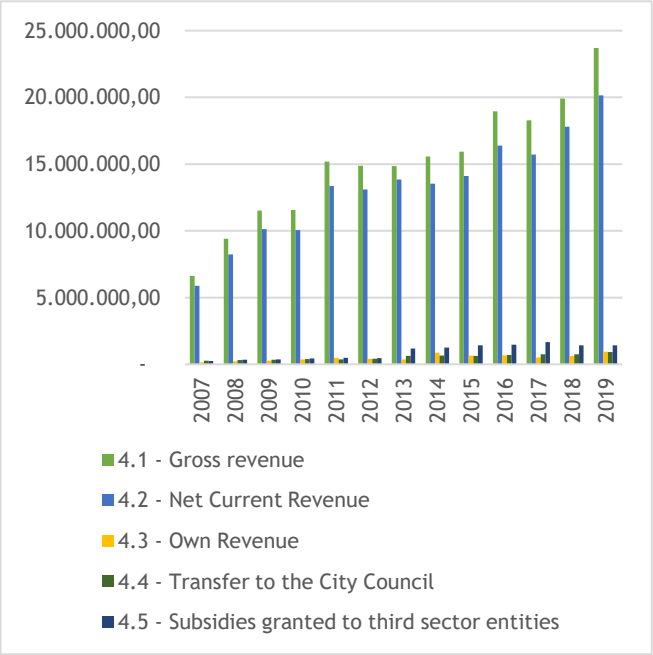
> There could be educational activities aimed at taxpayers, partnerships and agreement. (EFM)

For the manager, it is important to carry out educational actions with taxpayers, such as issuing invoices for services rendered, actions aimed at encouraging non-tax evasion, among others, as well as establishing new partnerships and agreements.

Over the period analyzed, the municipality of Porto Firme's gross revenue (GR) increased by 257.43% in absolute terms. Net current revenue (NCR), which is obtained by subtracting FUNDEB – Fundo de Manutenção e Desenvolvimento da Educação Básica e de valorização dos Profissionais da Educação - Fund for the Maintenance and Development of Basic Education and the valuing education professionals, PASEP (Programa de Formação do Patrimônia do Servidor Público - Public Servant Assets Formation Program) and other deductions, as the case may be, from RB, increased by 342.53%, showing a gain in the proportion of NCR in relation to GR. One can see, however, that in the 2007 evaluation, the NCR represented 88.69% of the RB and in 2019 this percentage fell to 84.99%, showing that legal deductions fluctuate between financial years, bringing the NCR closer to or further away from the GR. This interferes with the planning and standardization of allocations across all budget allocations. Consequently, the dimensions of the MGSRI and the sustainability perspectives are also subject to the same fluctuations. Figure 5 illustrates the situation of revenue, transfers and subsidies in the period studied.

Figure 5

Evolution of revenues and transfers of resources from 2007/2019



Source: research data.

Figure 5 shows the general of tax collection and transfers in the municipality of Porto Firme.

The evolution of the municipality's own revenue (OR), which in absolute values, showed an increase of 317.05% over the period analyzed. In 2007 the municipality collected the OR in the value of R$ 227.252,48 and in 2019 the collected value was R$ 947.771,98In relation to the NCR, the percentages were 2.76% and 4.70%, respectively, in 2007 and 2019. Despite a significant increase in the collection of municipal revenue, there is still a small percentage of PR in relation to the NCR. It can also be seen that the total collected in 2019, as PR, was higher than the amounts passed on to the City Council, 4.54% and 4.70%, respectively. This was not the case in 2007, when the percentages were 4.46% and 2.68%, respectively.

However, in comparison with the subsidies granted to the third sector, it can be seen that the PR has remained lower than the amounts granted as social subsidies. In 2007 the percentages were 2.68% and 4.04% of the NCR and in 2019 the percentage was 4.70% and 7.08% of the NCR, respectively. The municipality is also highly

dependent on transfers from the federal and state governments, as is the case with most small municipalities in the country.

