

The river we want: awareness raising and community participation as tools for water resources framework

O rio que queremos: sensibilização e participação comunitária como ferramentas para o enquadramento dos recursos hídricos

Jhonatan Barbosa da Silva¹; José Alvaro da Silva^{*2}; Marínés González^{*3},
Renato Gatto de Moraes^{*4}, Eliana Beatriz Nunes Rondon Lima^{*5},
Beatriz dos Santos Sacramento^{*6}, Ciliane Carla Sella de Almeida^{*7}

¹ Professor at the Department of Sanitary and Environmental Engineering, Federal University of Mato Grosso, Cuiabá, Mato Grosso, Brazil. Email: jhonatan.silva@ufmt.br

^{*}Associate Researcher at the Interdisciplinary Center for Studies in Environmental Sanitation, Federal University of Mato Grosso, Cuiabá, Mato Grosso, Brazil. Email: impactoprojetos@hotmail.com;

³marinesalejandra.gc@gmail.com; ⁴renatogatto12@gmail.com; ⁵ebnrlima@gmail.com;

⁶beatrizssacramento@gmail.com; ⁷cilianecarla@escritoriolegal.net;

ABSTRACT: This article explores the integration of pedagogical and philosophical principles into the water resources classification framework, with a specific focus on the concept of the "River We Want." The study presents a real case conducted by the Interdisciplinary Center for Environmental Sanitation Studies (NIESA) in collaboration with the Public Prosecutor Office of the State of Mato Grosso (MPMT) and the Alto Rio Cuiabá Basin Committee (CBH Alto Rio Cuiabá), where an approach based on the ethics of community participation and the construction of participatory knowledge was applied to define the desired water uses in the UPG-P4 basin, involving relevant stakeholders to support alternative classifications in the regions of Cuiabá, Barão de Melgaço, and Nobres. The methodology involved educational presentations on the conceptual aspects of water resources classification, the availability of supporting material on the NIESA website, and interactive in-person sessions where participants were guided to use basin maps and stickers representing different water uses to express their desired future scenarios. The results reveal the influence of users' socioeconomic interests on their desired water uses for the rivers in their respective regions. The study discusses how the applied methodology promoted collective socio-environmental awareness and responsibility among users regarding the multiple uses of water resources. The article concludes by reflecting on the implications of this approach for future water resources classification initiatives.

Keywords: Water management, Ethics, Water Use, Social and environmental responsibility.

RESUMO: Este artigo explora a integração de princípios pedagógicos e filosóficos no enquadramento dos recursos hídricos, com foco específico no conceito do "Rio que Queremos." O estudo apresenta um caso real aplicado pelo Núcleo Interdisciplinar de Estudos em Saneamento Ambiental (NIESA), em conjunto com o Ministério Público do Estado de Mato Grosso (MPMT) e o Comitê de Bacia Hidrográfica do Alto Rio Cuiabá (CBH Alto Rio Cuiabá), onde uma abordagem baseada na ética da participação comunitária e na construção de conhecimento participativo foi aplicada com a finalidade de definir os usos desejados da água na UPG-P4 junto a atores relevantes para subsidiar alternativas de enquadramento nas regiões de Cuiabá, Barão de Melgaço e Nobres. A metodologia envolveu apresentações didáticas sobre os aspectos conceituais do enquadramento dos recursos hídricos, disponibilização do material de apoio no site do NIESA e sessões interativas presenciais nas quais os participantes foram orientados a utilizar mapas da bacia e adesivos representando diferentes usos da água para expressar seus cenários desejados para o futuro. Os resultados revelam a influência dos interesses socioeconômicos dos usuários em relação aos desejos de uso das águas nos rios em suas respectivas regiões. O estudo discute como a metodologia aplicada promoveu a conscientização e responsabilidade socioambiental coletiva entre os usuários frente aos usos múltiplos dos recursos hídricos. O artigo conclui refletindo sobre as implicações dessa abordagem para futuras iniciativas de enquadramento de recursos hídricos.

Palavras-chave: Gestão, Ética, Uso da Água, Responsabilidade Socioambiental.

INTRODUCTION

Traditionally, water resources management has been conducted on a sectoral basis, with each group of users addressing their needs in isolation, which has generated increasing conflicts, inefficient use of available resources and, consequently, environmental degradation. However, from the 1960s onwards, there was global awareness in search of a new management model, which became known as integrated water resources management (Campos, 2013).

Despite this conceptual advance, water resources planning still faces challenges in being approached in a truly integrated manner, that is, jointly considering socioeconomic and environmental aspects. Water use projections are often inadequately prepared, based on erroneous or inconsistent assumptions, compromising the effectiveness of planning. Currently, there is a growing effort to adopt a more comprehensive approach that balances the various uses of water with existing needs, considering dimensions such as economy, society, culture, land use, coastal areas, and environmental management, always guided by social negotiation (Costa *et al.*, 2021).

