# Analysis of the approach to environmental education in the VerdeAzul Municipality program

# João Paulo Pereira Duarte

Doutorando em Ciências Ambientais, UFSCAR, Brasil. joaopaulopereiraduarte@estudante.ufscar.br

# Luiz César Ribas

Professor Assistente Doutor, UNESP, Brasil. luiz.c.ribas@unesp.br

#### **ABSTRACT**

The awareness of the importance of the environment in people's lives is effectively promoted through Environmental Education. Thus, it is crucial for the state to play an active role by providing resources that offer experiences related to this field, aiming to broaden the population's understanding of environmental interconnections and their implications. In this context, a qualitative analysis of the directive of the Green Blue Municipality Program (PMVA) related to Environmental Education is sought. This analysis is based on key state and national documents in this area, including the National Environmental Education Policy (PNEA), the National Environmental Education Program (ProNEA), the State Environmental Education Program (PEEA-SP), the National Curriculum Parameters (PCN - 1st to 4th grades), and the National Curriculum Parameters (PCN - 5th to 8th grades). In general, it is concluded that the criteria established by the PMVA in the directive related to Environmental Education are aligned with the main environmental programs and policies in the country. This alignment represents a significant advancement and contributes to the standardization of legally promoting Environmental Education practices. However, it is imperative that the PMVA stays updated, keeping pace with contemporary demands. Initially conceived in 2007, the program addressed the challenges of that time. However, considering that new issues and perspectives have emerged, it is essential for the program to adapt to this constantly evolving reality. This update will provide more effective planning for municipalities in Environmental Education management, promoting an approach more in line with current needs and challenges.

KEYWORDS: Planning. Environmental Education. Cities.

#### 1 INTRODUCTION

Environmental Education plays a crucial role in raising awareness about the importance of the environment in people's lives. Given this significance, in certain situations, it is the responsibility of the state to provide means, enabling the population to have experiences related to Environmental Education and its implications.

In this context, the state acts as an intermediary by creating laws, plans, and public policies that strengthen Environmental Education at the municipal, state, and national levels. This understanding is rooted in the recognition, as expressed by Dias (2004, p. 121), that "nothing is resolved regarding environmental issues without political decisions," highlighting the classic role of the state as a mediator of power (LAYRARGUES, 2002).

Dias (2004, p. 165) emphasized the importance of Environmental Education programs and projects aligning with the National Environmental Policy. In a regionalized context, this implies considering the National Environmental Education Policy. This approach provides standardization in the formulation of municipal and state policies, programs, and actions, as it is based on a single policy that simultaneously incorporates elements consistent with the principles of Environmental Education at the national level.

Thus, the focus of this work is on the Green Blue Municipality Program of the state government of São Paulo, established in 2007. This policy seeks to intensify the interaction between the state and municipalities, proposing guidelines and criteria to be followed by municipalities. Compliance with these guidelines results in scores on a state ranking, offering, in return, preference in resources and awards.

#### **2 OBJECTIVES**

To perform a qualitative analysis of the guideline within the Green Blue Municipality Program (PMVA) related to Environmental Education.

### **3 METHODOLOGIES**

The qualitative analysis was conducted based on five documents that address Environmental Education, which are:

- National Environmental Education Policy (PNEA);
- National Environmental Education Program (ProNEA);
- State Environmental Education Program (PEEA-SP);
- National Curriculum Parameters (PCN 1st to 4th grades); and
- National Curriculum Parameters (PCN 5th to 8th grades).

A comparison was made between the approaches, highlighting the similarities and differences among the guidelines, objectives, and principles presented.

### **4 RESULTS AND DISCUSSIONS**

O The first document to be considered is the National Environmental Education Policy, decreed and sanctioned in Law No. 9,795, which states in the first three articles:

Article 1: Environmental education is understood as the processes by which individuals and communities build social values, knowledge, skills, attitudes, and competencies aimed at the conservation of the environment, a common good of the people, essential for a healthy quality of life and its sustainability. Article 2: Environmental education is an essential and permanent component of national education, and it must be present, in an articulated manner, at all levels and modalities of the educational process, both formal and non-formal. Article 3: As part of the broader educational process, everyone has the right to environmental education (BRAZIL, 1999).