An analysis of the municipality's own revenue shows an increase over the last 10 years. In this sense, the managers of the municipality of Porto Firme were asked whether this had improved the quality of care for the population and municipal development. The managers' perceptions of each dimension of the social perspective are presented below:

> We don't keep track of the variations in revenue here, but given the increase in services, there has certainly been an increase in the quality of our services. As a result, we were able to provide better assistance to the population and consequently help improve the quality of life of the citizens of Porto Firme. (SM – Social Manager)

> The income from education resources is directly linked to improvements, to the infrastructure of schools, to improving school meals, with the support of nutritionists. Currently we attend 100% of Middle School students in our municipality. There has also been an increase in early childhood education in recent years. This increase in resources has also been of great value, because it has greatly improved the infrastructure of school buildings, much in the way of teaching materials and teacher training. (EM – Education Manager)

> If the annual agreement with this increase in the municipality's resources had a new validity and made a new value for the Military Police's expenses, thus being able to increase the resources for Public Security, it would increase, but this doesn't happen. (Public Security Manager - PSM)

> We don't work directly with fundraising, but I have noticed an increase in social demands. There has been a big increase in eventual benefits in the area of social rent, due to the increase in rainfall at the beginning of the year. This increased the demand for social rent and many people are also asking for help with paying their water and electricity bills, as well as funeral aid, which is requested a lot. I understand that with the increase in services, revenue will increase. We'll be able to provide more services, help more people and release more aid for eventual benefits. On the other hand, if revenue decreases, we'll provide less assistance to people in vulnerable situations. (Social Vulnerability Manager - SVM)

> No. This fact was not reflected, because there was no receipt of the cultural and sports tax on the movement of goods and services (TMGS – ICMS). So, if it doesn't go to these areas, there is no increase. (Culture, Sport and Leisure Manager - CSLM)

One can see from the above reports that the increase in tax revenue over the last 10 years has led to improved services in the health, education and social vulnerability sectors. The actions that were carried out are: improving the quality of health care by increasing the number of services provided. In education, there was an improvement in school infrastructure, school meals, teacher training, expansion of early childhood education and in social vulnerability, there was an increase in occasional benefits such as social rent, payment of electricity, water and funeral expenses.

However, this increase in revenue was not reflected in the improvement in the quality of public security, as there was no increase in the value of the agreement signed between the City Council and the State Public Security. In turn, it also had no impact on the area of culture, sport and leisure, as no cultural tax on the movement of goods and services (TMGS) was received.

Similarly, the managers were asked why sometimes the greater investment in their area of activity is not reflected in the socio-economic indices. In the perception of managers from a social perspective:

> I believe that if there were greater investment in health and this investment were spent correctly, there would be a positive impact on socio-economic indices. (Social Manager - SM)

> Well, the increase in revenue does not go directly to education, it does not reflect on the socio-economic index, but increasing the investment in education would certainly improve this index. (Education Manager -

EM)

> Because this index should be channeled into an absolute sector, but this doesn't happen. So, what happens, because this index isn't channeled into this sector, is that we have several sectors in public safety, and this doesn't make the results objective. (Public Safety Manager - PSM)

> I believe that if tax revenues increase and there is no investment in the social area, inequality will increase. Since by increasing tax collection and investment in the social area, socio-economic indices will certainly increase. (Social Vulnerability Manager - SVM)

> I believe that the resources were not directed towards culture and sport, which is why they were not reflected in the socio-economic index. (Culture, Sport and Leisure Manager - CSLM)

One can see that in the managers' view, in order for social indicators to be reflected in their areas of activity, there is a need for greater investment, more efficient spending, better channeling of resources and for the resources to reach their areas of activity.

As for the environmental perspective, the Environmental Manager was asked whether the increase in his own income over the last 10 years had had any impact on his area of activity. In his perception, he states that:

> No, there has been no reflection. I believe that for this to happen, resources would have to increase and be directed to the environmental portfolio. (Environmental Manager - EM)

Based on this response, the manager was asked why sometimes greater investment in the environment does not reflect positively on socio-economic indices. According to the manager:

> In order to see these effects, the investments would have to be allocated to the environmental portfolio, they would focus directly on the environmental portfolio, otherwise for me, there would be no effect. (Environmental Manager - EM)

This statement from the manager reinforces the need for the environmental sector to have its own portfolio and resources and, consequently, its own investments so that this can be reflected on the social indicators.

