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Article

The Funding Puzzle in Adult Education for Sustainable Development: Case Study of Slovenia

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Abstract: This study investigates the landscape of public funding for Adult Education for Sustainable Development (AESD) in Slovenia, focusing on the distribution, types of funding, and their impact on accessibility and quality. Using a mixed methods approach to understand the distribution, types of funding, and their impacts on accessibility and quality. Data were collected through an online questionnaire completed by 59 organizations providing non-formal AESD, alongside semi-structured interviews conducted with 12 representatives. Key findings reveal a significant disparity between operational funding and that designated for AESD implementation, with non-governmental organizations (NGOs) emerging as the primary recipients of public funds. Notably, project-based funding predominates, raising concerns about the sustainability of AESD programs due to its typically time-limited nature. Public funding is essential for ensuring program accessibility and quality, as it enables organizations to hire experts and enhance curricula. However, the reliance on project-based grants creates instability, complicating long-term planning and program effectiveness. The study underscores the need for systematic and continuous funding strategies to support AESD, highlighting the importance of a cross-sectoral approach to policymaking. Overall, the research elucidates the intricate relationship between funding distribution, program effectiveness, and the advancement of sustainable development education.

Keywords: sustainable development; public funding; education for sustainable development (ESD); sustainable development goals (SDGs); adult education; public organizations; funding mechanisms

1. Introduction

Sustainable development has gained attention in the thirty years due to the increasing awareness of social disparities and environmental harm caused by human activities. Data shows that our current way of life and societal structures are contributing to a blend of environmental challenges. For instance, between 1995 and 2021 the lower half of the population saw a 2 percent increase in economic growth compared to a substantial 38 percent growth for the wealthiest one percent. Additionally, the top 0.1 percent saw their wealth rise from 7 to 11 percent of wealth during this period. Disparities in influence also translate into disparities in climate impact, with the top 10 percent of polluters accounting for nearly half of carbon emissions while the lower half contributes only 12 percent. It is evident that achieving the Development Goals by 2030 to address these issues is proving challenging.

In this context adult education for sustainable development (AESD) has emerged as a critical tool for fostering societal change and promoting ecological consciousness. As nations worldwide grapple with the implementation of the United Nations' Sustainable Development Goals (SDGs), the role of AESD in equipping adults with the knowledge and skills necessary to address complex sustainability issues has gained increasing recognition. The effectiveness and reach of AESD programs are intrinsically linked to the availability and distribution of (public) funding. This nexus between financial support and educational outcomes forms the core of our study, which seeks to examine the landscape of public funding for AESD in Slovenia. Our research is motivated by a notable gap in understanding regarding the impact of funding mechanisms on AESD initiatives

within the Slovenian context. With our study we hope to provide valuable insights for policymakers, program managers, and stakeholders involved in AESD initiatives. Through a comprehensive analysis of the Slovenian AESD funding landscape, we aim to contribute to the broader discourse on sustainable development education and inform future policy and practice in this critical field.

2. Literature Review

2.1. Proportion of Public Funding Recipients in AESD

The landscape of public funding for organizations involved in adult education for sustainable development exhibits significant diversity across regions. Slovenia, for instance, implemented a noteworthy approach with its 2018 legislation on non-governmental organizations, complemented by a development strategy aimed at enhancing NGO professionalization. This initiative funded 100 NGO positions, achieving a retention rate of 69. However, a critical limitation emerged as most of these positions were filled by individuals already employed in the sector, resulting in minimal net employment growth [1]. In contrast, Poland and Portugal present a different scenario. In these nations, civil society organizations and social movements serve as the primary catalysts for adult education in sustainable development. Their efforts have significantly impacted public awareness and behavior, although precise data on public funding allocations remain scarce [2]. These initiatives encounter numerous challenges, underscoring the necessity for sustained support and a pronounced focus on adult education within the broader framework of Sustainable Development Goals [3,4].

2.2. Funding Disparities among Educational Organizations

The allocation of public funds for education in sustainable development exhibits significant disparities among various types of educational institutions, with far-reaching implications. A case in point is China, where local governments bear a substantial portion of the financial responsibility for compulsory education. This decentralized approach impacts both the equity and quality of educational provision across the nation. Yu and Ma [5] emphasize the necessity for a more balanced funding strategy, advocating for contributions from all governmental levels to ensure equitable educational services nationwide.