With these statements in mind, the scope that Environmental Education gains from this law is understood, as well as the complexity it introduces to its implementation on a national level. The four sanctioned chapters serve as the primary guidelines that should underpin any interventions carried out by the public authorities.

Considering the regional focus of the Green Blue Municipality Program (PMVA), the State Environmental Education Policy of the state of São Paulo, established in 2007, should also be regarded as a guiding source for the development and creation of programs and plans. According to Law No. 12.780, the following provisions are instituted in its initial chapters:

Article 1: The State Environmental Education Policy is established. Article 2: The State Environmental Education Policy, created in accordance with the principles and objectives of the National Environmental Education Policy (PNEA), the National Environmental Education Program (ProNEA), and the State Environmental Policy. Article 3: Environmental Education is understood as a permanent process of individual

and collective learning and formation for reflection and the construction of values, knowledge, skills, attitudes, and competencies, aiming at improving the quality of life and a sustainable relationship of human society with the environment in which it is integrated. Article 4: Environmental Education is an essential and permanent component of education, and it must be present at the state and municipal levels, in an articulated and continuous manner, at all levels and modalities of formal and nonformal educational processes. Article 5: Environmental Education is an essential and permanent component of the National and State Environmental Policy, and it must be present in an articulated manner at all levels and modalities of environmental management processes. Article 6: As part of the broader educational process in the State of São Paulo, everyone has the right to Environmental Education, and it is the responsibility of the Public Power to define and implement Environmental Education within the scope of their respective competences, in accordance with Articles 205 and 225 of the Federal Constitution, and Articles 191 and 193 of the State Constitution of São Paulo (SÃO PAULO, 2007).

The standards sought in this analysis are observed by the State Environmental Education Policy (PEEA), which is grounded in preceding policies and programs such as the National Environmental Education Policy (PNEA) and the National Environmental Education Program (ProNEA), for example. In summary, it is essential to consider other research, studies, and guidelines to establish conformity and standardization in the understanding of Environmental Education and how it should be approached. This implies that the incorporation of different perspectives and approaches contributes to a more comprehensive understanding aligned with the diverse nuances of this field, promoting a more effective and uniform approach in the realm of Environmental Education.

Table 1. Comparison between the criteria of the EEA directive and the documents related to the National Environmental Education Policy (PNEA) and the State Environmental Education Policy (PEEA).

# Criteria (actions) of the Structure and Environmental Education (EEA) Directive and their correspondences to the National Environmental Education Policy (PNEA) and the State Environmental Education Policy (PEEA).

# Criterion 1 - Municipal Environmental Education Program in operation and approval by the City Council.

PNEA: Specifically, there is no mention of a program for municipalities; however, Chapters II and III provide guidelines for addressing Environmental Education in formal educational settings, as well as actions to support and promote Environmental Education plans and programs, which would indeed be associated with a municipal-level Environmental Education program.

PEEA: There is no mention of a specific Environmental Education program for municipalities; however, there are proposed guidelines on how to establish and implement Environmental Education in formal settings, which could converge into a municipal Environmental Education program.

# $\label{lem:condition} \textbf{Criterion 2-First-level structure or other structures available to municipalities.}$

PNEA: There is no reference. PEEA: There is no reference.

# Criterion 3 - Demonstration of movement of the Municipal Environmental Fund.

PNEA: There is no mention of a fund; however, it is envisaged at the national level that financing of plans and programs in the field of Environmental Education is provided by the managing body, as well as the reallocation of resources for Environmental Education (the possibility of creating a fund) from technical and financial assistance programs.

PEEA: There is no mention of a fund, but for non-formal environmental education, the inclusion of the Environmental Education component in programs and projects funded by public and private resources should be considered.

# Criterion 4 - Action in Green Blue resulting from participation in Consortia, intermunicipal articulation, resulting in a regionalization process.

PNEA: The articulated approach to environmental issues at regional and local levels is treated as a principle and responsibility of the managing body.

PEEA: The articulated approach to environmental issues at regional and local levels is treated as a principle.

#### Criterion 5 - Demonstration of municipal environmental monitoring.

PNEA: There is no reference.

PEEA: There is no reference.

# Criterion 6 - Have at least one permanent employee, whose training and/or experience is related to the natural environment, and at least one permanent employee associated with administration.

PNEA: Training and education of employees in all areas related to Environmental Education are foreseen. PEEA: Training and education of employees in all areas related to Environmental Education are foreseen.