From the point of view of the manager responsible for the municipality's economic and financial sector, in relation to the increase in own revenues over the last 10 years, whether this has made the municipality more financially sustainable, he said:

> Yes, of course. Because the level of sustainability is directly linked to the increase in revenue, as long as it is allocated to the right programs. (Economic and Financial Manager - EFM).

Asked why the greater availability of resources is sometimes not reflected in socio-economic indices, here is his perception:

> The increase in the availability of resources is unlikely to be reflected in socio-economic indices, unless there is a lack of control over spending and a misallocation of resources. (Economic-Financial Manager - EFM)

One can see from the statement of the manager who works in the economic-financial area of the municipality of Porto Firme that he believes there is no impact on social indicators with the increase in resources, only if there is poor quality in spending or misallocation of resources.

Strengths and weaknesses of municipal management in Porto Firme – MG

Based on the data from the MGSRI indicators and the data collected in this research, as a reflection of the allocations made, it is possible to verify the strengths and weaknesses in the municipality of Porto Firme from a social, environmental and economic-financial perspective and their dimensions, as shown in

Frame 2 below.

Frame 2

Strengths and weaknesses in the municipality of Porto Firme/MG

P.	D.	Strengths	Weaknesses
P1	P1.1	The mortality rate from cervical cancer in the female population fell from 20.12 to 0.00 per 100,000 inhabitants.	The care provided in the city by the FHS (Family Health Strategy) and the Emergency Care Unit is of low to medium complexity. Other services depend on travel to larger centers.
		The proportion of live births whose mothers had at least seven prenatal consultations rose from 68.05% to 83.50%.	Diagnostic imaging exams depend on traveling to larger poles.
		The estimated proportion of the population served by the FHS remained at 100.00%.	
		The proportion of deaths from ill-defined causes fell from 4.10% to 2.40% in the period analyzed.	
		The proportion of hospital admissions for primary care sensitive conditions was reduced from 50.13% to 14.69%.	
		The proportion of medium-complexity hospitalizations of UHS – Unified Health System patients referred to another micro-region fell from 15.31% to 11.48%.	
	P1.2	Access to the education system rose from 68.55% to 68.91% in the period analyzed.	The age-grade distortion rate in secondary education increased from 26.40% in 2013 to 31.40% in 2017.
		Reduction in the age-grade distortion rate in the final years of elementary school from 2013 to 2017, from 26.70% to 20.60%.	The percentage of teachers with a university degree in early childhood education fell between 2013 and 2017, from 100.00% to 72.70%.
		In primary education, the percentage of teachers with a university degree was 87.80% in 2013 and 94.40% in 2017.	In secondary education (High school level), the percentage of teachers with a university degree fell from 96.40% in 2013 to 92.90% in 2017.
		Schooling: in 2010, 34.02% of the population aged 15 and over had completed elementary school. This percentage was higher than in 2000, when it was 20.00%.	The quality of education offered between 2015 and 2017 by the Ideb went from 6.60 to 6.50 for the initial years of primary school, and from 5.00 to 4.40 for the final years.
	P1.3	In 2015, the number of inhabitants per military police officer was 1,569.98, rising to 1,113.28 in 2017.	The average rate of intentional homicides in Porto Firme was 15.03 homicides per 100,000 inhabitants. Above 10 is considered an epidemic by the WHO.
	P1.4	*	Between 2014 and 2017, the percentage of employees in the formal sector, in the population aged 18 to 64, fell from 8.90% to 8.10%.
	P1.5	In 2017, there was a Municipal Library.	In 2017, there was no specific structure for culture management.
		In 2017, there were between 4 and 9 artistic groups.	In 2017, there was no legislation protecting cultural heritage.
		In 2017, the availability of media was between 2 and 3 types of vehicles.	In 2017, there was no plurality of cultural facilities.
		The budget effort in relation to total expenditure in this dimension rose from 2.49% in 2007 to 3.95% in 2019.	During the period analyzed, it did not have a municipal public archive.
			In the period analyzed, Porto Firme was not among the municipalities in Minas Gerais that participated in government sports programs.
			Between 2009 and 2017, the percentage of pupils in schools with a sports court fell from 52.01% to 11.16%.
P2	P2.1**	From 2010 to 2017, the percentage of the resident population with a water supply reached 100.00%.	Proportion of the population served by a sewage system (network): 100% in 2010 and 66.93% in 2017.
			In 2017, Porto Firme did not have adequate waste disposal.
P3	P3.1	Spending on health in the period analyzed rose from 22.60% to 27.80%, above the minimum stipulated (JPF).	The TEDI - Tax and Economic Development Index, in the period from 2014 to 2017, fell from 11.86 to 10.22 in terms of the municipality's economic performance.
		Spending on education between 2000 and 2017 grew from 18.99% to 27.20%, above the minimum stipulated (JPF).	Between 2014 and 2017, NCR pc fell from R$1,523.35 to R$1,411.48 (at December 2017 prices), a drop of -7.34% over the period.
		The Fiscal Balance between 2014 and 2017 went from -3.24% to 9.07%.	Spending on staff between 2014 and 2017 rose from 47.68% to 52.13%.
		Indebtedness from 2014 to 2017, shows that the debt stock decreased from 5.38% to 0.00%.	Machine costs between 2014 and 2017 increased from 41.51% to 43.31%.
			The investment effort between 2014 and 2017 in relation to total expenditure fell from 16.12% to 7.16%.
	P3.2	During the period analyzed, it was found that the municipality has sectoral policies with funds in the area of health and social assistance. It also has consortia and	As for budgeting practices and procedures, it does not use diagnostics to prepare planning, it does so through projections, thus defining its