In Mato Grosso, as in other regions of Brazil, the management of water resources is regulated by the State Water Resources Policy (PERH), established by Law No. 11.088 of March 9, 2020, which replaced the old Law No. 6,945/1997 (MATO GROSSO, 2020). This legislation is aligned with Federal Law No. 9.433 of January 8, 1997 (BRASIL, 1997), which promotes the management of water resources in a participatory and decentralized manner.

The Cuiabá River basin, home to almost 33% of the state's population, illustrates the challenges in managing water resources, with the increase in conflicts over water use, especially due to the precariousness of sanitation services (Figueiredo *et al.*, 2024). Cuiabá, the state capital, is located within this basin and depends directly on the river for its water supply and economic activities, such as agriculture, fishing, and tourism. Furthermore, the basin encompasses other rural areas that use water resources for irrigation and livestock farming, which reinforces the need for sustainable water management.

Thus, the classification of water resources is an essential tool, an instrument provided for in the National Water Resources Policy, established by Law No. 9,433/1997. It consists of defining water quality goals or objectives to be achieved and maintained according to the desired priority uses, considering current and planned uses. This process is not limited to rivers but also encompasses other bodies of water, such as reservoirs, lakes, estuaries, coastal and groundwater (CONAMA 357/2005; CONAMA 396/2008). In this scenario, the River Basin Committees (CBHs) have a fundamental role. These collegiate agencies, composed of representatives of water users, organized civil society, and the government, have normative, deliberative, and consultative functions. In Mato Grosso, there are 11 established CBHs (Figueiredo *et al.*, 2024).

However, despite the importance of these committees for promoting participatory management, Bruno and Fantin-Cruz (2020) identify several contradictions in their functioning. They highlight the existence of power inequalities, excessive dependence on the management body, sectoral disputes, and the prevalence of decisions influenced by economic interests. These factors compromise the effective participation of various actors, especially traditional communities, such as riverside communities, fishermen, quilombolas, and indigenous peoples.

Given this, the participation of communities in managing water resources through methodologies that reach all groups in society could transform the planning and use of these

resources into an educational and conscious process. One of the strategies to achieve this would be to adopt methods that connect knowledge, consciousness, and the human being. In this way, the integration of philosophical aspects would be essential to awaken ethics, a sense of belonging, and respect among community members and in relation to the environment. Furthermore, the use of educational and recreational tools that provide attractive information about water resource management would be essential to develop water citizenship.

Thus, the objective of this study is to present an innovative methodology based on philosophical and pedagogical principles, with a focus on active social participation as a way of supporting the elaboration of proposals for the classification of water bodies through public consultations and participatory dynamics, to incorporate the perceptions and preferences of the different groups of users regarding the desired uses in the sub-basins of UPG-P4 (Paraguay Planning and Management Unit 4). The expectation is that these elements will serve as a basis for framing decisions that reflect the needs of the local community, balancing technical knowledge with the integration of social, economic, and cultural dimensions.

MATERIAL AND METHODS

STUDY AREA

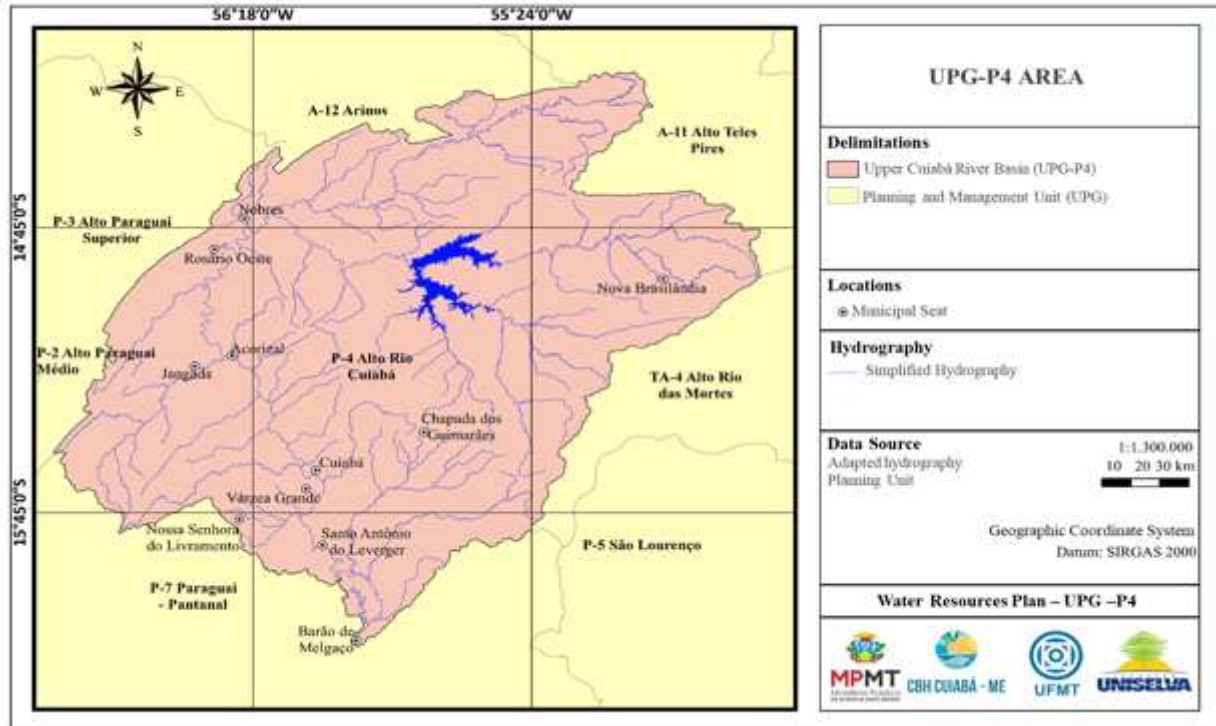
The Cuiabá River Basin, located in the south-central part of Mato Grosso, covers an area of 28,984.021 km². The basin has five sub-basins and includes 18 municipalities, the main ones are Cuiabá, Várzea Grande, Rosário Oeste, Nobres, Chapada dos Guimarães, Jangada, Acorizal, Nova Brasilândia, Santo Antônio do Leverger, Barão de Melgaço, and Nossa Senhora do Livramento. The population residing in the basin is 995,411 inhabitants, equivalent to 28.5% of the total population of the state (IBGE, 2022).