# Criterion 7 - Document demonstrating the creation of an Environmental Education Center or space and proof of its activities.

PNEA: There is no mention of Environmental Education Centers, but the training and mobilization of the population in general regarding Environmental Education, which is an inherent characteristic of Centers, is considered.

PEEA: There is no mention of Environmental Education Centers, but the training and mobilization of the population in general regarding Environmental Education, which is an inherent characteristic of Centers, is considered.

#### Criterion 8 - Municipal environmental database.

PNEA: The establishment of a network of databases and images through study, research, and experimentation actions is considered.

PEEA: The establishment of a network of databases and images through study, research, and experimentation actions is encouraged.

Source: Prepared by the authors (2022)

Criteria 2 and 5 demonstrate a lack of alignment not only with the National Environmental Education Policy (PNEA) but also with the State Environmental Education Policy (PEEA). This is primarily due to the characteristics related to the organizational structure of Criterion 2 and the supervisory nature of Criterion 5. While these elements may be considered relevant in a broader environmental context, they deviate from the fundamental purpose of Environmental Education.

This observation is not an isolated case, as it is noted that public educational institutions, for instance, are not efficiently fulfilling the objectives outlined in Article 5 of the National Environmental Education Policy (PNEA) (AZEVEDO; RIONDET-COSTA; SANTOS, 2017).

Both the PNEA and PEEA are developed with established foundations in the training and capacity building of personnel, the implementation of Environmental Education in formal and non-formal school settings, community mobilization on the subject, and coordination between sectors, fostering plans and programs dedicated to Environmental Education (PNEA, 1999; PEEA, 2007).

The remaining criteria (1, 3, 4, 6, 7, and 8) align with one or more points articulated in both documents, reaffirming their conformity with state and national-level policies.

In the context of Environmental Education in the school environment, the need to approach it not only as an isolated discipline but also in an interdisciplinary manner is emphasized. The National Environmental Education Policy (PNEA, 1999) highlights the importance of adopting an approach that favors the "pluralism of ideas and pedagogical

conceptions, from the perspective of inter, multi, and transdisciplinarity." Additionally, for educational institutions, there should be the promotion of "Environmental Education in a transversal and interdisciplinary manner integrated into the educational programs they develop" (PEEA, 2007).

Repeatedly, attention is drawn to the criterion addressing the transversality of Environmental Education in the school curriculum:

"a) Municipalities that have a Legal Instrument (norm) establishing Environmental Education as a cross-cutting subject in municipal public schools."

This provides further support to the proposal addressing the return of action to the EEA directive. Furthermore, the main characteristics of both policies are represented by one or more current criteria present in their respective directives.

There is also the National Environmental Education Program (ProNEA), which has already seen five editions published, the latest in 2018, which will be considered for analysis.

According to the document itself, the program "has, as a guiding axis, the perspective of sustainability based on the Treaty of Environmental Education for Sustainable Societies and Global Responsibility" (ProNEA, 2018).

Its actions are intended to ensure, within the educational sphere, the balanced interaction and integration of the multiple dimensions of sustainability, seeking social involvement and participation in the protection, recovery, and improvement of environmental conditions and the quality of life of all living beings (ProNEA, 2018).

Thus, it establishes five fundamental guidelines for direct and indirect governmental action. These are: transversality, transdisciplinarity, and complexity; decentralization and spatial and institutional articulation, based on a territorial perspective; socio-environmental sustainability; democracy, mobilization, and social participation; improvement and strengthening of Education Systems (formal, non-formal, and informal), Environment, and others that interface with Environmental Education; and integrated planning and action among various actors in the territory.

Despite presenting its own peculiarities, the National Environmental Education Program (ProNEA) maintains and proposes guidelines consistent with previous legislation, fundamentally not altering the core of the agendas, practices, and actions developed in preceding years.

The axes that deal with transversality and community mobilization are extensively presented and discussed in all previously analyzed documents and laws. Another axis related to strengthening formal, non-formal, and informal education also aligns with pre-established guidelines in the political and academic spheres. As discussed, the Green Blue Municipality Program (PMVA) incorporates criteria with these emphases and proves effective in proposing them.