		partnerships in the health sector, and in social assistance and development.	programs, indicators, goals and actions, and it has between 10 and 20% of supplementary credit previously authorized in the budget.
		Human Resources Management, has in 2017 the PPCS - Plan of Positions, Careers and Salaries and carries out training for its employees.	Regulatory Governance: in 2017 there was no municipal Public Safety Plan.
		Regulatory Governance: in 2017, the following plans were found to exist: Municipal Plan for Social Assistance, Education; Health, Basic Sanitation, and Integrated Solid Waste Management, which is currently being drawn up.	Open Government: there was no ombudsman in 2017. It does not have the following councils: Women's Rights; Bolsa Família Program Management; Housing; Sanitation; Environment; Sports; Culture; Cultural Heritage; Urban Policy or Urban Development.
		Open Government has open budget and financial data.It has the following councils: Guardianship Council; Food Safety Council; Council for the Defense of the Rights of Children and Adolescents; Council for the Elderly; Council for People with Disabilities; Public Safety Council; Health Council; Education Council.	
		Innovation by public authorities and digital government: in 2017, it has an electronic invoice (EI) and medical appointments at the Basic Health Units (BHUs) by telephone, VOIP, internet, token, etc.	
		Public procurement and logistics: in 2017 it publicized the bidding process via the internet and has in-person and electronic bidding.	
		Risk management and communication: it has a structured municipal civil protection and defense coordinator and a contingency plan, under the terms proposed by the National Civil Protection and Defense System.	

Note 1: *, ** We have no parameters to say whether it's a strength or a weakness.

Note 2:- P: Perspective; D. Dimension; P1: Social Perspective; P1.1: Health; P1.2: Education; P1.3: Public Safety; P1.4: Social Vulnerability; P1.5: Culture, Sport and Leisure; P2: Environmental perspective; P2.1: Environmental dimension; P3: Economic and financial perspective; P3.1: Finances; P3.2: Management.

Comparison of sustainability indicators between neighboring municipalities

This section seeks to explore in a comparative way, through indicators, the socioeconomic reality of the municipalities bordering Porto Firme from the perspective of local human development and based on the information and data available from the Minas Gerais Social Responsibility Index (MGSRI), the Municipal Management Effectiveness Index (MMEI) and the Municipal Human Development Index (MHDI) from 2007 to 2019.