The hydrographic basin section used is relative to the Planning and Management Unit P-4, with an outlet located in the urban area of Barão de Melgaço, a limit defined for water resources management, therefore, it does not include the Pantanal, which, in this planning section, was defined as P-7 Paraguay – Pantanal, as can be seen in **Figure 1**.

The region's climate is characterized by two well-defined seasons: a rainy period, from October to April, and a dry period, from May to September. The average annual rainfall is 1,478 mm, with 86% occurring during the rainy season. Soils and relief characteristics have a fundamental role in territorial planning and the definition of public policies, with areas favorable to large-scale agriculture and others with restrictions on these activities due to aspects that make the management of these crops impossible. The main economic uses of the land are large-scale agriculture, with the cultivation of soybeans, corn, and cotton, extensive livestock farming, and mining (MapBiomass, 2022).

The Cuiabá River presents two distinct characteristics along its course. It initially runs along an erosion surface where it behaves like a plateau river. Upon entering the Pantanal in Mato Grosso, downstream from the metropolitan region of Cuiabá and Várzea Grande, the river becomes part of a depositional system, forming a complex of floodplains. The topographic gradient along the Cuiabá River within its floodplain is less than 0.20m/km.

Figure 1. The total area of the Upper Cuiabá River PBH (UPG P4) corresponds to 28,984 km². Source: NIESA, 2024



METHOD DEVELOPMENT

Several internal meetings were held in the initial stages for definition of the methodology to determine the type and quantity of maps to be used in the presentation and group dynamics. The maps were carefully selected to provide detailed and appropriate information to users.

Initially, the use of pins was considered so that participants could indicate the different uses on the maps. However, due to limitations regarding available colors and the practicality of handling, the idea of using stickers as an alternative arose. Thus, “stickers” were created with images representing the different uses of water (**Figure 2**).

The maps chosen to be used as support in the group dynamics were class map at the monitoring points (a), transitory framing map (b), map of the basin location with Google Earth (c), map of current uses (d), class simulation map for the entire basin (e) (**Figure 3**). These maps were displayed on easels, making it easier for participants to view and interact with the material.

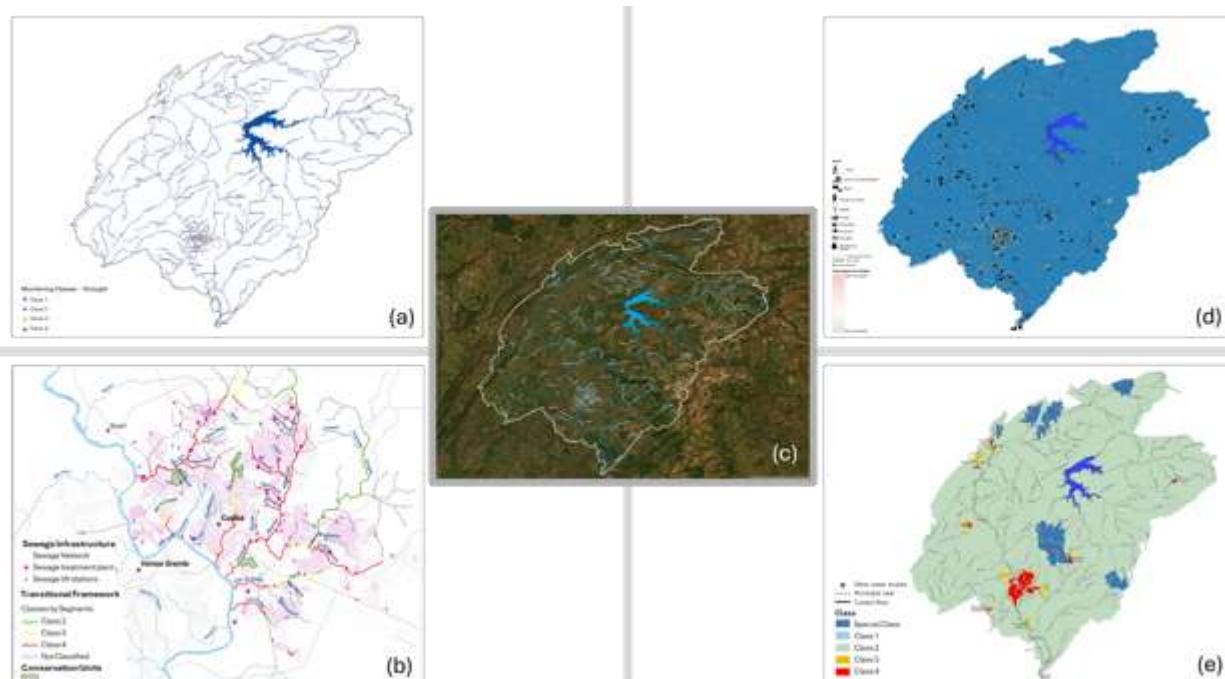
Maps were also generated for completion, containing only the hydrography, and subdividing the UPG-P4, as shown in **Figure 4**, into Lower Cuiabá (a), Middle Cuiabá (b), Coxipó (c), Manso (d), Upper Cuiabá (e). This division was essential so that users could categorize watercourses with precision since the breakdown by specific areas would provide a more precise view of local hydrography.