The remaining axes exhibit patterns and can be synthesized into three main categories: decentralization, sustainability, and integrated action. Indeed, the PMVA, as discussed in a previous section, is characterized by decentralizing its management to municipalities, and more than that, it predominantly operates in a decentralized manner within municipalities by involving key departments, secretariats, and personnel in program-related activities. This

inclusion can be considered as an integrative approach, where various public servants from different areas collaborate for a common good.

In the category of sustainability, it is noticeable that the Green Blue Municipality Program (PMVA) is fully committed to this objective. On the other hand, the National Environmental Education Program (ProNEA), by adopting the term "socioenvironmental" for the desired sustainability, clearly demonstrates the intention to promote the socialization of the environment, conceiving it as something broader and more humane.

In summary, despite presenting over a hundred pages with principles, objectives, mission, and other aspects, ProNEA draws inspiration from documents like the National Environmental Education Policy (PNEA). In this sense, although it sheds light on the topic, it adds little to the analysis as it is homogeneously linked to the previously discussed provisions.

Lastly, the PMVA does not have an educational core. However, as it aims to address such an important theme as Environmental Education with elements directly related to the education agenda, there is a need to adapt and align with scientifically established foundations, such as the case of the National Curriculum Parameters (PCN).

For the theme of Environmental Education in the formal setting, there are two Common Curriculum Parameters, one covering the 1st to 4th grades and the other addressing the 5th to 8th grades, which include the so-called "transversal themes."

Basically, the PCN "aims to present the guiding lines of the National Curriculum Parameters for elementary education, which constitute a proposal for curricular reorientation" for the responsible departments for the subject in the country (BRASIL, 1998).

"Their function is to guide and ensure the coherence of investments in the educational system, socializing discussions, research, and recommendations, subsidizing the participation of Brazilian technicians and teachers" (BRASIL, 1997).

Inserted into this context are the transversal themes, discussed earlier, which in essence "correspond to important, urgent, and present issues in various forms in everyday life. The challenge that schools face is to open up to this debate" (BRASIL, 1997).

The transversal themes, according to Macedo (1999), are an attempt to articulate different school subjects into a common denominator, justifying this initiative due to the discipline in question's inability to address social reality.

On the other hand, Brasileiro et al. (2022) understand that "these themes are related to emerging topics in today's society, such as gender, health, and the environment, the latter having experienced rapid growth in discussions and practices within schools." The authors highlight the theme related to the Environment, specifically Environmental Education.

Despite some authors' criticisms and questions about the transversal themes in the PCNs (MACEDO, 1999; MOREIRA, 1996), the inclusion of Environmental Education as an interdisciplinary practice in the National Curriculum Parameters was an attempt to legitimize and reinforce the theme (ADAMS, 2012). Furthermore, the legal instrumentalization gives Environmental Education a transversal and inseparable character from the national educational policy (FURTADO, 2009).

Thus, we have two relevant documents - the 1997 PCN and the 1998 PCN - addressing the theme of "Environmental Education," guiding the actions of managers and teachers, as well as underpinning policies and programs in this area.

In general, the two documents do not present significant differences between them; the content is basically the same, differing only in subjective remarks and textual structure.

Both address the Tbilisi Conference, held in 1977, as a milestone for promoting Environmental Education worldwide, and its principles guide potential programs, projects, and even educational policies. As this conference has been discussed previously, it will not be analyzed here. However, this does not overshadow its direct influence on the PCNs.

Given the identified convergence between the PCNs, they are treated in a common manner to facilitate understanding of their foundations and principles that may or may not be in line with the criteria (actions) of the PMVA.

The first note regarding Environmental Education is made through transversality, justified by the need to address it in different areas of knowledge "in order to permeate all educational practice and, at the same time, create a global and comprehensive view of the environmental issue" (BRASIL, 1997, p. 31), not constituting a single discipline.

The areas of Natural Sciences, History, and Geography will be the main partners for the development of the related content here, due to the very nature of their study objects. The areas of Portuguese Language, Mathematics, Physical Education, and Art gain fundamental importance as they constitute basic tools for the student to conduct their process of knowledge construction about the environment (BRASIL, 1997, p. 31).

The theme of transversality has been discussed and defended in a repetitive manner before and reappears as a guideline in the PCNs, reinforcing all previous observations for the inclusion of the criterion that corresponds to the theme:

a) To municipalities that have a Legal Instrument (norm) established, Environmental Education is instituted as a transversal subject in municipal public schools.