The municipality of Porto Firme is geographically bordered by the cities of Viçosa, Piranga, Guaraciaba, Paula Cândido and Presidente Bernardes. In this sense, municipal indicators allow for better information by increasing the knowledge base, better investments for public policy and integration with policies in other areas. This highlights the importance of using indicators as planning and management tools, both because of their ability to transmit information, being an important tool for municipal management planning, and because of their power to influence public policies (Gavira, Moraes, & Dadario, 2017; Sarubbi & Moraes, 2018).

Below is a comparison of the MGSRI, MMEI (Municipal Management Effectiveness Index - IEGM) and MHDI (Municipal Human Development Index - IDHM) indices between the municipalities and their position at state and, in the case of the MHDI, national level.

MGSRI comparison between neighboring municipalities

The MGSRI is an important tool for assessing the development of municipalities in Minas Gerais. The data makes it easier and more transparent for municipalities and citizens to obtain information on administrative and cultural activities, public spending and public policies. The MGSRI can be used as a starting point to

identify socio-economic characteristics, assess the region's development prospects and assist in decision-making by various agents (Sgarbi et al., 2018).

The MGSRI is calculated using selected indicators from each dimension and transformed into indices that vary between 0 and 1, using the following formula:(Observed value - worst value) / (best value - worst value). When defining the "best" and "worst" values, existing standards, government targets and/or the distribution of observed values were taken into account. The index for each dimension is obtained from the weighted average of the indicators selected for each theme and varies between 0 and 1. The overall IMRS is a weighted average of the indices for each dimension, as shown in Table 1.

Table 1
IMRS Comparative

MUNICÍPIO	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
PORTO FIRME	0,558	0,558	0,564	0,564	0,541	0,541	0,481	0,481	0,569	0,569	0,569	0,574	0,574
VIÇOSA	0,625	0,625	0,621	0,621	0,642	0,642	0,590	0,590	0,636	0,636	0,636	0,641	0,641
PIRANGA	0,647	0,647	0,596	0,596	0,575	0,575	0,535	0,535	0,674	0,674	0,674	0,679	0,679
GUARACIABA	0,611	0,611	0,565	0,565	0,541	0,541	0,524	0,524	0,603	0,603	0,603	0,608	0,608
PAULA CÂNDIDO	0,565	0,565	0,533	0,533	0,552	0,552	0,557	0,557	0,585	0,585	0,585	0,590	0,590
PRESIDENTE BERNARDES	0,566	0,566	0,575	0,575	0,610	0,610	0,560	0,560	0,591	0,591	0,591	0,596	0,596
MÉDIA GERAL DO ESTADO	0,610	0,610	0,575	0,575	0,595	0,595	0,570	0,570	0,605	0,605	0,605	0,620	0,620

Source: research data.

Table 1 shows that Porte Firme has the lowest IMRS compared to the other neighboring municipalities. An average over the period from 2007 to 2019 shows that the six municipalities with the best to the worst index are: Viçosa (0.627), Piranga (0.620), Presidente Bernardes (0.584), Guaraciaba (0.577), Paula Cândido (0.565) and Porto Firme (0.549). It should be noted here that the latest MGSRI published refers to the 2015/2016/2017 triennium. For the years 2018/2019, this study made an estimate based on historical indices from 2007 onwards.

When looking at the MGSRI state average, it can be seen that the municipality of Porto Firme was below the state average throughout the period analyzed, coming closer to it more evidently in the 2009/2010 biennium, while remaining very close to the cities of Guaraciaba, Paula Cândido and Presidente Bernardes. The city of Piranga alternated its position in relation to the state average and in relation to the city of Viçosa, rising above both from the 2015/2016/2017 triennium onwards. The cities of Guaraciaba, Paula Cândido and Presidente Bernardes alternated positions in relation to the state average and ended the period also below it. Only the city of Viçosa remained above the state average throughout the period analyzed.

Comparison of MMEI between neighboring municipalities

The Municipal Management Effectiveness Index (MMEI) (The Índice de Efetividade da Gestão Municipal (IEGM) is a process indicator that measures the degree to which municipal management adheres to certain processes. The degree of adherence is measured based on the score given to the questions by the State Court of Auditors (TCA). The processes and controls are surveyed using questionnaires answered by the municipalities, the purpose of which is to guide municipal managers to implement the processes and controls that are raised in the questionnaires.