Figure 2. “Stickers” representing the different uses of water



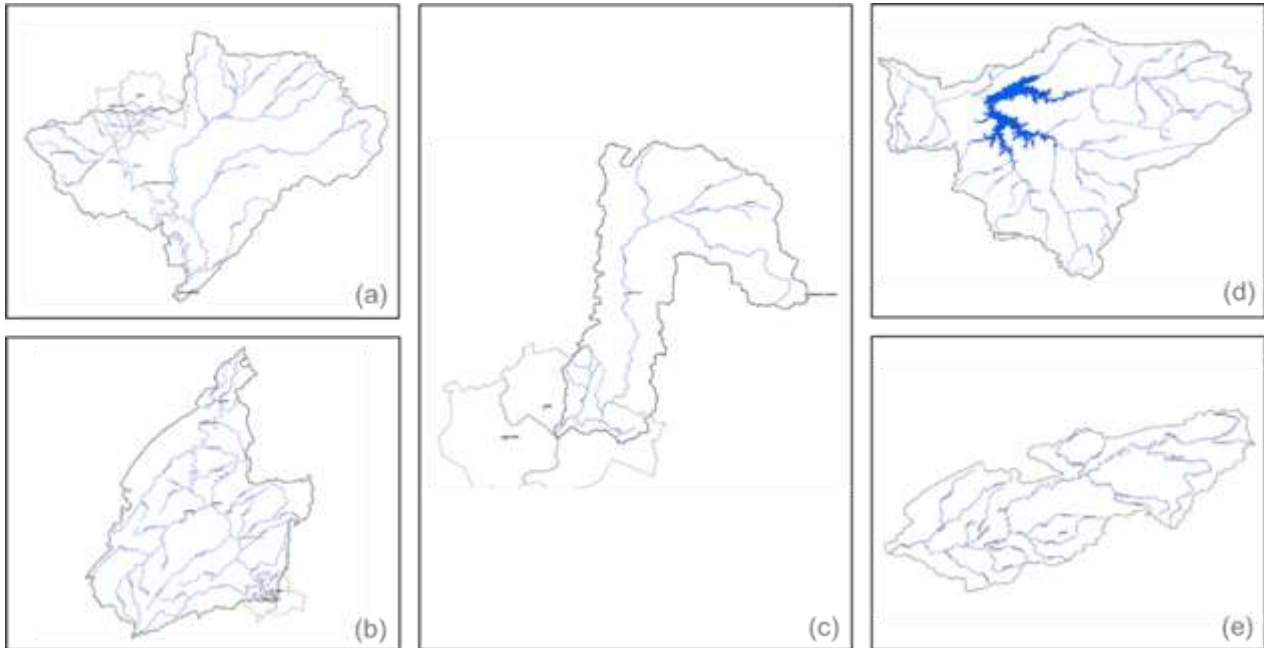
Source: NIESA, 2024.

Figure 3. Support maps: class map at monitoring points (a), transitory framing map (b), basin location map with Google Earth (c), current use map (d), and class simulation map for the entire basin (e)



Source: NIESA, 2024.

Figure 4. Maps of sub-basins for filling: Lower Cuiabá (a), Middle Cuiabá (b), Coxipó (c), Manso (d), Upper Cuiabá (e)



Source: NIESA, 2024.

The support maps were printed in A0 size to facilitate viewing, and the maps to be filled in were printed in A2 size, large enough to allow greater detail but still manageable by the participants during the dynamics.

The event was publicized through social media and the official NIESA website and managed by the communications team to bring the largest number of relevant actors to the plan, expanding the initiative reach and ensuring the active participation of the community.