In Bosnia and Herzegovina, the distribution of environmental funding demonstrates a notable selectivity. Certain sectors, such as water and energy, receive a disproportionate share of resources, while others, including biodiversity and resource management, are allocated significantly less. This prioritization of specific public (and potentially private) sector initiatives results in an uneven distribution of resources [6].

On a global scale, there exists a marked disparity between low- and middle-income regions and their high-income counterparts. The latter tend to invest more substantially in education and human capital development. This inequality is not merely statistical but has tangible consequences. Non-governmental and private organizations in less affluent regions often face considerable challenges in securing adequate public funding for sustainable development education [7].

It is crucial to recognize that education is not simply one among many global priorities. The United Nations has positioned it at the forefront of its Sustainable Development Goals (SDGs), acknowledging its pivotal role in social advancement and sustainable practices. This emphasis underscores the imperative for equitable investment across all types of organizations [8].

2.3. Common Types of Public Funding for AESD

Public funding mechanisms are multifaceted and complex, extending far beyond their surface appearance. Project-based funding has gained significant prominence, particularly within European Union (EU) policymaking circles. This approach introduces a specific set of rules and norms, establishing what some scholars refer to as a 'project world' that is fundamentally altering the implementation of EU policy [9]. It is crucial to consider the role of local actors in this context. In Organisation for Economic Co-operation and Development (OECD) countries, municipal governments are responsible for an average of 41% of total public investment, representing a

substantial portion of public finance allocation. When examining research and development (R&D), the significance of public funding becomes even more pronounced. It serves as a critical catalyst for innovation, particularly in the realm of sustainable technologies. The EU's aspirations for growth and sustainability are reflected in its financial commitments. However, a notable challenge arises from the disparity in investment levels and innovation performance among EU member states [10]. The EU has implemented various funding programs to address these challenges. Karafolas and Woźniak [11] mention initiatives such as LEADER and URBAN that provide both direct and indirect financial support to national and regional programs. The scale of this support is substantial, with the EU's multiannual financial framework recently allocating over one trillion euros, primarily focused on sustainable growth and natural resource preservation [11]. At the national level, public research funding operates under different paradigms. There is a dichotomy between competitive project-based funding and institutional funding, both aimed at supporting specific research objectives and facilitating evidence-based policymaking [12].

2.4. Linking Funding to ESD Content and Teaching Methods

Public funding plays a role in shaping the approaches to teaching Education for Sustainable Development (ESD) in educational systems. Finland, with its funding, has effectively integrated sustainability into its curriculum, setting an example for countries [13]. On the other hand, Italy faces constraints and difficulties in incorporating ESD into education, showcasing how financial resources impact educational outcomes significantly.

Institutions of higher education (HEIs) adopt strategies depending on their funding models. Funded institutions often blend ESD into existing courses while creating programs that cater to students from various fields [14]. Private universities that heavily rely on tuition fees tend to concentrate on research areas related to the 2030 Agenda like quality educational management [15]. As delineated in the review by Gutiérrez-Mijares et al. [16], financial resources play a critical role in enabling institutions to implement sustainability initiatives, develop comprehensive assessment methods, and enhance their operational strategies towards sustainability. Adequate funding ensures that universities can invest in sustainable infrastructure, research, educational programs, and community engagement projects. The assessment methods used for sustainability in universities vary widely and are greatly influenced by the funding [16].

Even in education, funding impacts how sustainability concepts are taught. In Spain, the importance placed on courses, like water and energy conservation, varies, highlighting the need for efforts to promote behaviors [17]. An interesting case study can be seen in China. Local governments shoulder a part of the expenses for education, impacting both its quality and fairness. An equitable funding system could potentially improve the incorporation of ESD content [5]. This is crucial as ESD plays a role in achieving the Development Goals (SDGs) and requires substantial investments [18]. The progress of education in integrating ESD principles varies. For instance, Portuguese economics programs show integration of ESD concepts, indicating a need for financial support and policy backing [19].

The increasing demand for education on development emphasizes the need for public funding. This is vital to implement curriculum changes that align with sustainability objectives and ensure that educational institutions can prepare students with the skills to tackle environmental and social challenges. Overall, the differences in how ESD is put into practice in educational systems and levels highlight the importance of public funding. Increased financial assistance could help to integrate sustainability principles into curricula, equipping students better to tackle the intricate issues of sustainable development.