The general results of the MMEI are presented in grades, which vary between the letters A: Highly Effective (90% or more); grade B+: Very Effective (between 75% and 89.995); grade B: Effective (between 60% and 74.99%); grade C+: In the Adequacy Phase (between 50% and 59.99%); grade C: Low Level of Adequacy (below 49.99%). According to the TCE-MG (2019), 355 municipalities in Minas Gerais achieved a B rating; one city achieved a B+ level; 320 are at C+ level; 135 at C level and 42 cities did not answer the questionnaire.

Thus, with the MMEI, society, municipal administrations and the Courts of Auditors have a tool to evaluate the efforts of municipal managers to implement the processes that are necessary to provide more and better public services. Table 2 shows the MMEI indices for Porto Firme, the neighboring cities and the state average.

Table 2

MMEI Comparative

MUNICÍPIO	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
PORTO FIRME	-	-	-	-	-	-	-	C+	C+	B	B	B	-
VIÇOSA	-	-	-	-	-	-	-	C+	C	B	B	B	-
PIRANGA	-	-	-	-	-	-	-	C+	C	C	C+	C+	-
PAULA CÂNDIDO	-	-	-	-	-	-	-	B	C+	B	C+	B	-
PRESIDENTE BERNARDES	-	-	-	-	-	-	-	C+	C	C+	C+	B	-
MÉDIA ESTADUAL	-	-	-	-	-	-	-	B	B	B	B	B	-

Source: research data.

Table 2 shows that the municipality of Porto Firme stands out among the other cities, with a constant improvement in its MMEI index over the period, appearing in 2014 and 2015 with a C+ grade and 2016 to 2018 with a B grade, corresponding to and keeping pace with the state average for the municipalities in Minas Gerais that responded to the questionnaire. It can be seen that, throughout this period, only the municipality of Piranga ended the period positioned below the state average. The difference in position between the cities is the result of the composition of the index base. While the MGSRI focuses on the use of resources and the results of its dimensions, the MMEI includes management as a whole, i.e. the economic-financial dimension is evaluated together with the other dimensions of the sustainability perspectives.

Comparison of MHDI between neighboring municipalities

The MHDI - Municipal Human Development Index, is an adaptation of the HDI - Human Development Index, calculated for countries by the UNDP - United Nations Development Program, to the municipal level. In Brazil, it is calculated based on census data every ten years. The index is formed by the geometric mean of the specific indices of the three dimensions that make it up: education, life expectancy and income. Education is measured by considering indicators that represent the schooling of the adult population (measured by the indicator 18 years and over with completed primary education) and the educational effort towards the school-age population (measured by the indicators % of the population aged 4 and 5 in school, % of 11 to 13 in the final years of primary education, % of 15 to 17 with completed primary education and % of 18 to 20 with completed secondary education) (FJP, 2019).

The longevity dimension, i.e. long and healthy life, is measured by life expectancy at birth, calculated indirectly using data from the IBGE Demographic Censuses. This indicator shows the average number of years people would live from birth, given the same mortality patterns observed in the reference year.

In terms of income, it measures the standard of living through per capita municipal income, i.e. the average income of each resident of a given municipality. It is the sum of the income of all residents, divided by the number of people living in the municipality, including children and people with no record of income. The data comes from the Demographic Census of the Brazilian Institute of Geography and Statistics (DCBIGS - IBGE).

The MHDI ranges from 0 to 1. The closer it is to 1, the greater the human development. The three components are grouped together using the geometric mean, resulting in the MHDI, the details of which are available in the Methodology section of the Atlas of Human Development (Atlas, 2019). Table 3 shows the MHDI of Porto Firme, its neighboring cities, as well as the state and national average and its evolution from 2007 to 2019.

Table 3 shows the evolution of the MHDI from 2007 to 2019.The municipality of Porto Firme had an average index of 0.482 between 2007 and 2009 and, from 2010 onwards, its average rose to 0.634, showing a significant improvement in its MHDI.