APPLICATION OF THE METHOD

At the beginning of the meetings, the main actors in the basin related to water resources were identified. Among these actors, members of government institutions stand out, such as the Public Ministry of the State of Mato Grosso (MP-MT), the State Secretariat for the Environment (SEMA), representatives of the productive sector, non-governmental organizations focused on environmental preservation, local communities, riverside dwellers, fishermen, and members of academia, such as the Federal University of Mato Grosso (UFMT) and the Interdisciplinary Center for Studies in Environmental Sanitation (NIESA).

On the first day, the dynamic occurred in Cuiabá, followed by Barão de Melgaço, and finally in Nobres. In each region, the first stage consisted of forming working groups. Next, the conceptual aspects of the water resources framework were presented, along with a brief explanation of how the dynamics work.

After this introduction, the five support maps were made available on easels, and the five maps were placed on each worktable for completion together with folders containing stickers, accompanied by an explanatory caption, thus ensuring a standardized and intuitive dynamic for all participants. In the final phase, all groups were invited to defend and argue the uses chosen for each of the UPG-P4 sub-basins.

GUIDING PHILOSOPHICAL PRINCIPLES

Philosophical principles were integrated into the methodology to create a process that was technical and also engaging and reflective. Principles such as ethics, aesthetics, and participatory epistemology were considered because they offer a holistic, inclusive, playful, and sensitive approach.

- **Ethics:** as a philosophical principle applied in education, it refers to the study and application of values and norms that guide human behavior, especially in the context of social coexistence and the educational process (Amaral Filho, 2017).

Methodological Application: the way in which the consultations were conducted is linked to ethics, as it allowed community members to participate in a fair and inclusive manner. Everyone had the opportunity to express their opinions about “the river we want” without restrictions on social status, profession, or previous knowledge.

- **Aesthetics:** refers to creating a learning environment that is visually pleasing and stimulating, as well as promoting the appreciation of beauty and art (De Araújo, 2021).

Methodological Application: aesthetics was present in the use of maps of the basin and “stickers” of water uses. By using these visual materials, participants were able to visualize the interconnections between different uses of water. Aesthetics also refers to nature per se among the different perspectives of the participants, so the construction of the “river we want” could be considered a collective work of art, where users together expressed a unified vision of the future of the river.

- **Participatory Epistemology:** refers to an approach to research and knowledge that actively involves individuals in the knowledge construction process (Fifueiredo, 2015; Franco, 2016).

Methodological Application: the use of QR codes directed to the NIESA website to make available support material with technical information, as well as the requirement that all groups participate in decisions about the future uses of water, ensuring that knowledge is not monopolized by a specific group, are examples of the application of participatory epistemology that seeks to democratize knowledge, making it accessible to all involved.

DATA COLLECTION AND ANALYSIS

The data collection process occurred in three main steps. These steps involved visits to three cities in Mato Grosso, followed by digitization and analysis of the collected data, as described below:

- **First Step - Data collection, naming, and grouping of maps:** At each meeting, maps corresponding to the five study regions (Upper Cuiabá, Lower Cuiabá, Middle Cuiabá, Coxipó, and Manso) were taken, and they had 1 hour to identify and mark with stickers the usage preferences they would like to see on the river in each of the mapped regions and then the choices made were discussed. After this step, each map was named in a way that allowed the identification of the group and the city that made the markings.
- **Second Step - Digitization of maps after meetings:** all maps with stickers were digitized. This step aimed to visually preserve the opinions expressed and ensure that the information could be organized and analyzed in digital format.

- **Third Step - Analysis and categorization of usage preferences:** the analysis of the digitized maps was conducted by observing the markings made on each map and in parallel, a quantitative analysis was made of the frequency of participation in each region, as well as the profile of the participants. The process involved entering the data into an Excel spreadsheet, which categorized usage preferences by region, group, and type of desired use. Counting the markings allowed us to identify preference patterns for each of the five regions studied.

These three steps allowed a systematic and structured collection of participants' opinions on the desired uses for the river, based on a participatory methodology and focusing on the geographic contextualization of preferences.

RESULTS AND DISCUSSION

The results reveal discrepancies and similarities in water use priorities among stakeholder groups, considering each sub-basin separately and in general terms. It was decided to analyze the data based on the number of "stickers" that all participants used to represent the different uses in each sub-basin, with the aim of obtaining a more comprehensive view of preferences instead of segmenting them by the working groups formed during the dynamics. Tables 1, 2, and 3 present the data collected in public meetings held in Cuiabá, Barão de Melgaço, and Nobres, respectively.

All results and details of the public meetings were published on the official NIESA website, available at the following link: <https://niesa.ufmt.br/enquadramento/resultados-das-reunioes/>.

ANALYSIS OF LOCAL USE PREFERENCES

To analyze local usage preferences, the results of the sub-basins corresponding to each region consulted were considered. In total, 96 people participated in the public meeting in Cuiabá, 40 in Barão de Melgaço, and 54 in Nobres, representing a diversity of entities, such as UFMT, NIESA, SEMA, FIEMT, ARSEC, MP-MT, as well as students, members of the local community and other groups.