2.5. Impact of Funding on Accessibility and Quality in AESD

The role of public funding in adult education for sustainable development can't be overstated. It's a key factor in determining both access to and quality of these crucial programs. When adult education centers have enough money, they can get the tools and resources they need, which in turn helps more people take part. A study in Kenya's Murang'a South Sub-County showed this clearly -

when government funding fell short, adult education centers struggled to provide basic resources, and fewer learners could participate [20].

We need to think hard about how we fit sustainability into education policy. It's not just about the environment - it's about tackling society's problems and pushing for social justice. This means we might need to rethink what we mean by 'sustainability' to make it fit better with the goals of adult education [21,22]. Even though lifelong learning gets a nod in the Sustainable Development Goals, adult learning often gets left out of important international papers. This oversight could make it harder to reach our bigger sustainable development goals. It shows we need to look at policy-making in a way that brings different sectors together and gives adult education its due [4].

Public money for adult education in sustainable development does more than just keep the lights on. It sets standards and provides resources that can really shake up curricula and improve teaching. Without it, we risk programs that can't meet the mark or bring about real change.

Governments are increasingly discerning in their approach to this matter. As it is pointed out by Lăzăroiu [23], certain administrations are now integrating the allocation of research funding with the evaluation of universities' proficiency in addressing sustainability concerns. It is a clever move that pushes schools to weave sustainability into their teaching methods and course content. However, the journey is not without its challenges. The UK's Learning to Last initiative revealed the inherent tension between business-oriented methodologies and more comprehensive, ecological approaches in the pedagogy of sustainable development. [24]. These programs often struggle to foster creative and conceptual learning because they're so focused on specific goals.

Wehrmeyer et al. [25] demonstrated the effectiveness of short, publicly funded training courses that build on participants' existing knowledge and foster a positive learning environment, even with limited time constraints.

As we think about sustainability in adult education, we need to remember it's not just about the environment. We need to reconsider what sustainability means to better line up with adult learning and social justice goals [21].

2.6. Aims of the Study

This research project examines the support provided to institutions involved in adult education for sustainable development (AESD) in Slovenia. A knowledge gap exists regarding the impact of these efforts within the local context, this is why this study aims to illuminate the state of funding for AESD in Slovenia, identifying both the beneficiaries and those excluded from receiving aid. The research investigates into how government entities in Slovenia oversee resource allocation, while non-governmental organizations (NGOs) face challenges in maintaining their operations. Additionally, we explore the funding dynamics within the AESD sector. Does funding primarily support short-term projects, or are there resources that sustain these programs over time? A key aspect under investigation is how increased funding influences the teaching methodologies adopted by sustainability education programs. Does funding lead to the implementation of innovative teaching techniques, or is it mainly directed towards infrastructure enhancements? Finally, our goal is to determine whether supporting these initiatives leads to improvements and increased accessibility for individuals in Slovenia. Is the fund distribution effective, or is there room for enhancement?

By addressing these questions, we aim to offer insights to those managing the funding and supervision of similar initiatives in Slovenia, as well as to policymakers globally. We believe this approach could significantly enhance adult education in the sustainability sector and contribute to achieving the Sustainable Development Goals.

Research Questions

1. What is the proportion of organizations receiving public funds for adult education in sustainable development?
2. Are there differences in the share of public funding among various types of organizations (public, private, non-governmental)?

3. What types of public funding are most common (e.g., project-based, permanent, municipal, national, EU) among organizations providing education for sustainable development?
4. Are there connections between the share of public funding and other aspects of education for sustainable development, such as content or teaching approaches?
5. What is the impact of public funding on the accessibility and quality of adult education for sustainable development?

3. Materials and Methods

3.1. Method

In our study, we opted for a mixed methods research approach because it is primarily used to investigate complex research problems that require in-depth understanding and different types of data and evidence [26]. This approach is also recommended by Komatsu et al. [27] for the study of education for sustainable development.

3.2. Sample

At the organizational level, we asked all organizations in Slovenia that provide non-formal Adult Education for Sustainable Development (AESD) to complete an online questionnaire. We then conducted semi-structured interviews with twelve representatives of the organizations. To participate in the study, an organization had to meet at least one of three criteria: It had to (a) implement itself as Education for Sustainable Development (ESD), (b) pursue the Sustainable Development Goal (SDG) 4.7 and (c) simultaneously pursue the goals of environmental protection and increasing social justice in the context of non-formal adult education. In March 2023, through a review of websites, we identified 43 organizations that met at least one of the specified criteria and invited them to complete the questionnaire. We also asked participants to suggest relevant organizations based on their knowledge of the field. Through this snowballing process, a further 26 organizations were identified and invited to participate.