Two other observations provide a basis for the criterion that revolves around the creation or maintenance of an Environmental Education Center. The first is presented as follows:

Working with the local reality has the quality of offering an accessible and familiar universe and, therefore, it can be a field of knowledge application. Most of the most significant subjects for students are confined to the nearest reality, that is, their community, their region. And this makes working with the local reality of vital importance for Environmental Education (BRASIL, 1997, p. 50).

In this sense, the second point is clearer and more specific regarding the student's experience outside the school boundaries. "It is also desirable that the school allows its students to go on outings and visits to places of interest for Environmental Education work" (BRAZIL, 1997, p. 53). In practice, an Environmental Education Center may be the best means to fulfill this action.

The sets of procedures to be developed must adhere to three central purposes. The first focuses on the revision of the pedagogical practice to be adopted by teachers. This includes the analysis of the topics covered, teaching strategies used, and the mobilization of both the school and the community. This review aims to ensure an effective approach aligned with the goals of Environmental Education. The second purpose involves a deep understanding of students' interests. It is a direct observation of their difficulties and interests, aiming to diagnose

aspects that may influence their engagement in Environmental Education. Based on this diagnosis, efforts are made to present paths to overcome specific challenges or foster students' interest in this field. Finally, the third purpose consists of creating opportunities for experiences that stimulate learning through practical experiences. These practical experiences provide students with a deeper and more concrete understanding of environmental concepts, contributing to the development of a more informed and active citizenship. With these proposals established, the inclusion of Environmental Education as a transversal theme and the creation of an Environmental Education Center reinforce these ideas and address the gaps generated.

Finally, training is discussed as an important point, especially for teachers in the education network. It is not necessarily imposed on the teacher to specialize in environmental issues but to be open to new knowledge and dialogues.

This does not mean that the teacher should specialize in the subject, but that they can inform themselves while carrying out their activities: researching in books and gathering information with the students or inviting community members (specialized teachers, government technicians, leaders, doctors, agronomists, traditional residents who know the history of the place, etc.) to provide information, answer small interviews, or even participate in teaching at the school (BRASIL, 1997, p. 54).

In contrast, the fundamental need for improvements in salary and working conditions, along with adequate access to educational materials, is emphasized. Without the implementation of these measures, achieving effective change in the educational landscape is challenging.

Previously, Environmental Education has established pedagogical foundations that should guide its form, as well as the means and mechanisms to be taken into account for its development and implementation. However, new research, understanding, and technologies that can be considered emerge every year.

Author Lucie Sauvé, in her article "A Cartography of Trends in Environmental Education," identifies the existence of different trends in the field. The author explains that:

The notion of a current here refers to a general way of conceiving and practicing environmental education. A plurality and diversity of propositions can be incorporated into the same current. On the other hand, the same proposition can correspond to two or three different currents, depending on the angle from which it is analyzed. Finally, although each of the currents presents a set of specific characteristics that distinguishes it from the others, the currents are not mutually exclusive on all levels: certain currents share common characteristics (SAUVÉ, 2005, p. 01).

Thus, the author lists 15 trends in Environmental Education. Representing the more traditional trends are: naturalistic, conservationist/resource-based, problem-solving, systemic, scientific, humanistic, and moral/ethical. On the other hand, treated as more recent trends are: holistic, bioregionalist, praxic, critical, feminist, ethnographic, eco-education, and sustainability.

Many of these trends are encompassed by various programs and policies focused on Environmental Education; the PMVA itself aligns with several trends, such as problem-solving,

naturalistic, sustainability, ethnographic, and others. However, some trends, in particular, bring a new approach to the discussions, such as the praxic trend in which

The emphasis of this current is on learning in action, through action, and for the improvement of it. It is not about developing knowledge and skills in advance for eventual action, but about immediately engaging in a situation of action and learning through the project, for this project. Learning invites reflection in action, in the ongoing project. Let us remember that praxis essentially consists of integrating reflection and action, which thus feed each other (SAUVÉ, 2005, p. 13).

The educational practice detailed and exemplified by Paulo Freire (2019) suggests that the emergence of knowledge requires a combination of action and reflection on the object in question, in this case, Environmental Education. According to Sorrentino et al. (2005), the pedagogy of praxis "involves working with the simplicity of the natural, didactic-pedagogical materials, dialogue, and sharing experiences and knowledge."