- **Cuiabá - Lower Cuiabá Sub-basin:** At the public meeting in Cuiabá, the most voted water uses were Preservation of the natural balance (16), Public supply (15), and Sewage (14). Tourism and Fishing received 10 and 9 votes, respectively, showing that, although they are not priorities, they can be considered as desired (**Table 1**). However, these results seem to indicate a greater concern with the availability of drinking water and environmental preservation in the capital, which would be consistent with the urban dynamics and economic development of the region.
- **Barão de Melgaço - Lower Cuiabá Sub-basin:** For this region, the results had a distribution of uses that emphasized the Preservation of the natural balance (11), Fishing and Public Supply (7), and Tourism/Bathing and Animal Quenching thirst (6) (**Table 2**). These results may reflect local identity and the economy based on activities such as fishing and tourism aligned with urban public supply needs.
- **Nobres - Middle Cuiabá Sub-basin:** The most voted use was Public supply (15), followed by Tourism/Bathing (14) and Fishing (13). Other activities considered desirable include irrigation (9) and Industry (9) (**Table 3**). The preference for activities such as tourism and fishing in this region can be seen as a projection of the

importance of Nobres' image as an emerging tourist destination known for its crystal-clear waters and ecotourism activities. At the same time, the priority given to public supply (15 votes) highlights the local need to guarantee water for domestic use.

Table 1. Data collected at the public meeting in Cuiabá

Water uses/Sub-basin	Upper Cuiabá	Middle Cuiabá	Lower Cuiabá	Coxipó	Manso	TOTAL UPG-P4
Tourism/Bathing	8	20	10	11	11	60
Fishing	5	21	9	4	7	46
Fish farming	1	10	1	1	3	16
Irrigation	1	6	5	4	3	19
Industry	0	11	1	1	2	15
Energy	1	3	2	1	7	14
Mining	1	8	1	1	1	12
Sewage	4	34	14	12	18	82
Public water supply	6	33	15	9	15	78
Water treatment	1	14	6	1	4	26
Reservoir	1	4	0	1	6	12
Protection of aquatic environments	18	24	5	8	18	73
Navigation	0	0	2	0	0	2
Preservation of the natural balance	21	12	16	22	24	95
Secondary contact recreation	1	2	1	5	5	14
Landscape harmony	0	1	2	1	0	4

Table 2. Data collected at the public meeting in Barão de Melgaço

Water uses/Sub-basin	Upper Cuiabá	Middle Cuiabá	Lower Cuiabá	Coxipó	Manso	TOTAL UPG-P4
Tourism/Bathing	4	4	6	3	5	22
Fishing	0	7	7	0	7	21
Fish farming	0	1	5	0	0	6
Irrigation	0	1	5	0	4	10
Industry	0	2	4	0	1	7
Energy	0	0	0	0	1	1
Mining	0	3	4	1	0	8
Sewage	2	9	3	3	6	23
Public water supply	2	9	7	4	7	29
Water treatment	1	3	6	0	6	16
Reservoir	0	0	6	0	0	6
Protection of aquatic environments	4	1	6	1	3	15
Navigation	0	0	3	0	0	3
Preservation of the natural balance	11	9	11	7	10	48
Secondary contact recreation	0	0	0	0	0	0
Landscape harmony	0	0	2	0	0	2

Table 3. Data collected at the public meeting in Nobres

Water uses/Sub-basin	Upper Cuiabá	Middle Cuiabá	Lower Cuiabá	Coxipó	Manso	TOTAL UPG-P4
Tourism/Bathing	22	14	4	3	17	60
Fishing	11	13	4	3	7	38
Fish farming	1	0	0	0	0	1
Irrigation	1	9	5	2	7	24
Industry	0	9	6	0	1	16
Energy	4	0	1	0	4	9
Mining	0	5	5	0	0	10
Sewage	0	3	1	0	1	5
Public water supply	3	15	5	3	3	29
Water treatment	3	6	4	1	6	20
Reservoir	4	4	5	1	2	16
Protection of aquatic environments	6	6	6	4	2	24
Navigation	0	0	1	0	0	1
Preservation of the natural balance	1	2	1	0	1	5
Secondary contact recreation	0	0	0	1	1	2
Landscape harmony	0	0	0	0	0	0

ANALYSIS OF USAGE PREFERENCES FOR UPG-P4

The sum of the total number of “stickers” for each sub-basin was considered in the three regions consulted to analyze usage preferences in a generalized way for UPG-P4.