A total of 59 organizations completed the questionnaire. These included 20 public organizations, 3 private institutions and 36 non-governmental organizations (NGOs). Most of the participating organizations stated that they implement ESD in the context of non-formal adult education (83 percent) and pursue the goals of environmental protection and social justice (75 percent). Around half (53 percent) stated that they were pursuing SDG 4.7. Of the representatives of the organizations that completed the questionnaire, 46 percent indicated that they function primarily as an organizational leader, 36 percent as an education coordinator, 31 percent as a department/project leader, 22 percent as an education provider and 6 percent as others.

In addition to the list of invited organizations and the request for additional suggestions, the final section of the online questionnaire included an invitation to participate in the next phase of the research through interviews. Seventeen representatives of organizations responded to this call. Ultimately, interviews were arranged and conducted with 12 representatives of organizations, including 3 from public organizations and 9 from non-governmental organizations. The interviewees included 6 organization heads, 4 project/department heads and 2 education coordinators. All interviewees have been working in their respective organizations for some time and are well acquainted with ESD practices in their institutions.

3.3. Instruments

3.3.1. Survey

At the organizational level, we used two research instruments to collect data: a questionnaire and semi-structured interviews. We adapted the latter before each interview based on the participants' previous responses to the questionnaire. The most extensive question in the survey related to the importance of different goals in non-formal Adult Education for Sustainable Development (AESD). The study participants indicated on a five-point Likert scale to what extent

these goals were important in their non-formal AESD. We assumed equal intervals between the scale categories (completely unimportant, mostly unimportant, neither unimportant nor important, mostly important, very important), which allowed us to calculate means and standard deviations. We also used a five-point Likert scale for the second most comprehensive question in the survey, which referred to the frequency of use of different didactic approaches in AESD (with response options: never or almost never, rarely, occasionally, frequently, always or almost always), and for the question on the level of public funding for organizational operation and implementation (with response options: none, less than half, about half, more than half, completely). The remaining questions and statements of the questionnaire were closed and offered the choice between predefined answers or the completion of statements. This method allowed us to obtain data on the nature of each organization and the participant's role in it. This included the inclusion criteria for the study, the AESD content areas addressed (proposals identified through literature and policy review), the nature of funding, and the pursuit of theoretical perspectives or strategies in AESD implementation.

Since we assume that we obtained data from all organizations implementing non-formal ESD in Slovenia at the time, the analysis of the collected data was conducted solely at the level of descriptive statistics.

3.3.1. Interview

Through an invitation to further collaboration, we recruited 12 participants for semi-structured interviews from the representatives of the organizations that had completed the questionnaire. We conducted the interviews using 15 prepared open-ended questions, which we supplemented before each interview based on each participant's responses to the questionnaire and reinforced with additional sub-questions during the interview as needed. Some questions were aimed at deepening and concretizing the answers given in the questionnaire, while others sought information that could not be obtained through a short questionnaire with closed questions. The latter included questions about the characteristics of each organization (e.g., "What is the main mission of your organization and how long has it been existing?") and their AESD practices (e.g., "Who supports your AESD?") as well as the motives for implementing AESD ("When did your organization start organizing AESD, and what led to this decision?"). The former included questions about the pedagogical approaches themselves (e.g., "How do you integrate the theoretical perspectives you mentioned in the questionnaire into your AESD?"; "What artistic practices do you incorporate into AESD?") and organizational processes (e.g., "What are the main policy influences on your AESD implementation?"; "What are the specific public funding sources for your AESD?").

3.4. Procedure

Data collection was carried out through an online survey and a semi-structured interview. Completing the questionnaire and conducting the interviews took two months, from March to May 2023. The questionnaire was completed using the online tool 1KA (<https://www.1ka.si/d/en>) and took an average of 9 minutes, while the interviews took an average of 45 minutes.

Based on the respondents' preferences, four interviews were conducted in person (at the premises of the participating organization or at the faculty), while 8 interviews were conducted as video calls via the Zoom platform. With the consent of the interviewees, we recorded the interviews and transcribed them afterward.

Throughout the study, we adhered to the principles of personal data protection and ethical scientific research. All participants were informed about the purpose of the study and volunteered to participate. The online questionnaire data was collected anonymously, with participants given the option to enter the name of their organization and informed that their organization would be listed among the participating organizations in the research report if they entered it. Similarly, we offered interview participants the choice of being listed in the research report anonymously as a representative of a particular organization or with their full name and affiliated organization. All chose the latter option and confirmed this by signing a consent form.