Thus, Environmental Education should be based on continuity and permanence, whether in its formal or non-formal nature, involving society and shaping citizens who are conscious and politically and socially responsible, guided by democracy (REIS; SEMÊDO; GOMES, 2012), culminating in the enhancement of citizenship (BRASIL, 1998).

According to Camargo (2022), the critical tendency given to Environmental Education can contribute to the reinvention of educational processes, allowing individuals to construct themselves critically and engage in socio-environmental issues. The emphasis on criticism, questioning, action, and reflection is also observed by Oliveira et al. (2020) within the context of women in the environmental political scenario.

Indeed, this depth of Environmental Education in social and political issues is not observed. The pursuit of criticality in the PMVA relies on the actions of teachers in schools, specifically by bringing Environmental Education as a transversal theme. However, there is nothing concrete that directly responds to Freire's praxis and is predominantly advocated by the academic community.

In addition to its presence in the school curriculum as a transversal theme, Environmental Education Centers could perform these functions by associating their events, actions, and interventions with the social and political engagement of their participants.

Another important trend brought by Sauvé is the feminist theme, according to the author

From the current of social criticism, the feminist current adopts the analysis and denunciation of power relations within social groups. But beyond that, and concerning power relations in political and economic fields, the emphasis is on the power relations that men still exert over women, in certain contexts, and the need to integrate feminist perspectives and values into modes of governance, production, consumption, and social organization. Regarding the environment, a close connection has been established between the domination of women and that of nature: working to restore harmonious relationships with nature is inseparable from a social project that aims to harmonize relationships among humans, more specifically between men and women (SAUVÉ, 2005, p. 16).

The PMVA, in its various documents, does not even mention the feminist agenda. This may be a symptom of the weaknesses in the current Brazilian political situation, which sees the subject as niche and focused only on women. However, the theme should permeate different sectors of society for the discussion to be effective and equitable.

Based on UNESCO documents, Dias (2004, p.156) confirms this absence observed in the PMVA's EEA directive. According to the author, it is globally recognized that projects focused on Environmental Education have failed to include and integrate women in the development and application process, thus not recognizing the role of women in the social context (DIAS, 2004).

The environmental crisis points to the necessary change in human relations. One of the symptoms is the accumulation of ecologist movements formed by women, who, in turn, criticize the dominant capitalist, reductionist, and patriarchal system (OLIVEIRA et al., 2020).

The occupation of spaces by women is of utmost importance; authors Manfrinate, Sato, and Pazos (2019) observed this action in a study:

We believe that part of the struggle of these women takes place in their meeting spaces and in the exchange of experiences, making collective decisions, assuming commitments, and producing knowledge. This knowledge encompasses various aspects, from how to care for children and the home, to planting, harvesting, keeping the soil moist, water conservation, leaving the house, and practicing healing methods. They pass down the wisdom created by their ancestors, as in these spaces, they solve their issues as they arise, thus recreating collective practices (p. 186).

In another study, Lima et al. (2019) concluded that formal or non-formal environmental education was crucial for the political formation and democratic participation of women in environments previously dominated by men.

The alignment of feminist and environmental agendas is a valuable and meaningful approach. This integration can be promoted by proposing a specific criterion that incorporates the feminist perspective into the Environmental Education (EEA) directive, creating a link between feminism and environmental praxis. This proposal aims to provide a more inclusive and integrative representation for all individuals identifying with the female gender, regardless of age. Additionally, it is suggested to include the theme in events organized by the program, such as conferences, lectures, and in Environmental Education Centers. On such occasions, especially on significant dates like International Women's Day, Mother's Day, and LGBTQIA+ events, it would be conducive to fostering debates and discussions around the intersection of feminist and environmental issues. This would provide a valuable opportunity for awareness, learning, and reflection, integrating the gender perspective more deeply into Environmental Education.

### **5 CONCLUSIONS**

In general, it is concluded that the criteria established by the PMVA in the directive representing Environmental Education align with the main programs and policies existing in the country. This signifies progress and standardization in legally promoting Environmental Education.

However, the PMVA needs to update itself, keeping pace with contemporaneity. In its origin in 2007, its proposals addressed the problems of that time. Currently, new issues and challenges have emerged; other perspectives and viewpoints are considered, and the program must adapt to this reality.

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