- **Cuiabá:** In general, the uses prioritized by participants in Cuiabá were the Preservation of the natural balance (95), Sewage (82), and Public supply (78). Despite the presence of actors linked to industry and economic development, the categories focused on environmental sustainability, such as Preservation of natural balance and Protection of aquatic environments, received a total of 168 votes, significantly surpassing the categories related to economic development, such as Industry (15), Energy (14), and Mining (12), which totaled only 41 votes. This would indicate that even in an urban center like Cuiabá, there was a strong desire for environmental conservation for UPG-P4 (**Table 1**).
- **Barão de Melgaço:** Considering the total number of “stickers” for each sub-basin, the main uses indicated by the participants of Barão de Melgaço in a generalized way for the UPG-P4 basin were Preservation of the natural balance (48), Public supply (29) and Sewage (23) (**Table 2**). The priorities show the same trend observed for the uses of the local basin (Lower Cuiabá), which can be interpreted as a preference of residents for a healthy natural environment to carry out activities such as fishing and tourism, without disregarding essential needs such as water supply and sanitation, also demonstrating concern with access to drinking water in the region.
- **Nobres:** In the general results, the analysis showed the most prioritized uses were Tourism/Bathing (60), Fishing (38), and Protection of aquatic environments (24) (**Table 3**). The strong emphasis on tourism, fishing, and environmental preservation may indicate an attempt to reconcile dominant economic activities with the conservation of the natural environment, as also observed in the choices made by users of Barão de Melgaço.

DIVERGENCES IN WATER USE PRIORITIES

During the group discussions, conflicts were identified regarding water use preferences, revealing that even within the same sub-basin, users have different priorities, such as industry, fishing, tourism, mining, and environmental protection. This highlights the complexity of water resource management and the difficulties of implementing a framework process that is both integrated and harmonious, balancing economic development and environmental preservation. According to Vasconcelos *et al.* (2024), one of the biggest challenges for the integrated management of water resources lies in the integration of information, conducting public consultations, and reconciliation between interested parties in the use of water bodies.

This complexity is exacerbated by generalized approaches that often fail to address regional specificities. Gallego (2014) noted that it is common to try to apply the same solutions to problems with different regional scopes without a reasonable correlation. He claims that the framework, as it was conceived, does not seem to be able to reach more advanced stages when applied at regional levels because it does not have the density and capillarity necessary to cover the types of problems that arise when the analysis approaches the regional scale. The author recognizes that the framework is one of the most complex instruments available in the legislation for the management of water resources and has a strong participatory appeal, as the greater demand for the use of basins results in difficulties in the application of the instrument.

DEFENDING CHOICES AND MAKING USES COMPATIBLE

As mentioned previously, during the final phase of the dynamic, there was a productive discussion in which mediation played a fundamental role. Despite differences concerning desired uses within the same sub-basin, the defense of individual preferences contributed to creating an environment for dialogue. This process allowed participants to understand the needs and concerns of other groups, prioritizing those that were common among different stakeholders. In this way, it was possible to reach a consensus regarding the most appropriate uses in each sub-basin to avoid exclusive uses, given the context of multiple interests and demands on the same bodies of water.

Therefore, attention must be paid to the participatory model in the elaboration of the framework, promoting spaces for qualified discussion to define strategies and protocols and avoiding incompatibilities between the framework proposals for the main river and tributary basins (ANA, 2020). Furthermore, for all stages of the classification process, it is essential to conduct public consultations with the different actors involved in the basin, such as public agencies, regional leaders, businesspeople, farmers, fishermen, non-governmental organizations, and the general population. The consultations allow the identification of several “visions of the future” and, therefore, make the process more legitimate by considering the different desires that exist in the basin (ANA, 2011).

REFLECTION AND ADJUSTMENT

By participating in the planning and visioning process for the development of water resources in the future, the methodology also encourages collective responsibility and awareness, this responsibility being a crucial element of environmental ethics, which aims to balance human needs and protect the natural environment (MATA & CAVALCANTI, 2002). On the other hand, the participatory epistemological ethical field through Freire's philosophy and Schwartz's ergology affirms that knowledge is not outside the human, waiting to be discovered, and instead, it is constructed in everyday life by men and women, with their different knowledge (BORGES, 2021). In the method applied, the projection of the desired uses for the framework was co-constructed by the basin users themselves, respecting and valuing their preferences, interests, and knowledge.

The importance of social participation can go beyond the River Basin Committee (CBH), ensuring that directly affected communities have a voice in decisions that impact their quality of life and the future use of water. As with social participation, different groups express their perceptions and needs, helping to mediate divergent interests and ensure that decisions on the classification of water bodies reflect the real demands of the population.

CONCLUSIONS

The results of the participatory dynamics can serve as a basis for the preparation of proposals for the classification of water bodies, supporting decision-making by the CBH. The preferences collected during the public consultations provide an overview of local needs, which will be essential to develop proposals more aligned with the socioeconomic and environmental reality of each sub-basin. In this way, the social participation process would influence the classification and legitimize the CBH's decisions, ensuring more transparent management.

For basin plans to be developed or revised in the state, participatory approaches that provide additional information could be considered to ensure the engagement of communities in all stages of the plan development process, making the results of public meetings to classify watercourses available. This way, it is more likely that community members will follow the proposals, thus strengthening the commitment and co-responsibility among all those involved.

REFERENCES

ANA. Agência Nacional de Águas. **Plano de recursos hídricos e enquadramento dos corpos de água** / Agência Nacional de Águas e Saneamento Básico. Brasília: SAG, 2011.

ANA. Agência Nacional de Águas e Saneamento Básico. **Enquadramento dos corpos d'água em classes** / Agência Nacional de Águas e Saneamento Básico. -- Brasília: ANA, 2020.