4. Results

4.1. The Proportion of Organizations Receiving Public Funds for AESD

Table 1 illustrates the proportion of different types of organizations receiving public funds for Adult Education for Sustainable Development (AESD).

Table 1. Proportion of Organizations Receiving Public Funds for AESD (N=59).

Share of Public Funding	Organization Operation	AESD Implementation
None	15.3%	27.1%
Less than half	32.2%	37.3%
About half	8.5%	5.1%
More than half	32.2%	13.6%
Entirely	11.9%	16.9%
Total	100.1%	100%

Note: Respondents were allowed to select multiple answers.

There are differences, in how organizations operate and fund their efforts related to AESD. While a good number of organizations (32.2%) receive funding for more than half of their operations, funding for AESD implementation tends to be lower, with 37.3% relying on public funds for less than half of their efforts. Surprisingly, 11.9% of organizations are fully funded by the public for their operations. A higher percentage (16.9%) receive full public funding for AESD implementation. On the side, a considerable portion (27.1%) do not receive any funding for AESD implementation compared to 15.3% for general operations, indicating possible difficulties in securing adequate resources, specifically, for AESD initiatives.

4.2. Differences in Public Funding among Various Types of Organizations That Provide AESD

Table 2 presents the distribution of public funding for AESD across different types of organizations.

Table 2. Share of Public Funding for AESD by Organization Type.

Organization Type	None (n = 16)	Less than Half (n = 25)	More than Half (n = 18)
Public organization	43.7%	32.0%	27.8%
Private organization	12.5%	4.0%	0.0%
NGOs	43.75%	64.0%	72.2%
Total	100%	100%	100%

Note: Respondents were allowed to select multiple answers.

As we can see in Table 2, a distinctive pattern emerges when public funding for AESD is distributed among the various types of organizations. Non-governmental organizations (NGOs) consistently receive a higher proportion of funding, beginning at 43.75% in the “none” category and rising to 72.2% in the “more than half” category. In contrast, the proportion of public organizations declines from 43.7% to 27.8% across all funding categories. Private organizations are represented by a share that decreases from 12.5% in the “none” category to a negligible presence in the “more than half” category. These findings indicate a shift in the distribution of public funding for ESD, with NGOs receiving a disproportionate share of public funding.

4.3. Types of Public Funding among Organizations That Provide AESD

Table 3 provides an overview of the types of public funding used by different organizations providing Adult Education for Sustainable Development (AESD). It categorizes the reliance on

different funding sources between public institutions, private organizations and non-governmental organizations (NGOs) and shows different funding patterns within each sector.

Table 3. Types of Public Funding Among Organizations that Provide AESD.

	Public (n=13)	Private (n=1)	NGO (n=27)
Continuous financing	0%	0%	2%
Project financing	100%	100%	85.2%
Municipal financing	30.8%	0%	33.3%
National financing	30.8%	0%	51.9%
EU financing	30.8%	0%	66.7%

Note: Respondents were allowed to select multiple answers.

An examination of the financial backing for organizations offering AESD, as depicted in Table 3, unveils marked disparities across the public, private, and NGO sectors. Project-based funding emerges as the primary resource, with both public and private entities showing complete reliance, while NGOs demonstrate a substantial 85.2% dependence. This underscores the pivotal role of project-oriented financing in sustaining these institutions. Interestingly, continuous funding appears exclusive to NGOs, albeit at a modest 2%, suggesting minimal utilization of this approach among the surveyed groups. Local government support manifests differently across sectors, with roughly a third of public entities and NGOs tapping into municipal funds, whereas private organizations eschew this avenue entirely. National funding mechanisms exhibit varying degrees of importance, supporting 30.8% of public sector entities and over half of NGOs. The most striking contrast appears in EU funding utilization, where NGOs lead the pack at 66.7%, followed by public sector entities at 30.8%, while private organizations report no engagement with this resource. This financial landscape paints a picture of diverse funding strategies, with NGOs displaying the most eclectic approach, particularly in their robust utilization of EU funding channels. Such variations in financial sourcing reflect the unique challenges and opportunities faced by each sector in securing sustainable support for their AESD initiatives.

4.4. Connections between the Share of Public Funding and Other Aspects of AESD

In Table 4, the relationship between public funding share and the provision of content related to various global issues is presented.