Table 3

MHDI Comparative

MUNICÍPIO	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
PORTO FIRME	0,482	0,482	0,482	0,634	0,634	0,634	0,634	0,634	0,634	0,634	0,634	0,634	0,634
VIÇOSA	0,677	0,677	0,677	0,775	0,775	0,775	0,775	0,775	0,775	0,775	0,775	0,775	0,775
PIRANGA	0,463	0,463	0,463	0,600	0,600	0,600	0,600	0,600	0,600	0,600	0,600	0,600	0,600
GUARACIABA	0,473	0,473	0,473	0,623	0,623	0,623	0,623	0,623	0,623	0,623	0,623	0,623	0,623
PAULA CÂNDIDO	0,504	0,504	0,504	0,637	0,637	0,637	0,637	0,637	0,637	0,637	0,637	0,637	0,637
PRESIDENTE BERNARDES	0,470	0,470	0,470	0,632	0,632	0,632	0,632	0,632	0,632	0,632	0,632	0,632	0,632
MÉDIA MINAS GERAIS	0,624	0,624	0,624	0,731	0,731	0,731	0,731	0,731	0,731	0,731	0,731	0,731	0,731
IDHM - MÉDIA BRASIL	0,612	0,612	0,612	0,727	0,727	0,727	0,727	0,727	0,727	0,727	0,727	0,727	0,727

Source: research data.

When analyzing the data, it can be seen that only the city of Viçosa remains above the state and national averages, which in turn run parallel to each other, practically overlapping. The other cities remain below the (national and state) averages, in total symmetry with each other, with the exception of the city of Piranga, which remains slightly below this group. To further reinforce this understanding, we will classify the cities involved by the simple average of the MHDI for each of them over the period analyzed. Viçosa (0.752), Paula Cândido (0.606), Porto Firme (0.599), Presidente Bernardes (0.595), Guaraciaba (0.588) and the city of Piranga (0.569). The state average was 0.706 and the national average was 0.700. It should also be noted that in the 2010 edition all the municipalities compared had a significant improvement in their indices.

Thus, Porto Firme had the third best MHDI average among the neighboring cities. Once again, there is a difference in positioning between the cities which is also the result of the composition of the index base. The MHDI has longevity and income as differentials in its base, and is closer to the MGSRI than to the MMEI.

The analysis of individual well-being has become a comparable measure between countries with the creation of the Human Development Index (HDI) and also the Municipal Human Development Index (MHDI) to understand the reality of municipalities. The MHDI reflects the recognition of the country's heterogeneity and the need to distinguish local specificities in order to support the formulation of public policies, with the criterion being the municipality, the smallest political administrative unit in the country (Santos & Ferreira, 2017).

Final considerations

When drawing up a public budget, revenue is estimated (cash basis), because the taxes collected, as well as other sources of revenue, can vary from year to year and even over the course of the year itself, while expenditure is fixed (accrual basis) to ensure that the government doesn't spend more than it collects.

This rule, coupled with the fact that the decentralization of public administration has transferred duties and obligations from the highest level of government (federal) to lower levels (states and municipalities), requires all public managers' attention to be focused on the ability to foresee and plan in order to optimize the use of public resources earmarked for the municipality.

From the social perspective, during the period analyzed, there was less variation in resource allocations than in the NCR, 285.43% and 342.53%, respectively. Within the IMRS dimensions that cover this perspective, there is a greater concentration of resources in health and education, both because there is a greater demand for services and because there are constitutional minimum limits for budget allocations in both, 15% and 25% of the NCR, respectively.

In the other dimensions, the variations were positive, but not very significant: public safety varied from 0.11% in 2007 to 019% in 2019; social vulnerability varied from 1.28% to 2.71% and culture, sport and leisure went from 2.96% to 3.05%, i.e. the fluctuations in spending/investment percentages occur even when there is no fluctuation in the municipality's Net Current Revenue (NCR).Still from this perspective, according to the manager interviewed, the services provided to the population have made significant progress and improvements, but they do not meet all of the population's demands.

From an environmental perspective, in the MGSRI environment, sanitation and housing dimension, the variation in resource allocation fell from 4.37% of the NCR in 2007 to 2.11% of the NCR in 2019.This indicates a drop in priority in the allocation of resources to environmental programs. According to the manager interviewed, selective waste collection and other environmental actions are necessary, as well as de-linking the environment and agriculture

portfolios. From this perspective, the municipality prioritizes basic sanitation and housing. Legislation and action with regard to the environment are the responsibility of state and federal agencies.