AMARAL FILHO, F. S. Ética e Estética são um? O que isto pode ter a ver com a Educação escolar? **Educ. Real.**, Porto Alegre, v. 43, n. 2, p. 387-399, abr. 2018. DOI: <https://doi.org/10.1590/2175-623660334>.

BRASIL. Conselho Nacional do Meio Ambiente – CONAMA. **Resolução nº 396 de 03 de abril de 2008**. Dispõe sobre a classificação e diretrizes ambientais para o enquadramento das águas subterrâneas e dá outras providências. Available at: <https://portalpnga.ana.gov.br/Publicacao/RESOLU%C3%87%C3%83O%20CONAMA%20n%C2%BA%20396.pdf>. Access on: 2024 Aug. 19.

BRASIL. Ministério do Meio Ambiente. Conselho Nacional do Meio Ambiente (CONAMA). Resolução CONAMA nº 430, 13 de maio de 2011. Dispõe sobre as condições e padrões de lançamento de efluentes, complementa e altera a Resolução nº 357, de 17 de março de 2005, do Conselho Nacional do Meio Ambiente. **Diário Oficial da União**, Brasília, 2011.

BRASIL, **Lei nº 9.433, de 08 de janeiro de 1997**. Institui a Política Nacional de Recursos Hídricos. Available at: http://www.planalto.gov.br/ccivil_03/leis/l9433.htm Access on: 2024 Aug. 19.

BRUNO, L.O.; FANTIN-CRUZ, I. Comitês de bacias hidrográficas e a gestão participativa dos recursos hídricos no estado de Mato Grosso. **Caminhos de Geografia**, v. 21, n. 73, 2020 p. 332–346.

BORGES, M. E. O que a obra de Paulo Freire nos convida a pensar? **Educação: Teoria e Prática**, v. 31, n. 64, 2021. DOI: <https://doi.org/10.18675/1981-8106.v31.n.64.s16181>

CAMPOS, J. A gestão integrada dos recursos hídricos: uma perspectiva histórica. **Revista Eletrônica de Gestão e Tecnologias Ambientais**, v. 1, n. 1, p. 111–21, 2013. DOI: <https://doi.org/10.9771/gesta.v1i1.7109>

COSTA, M. L. M. E.; SILVA, T. C.; LIMEIRA, M. C. M. Investigação sobre as relações interinstitucionais e interdisciplinares para o planejamento integrado de recursos hídricos na bacia hidrográfica do Rio Gramame, Brasil. **Engenharia Sanitária e Ambiental**, v. 26, n. 2, p. 291–299, 2021. DOI: <https://doi.org/10.1590/s1413-415220190119>

DE ARAÚJO, G. C. Arte e Estética na Educação: uma Dimensão Epistemológica. **Revista humanidades**. v. 11, n. 1, p. e44157, 2021.

FIGUEIREDO, G. Investigación Acción Participativa: una alternativa para la epistemología social en Latinoamérica. **Revista de investigación**, v. 39, n. 86, p. 271-290, 2015.

FIGUEIREDO, D; MIGLIORINI, R; DA SILVA, L; OBADOWISKI, L. **Gestão das águas de mato grosso: panorama atual e desafios futuros**. Panorama dos recursos hídricos no Brasil. São Paulo: ABGE, 2024.

FRANCO, M. A. DO R. S. Prática pedagógica e docência: um olhar a partir da epistemologia do conceito. **Revista Brasileira de Estudos Pedagógicos**. v. 97, n. 247, p. 534–551, 2016.

GALLEGO, C. E. C. **Nova visão sobre o uso integrado de instrumentos para aumento da efetividade da gestão de recursos hídricos**. 163 f. Tese (Doutorado em Engenharia de Recursos Hídricos e Ambiental) - Universidade Federal do Paraná. Curitiba, 2014.

IBGE. Instituto Brasileiro de Geografia e Estatística. **Censo Brasileiro de 2022**. Rio de Janeiro: IBGE, 2022.

MATA, H. T. C.; CAVALCANTI, J. E. A. A Ética Ambiental e o Desenvolvimento Sustentável. **Brazilian Journal of Political Economy**, v. 22, n. 1, p. 176–191, 2002. DOI: <https://doi.org/10.1590/0101-31572002-1255>

MATO GROSSO. **Lei nº 11.088, de 09 de março de 2020**. Institui a Política Estadual de Recursos Hídricos. Available at: https://progestao.ana.gov.br/acoes-estados/mt/lei-no6945-97_mt.pdf/view. Access on: 2024 Aug. 23.

Projeto MapBiomass – **Coleção 7 da Série Anual de Mapas de Cobertura e Uso da Terra do Brasil**. Available at: <http://mapbiomas.org>. Access on: 2024 Jul. 13.

VASCONCELOS, F; GOMES, B; SILVA, V. **Diagnóstico e desafios da gestão de recursos hídricos em Minas Gerais**. Panorama dos recursos hídricos no Brasil. São Paulo: ABGE, 2024.

Received on: 2024/10/29

Approved on: 2024/12/12