As for the economic and financial perspective, unlike the previous perspectives, there was a greater variation in allocations than in the NCR, 350.35% and 342.53%, respectively. The economic and financial dimension, even though it is not currently part of the MGSRI dimensions, is an important counterpoint in this study. The comparative analyses carried out made it possible to infer that, over the period analyzed, there was a shift in the allocation of resources from the other perspectives to the economic-financial one. Considering that this dimension included the Cabinet/Assistance, Administration, Finance, Works and City Council portfolios, we can see that works, infrastructure and maintenance of the municipal machine are important, but the more resources are allocated to this perspective, the fewer resources are allocated to the others.

The municipality's Fiscal Effort to leverage its own revenue showed a positive variation, going from 2.76% of the NCR in 2007 to 4.70% of the NCR in 2019. This evolution is very significant, but it still shows the municipality's total dependence on constitutional transfers. The transfer of resources from the central government to the local government is essential to bridge the gap between the municipality's revenue capacity and the need to provide public services to the population.

Summarizing the interviews conducted with managers in each area of activity that covers the dimensions of the MGSRI, the main factors that could contribute to a higher level of sustainability in the municipality of Porto Firme are: an increase in resources with less bureaucracy in their use; capacity building and training aimed at motivating civil servants; generating employment and income; valuing local culture; separating the agriculture and environment secretariats; better distribution of budget items between the secretariats.

In addition to the increase in available resources, in the perception of the managers, there are several actions that could be carried out to improve the level of development, such as: training and capacity-building for municipal servants; educational blitz, rural patrols, installation of the "Olho Vivo" (cameras installed around the most strategic sites in the city) in partnership with shopkeepers, implementation of the Proerd; vocational and home economics courses; encouraging cultural events, such as exhibitions, gymkhanas, sports matches; implementation of selective waste collection and the recycling plant, concomitantly with educational actions linked to the environment and the taxpayer, with a view to increasing revenue, among others.

In order to be sustainable, the municipality's expenditure and income must be in constant balance, characterizing a balanced budget and fiscal sustainability in the pursuit of its development. The municipality does not have a fiscal imbalance, as its strengths include balanced accounts and a low level of debt.

However, based on the analysis and descriptions carried out in this study, according to the methodology used, and the Triple Bottom Line economic concept, Porto Firme - MG does not have all the configurations of a sustainable municipality. Nevertheless, by focusing on increasing its own revenue, improving the quality of public spending, improving its allocation of resources and maintaining its fiscal balance, it is beginning the process of building its foundations for sustainable development.

The results of this study also point to the need to improve the planning of budget allocations, in order to seek a more equitable allocation of resources in the perspectives that make up the Sustainability Tripod, with a view to tackling the weaknesses demonstrated.

As for the MGSRI, it proved to be an efficient index and aligned with the objectives of this research. Its basis and indicators constitute a management and measurement tool that helps

managers make decisions with the aim of improving the allocation of public resources. It is a results index, i.e. each dimension seeks to capture the situation of the population in relation to the corresponding services. It is dynamic, seeking to improve its dimensions more and more in order to better conceptualize what it seeks to measure.

This study sought to contribute to municipal public administration by analyzing and describing the configuration of sustainability in the municipality of Porto Firme in the social, environmental and economic-financial trilogy. Its ultimate aim is social well-being, since society, being both a taxpayer and a beneficiary, assumes the dual role of financing and receiving at the same time.

The study, a pioneer in the municipality, has its limitations. The research approach was related to the MGSRI. The other indicators were only used as comparisons between neighboring cities. However, studies could be carried out to work on the MGSRI in conjunction with the MMEI, MHDI, among other indicators, developing a scale that can score and classify municipalities into levels of sustainability in the same trilogy. Studies could also be developed to measure the population's level of perception of resource allocations in the dimensions of the indicators and in the sustainability perspectives, always bringing contributions to society and to scholars of Public Administration.

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