To streamline the analysis and enhance the clarity of our findings, we conducted a methodological consolidation of the original categories. This process involved merging closely related topics and overlapping concepts, resulting in a reduction from the initial 29 categories to a more concise set of 14 categories. This merging process was carefully executed to maintain the integrity of core concepts and preserve the essential relationships between related topics, ensuring that no significant content or meaning was lost in the consolidation.

Table 4. Public Funding Share vs. AESD Content Provision.

Content Category	More than half	Entirely	N
Peace and security	80.0%	20.0%	10
Interculturally and global interdependence	77.8%	22.2%	27
Sustainable development goals	77.3%	22.7%	22
Health	76.5%	23.5%	17
Climate change, natural disasters and risk reduction	76.0%	24.0%	25
Relations between developed and developing countries	75.0%	25.0%	4
Sustainable production, consumption, and lifestyle	75.0%	25.0%	36
Natural environment and human relations	74.8%	25.2%	68
Active citizenship, democracy and governance	70.8%	29.2%	24

Human rights, justice, and gender equality	67.6%	32.4%	34
Living conditions globally, poverty and its causes	66.7%	33.3%	15
Local environment, rural and urban development	66.7%	33.3%	27
Ethics	62.5%	37.5%	8
Economic Systems and Corporate Responsibility	56.5%	43.5%	23

Note: Respondents were allowed to select multiple answers.

Results in Table 4 indicate a prevalent perception that public resources are predominantly allocated to content areas addressing global challenges. Notably, "Peace and Security" emerges as the front-runner, with 80% of respondents believing it receives substantial attention. Close behind are "Intercultural and global interdependence" and "Sustainable development goals," each garnering approximately 77% support. In contrast, "Economic systems, entrepreneurship and corporate responsibility" appears to be less prioritized, with only 56.5% of respondents perceiving adequate funding. Similarly, "Ethics" lags at 62.5%, suggesting these areas may be undervalued in terms of resource allocation. The data reveals a clear emphasis on critical global issues such as peacekeeping, sustainability, and public health. Conversely, topics related to economic frameworks and ethical considerations appear to receive comparatively less attention. It's worth noting that certain categories, particularly "health" and "climate change, natural disasters and risk reduction," stand out in terms of comprehensive funding, with over 23% of respondents indicating full coverage in these areas. In conclusion, the results demonstrate a marked focus on pressing global matters, while highlighting significant disparities in the perceived adequacy of public funding across various content domains.

Table 5 presents Pearson correlation coefficients examining the relationship between public funding share and various Adult Education for Sustainable Development (AESD) teaching approaches. The correlations are assessed across two dimensions: organization operation and AESD implementation.

Table 5. Public Funding Share vs. AESD Teaching Approaches.

Teaching Approaches	Organization Operation	AESD Implementation
Lectures	0.12	-0.02
Artistic Practices	0.17	0.28*
Discussions on SD Topics	0.11	0.40***
Adapting To Participants' Needs	-0.07	-0.12
Active Participation	0.09	0.22
Educational Planning Collaboration	-0.01	-0.02
Group Or Pair Work	0.07	0.09
Collaborative Learning	-0.08	0.01
Participant Reflection	-0.17	-0.07
Problem-Based Learning	-0.10	-0.04

Note: * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

The data reveal only two notable correlations between public funding share and various AESD teaching approaches. Discussions of participants about topics concerning sustainable development exhibit the strongest positive correlation (0.40) with AESD implementation, significant at the $p < 0.001$ level. Artistic practices also show a moderate positive correlation (0.28) with AESD implementation, significant at the $p < 0.05$ level. These correlations are stronger in the context of AESD implementation compared to organization operation. Most other teaching approaches demonstrate weak or negligible correlations with both organization operation and AESD implementation. The data suggest that public funding share has the most substantial positive association with discussion-based and artistic teaching approaches in AESD implementation, while its relationship with other pedagogical methods appears limited or non-existent.

4.5. Impact of Public Funding on the Accessibility and Quality of AESD

This analysis of semi-structured interviews examined the role of public funding in Adult Education for Sustainable Development (AESD), addressing its impact on accessibility and quality (RQ5). The findings reveal that public funding is crucial for both aspects, while also highlighting challenges within existing funding models. Public funding significantly enhances the accessibility of AESD programs. As most organizations operate in the non-profit sector, external financial support is essential for providing free or affordable educational opportunities. The director of the Adult Education Center in North-East Slovenia noted that sustainable development programs "are not programs for which individuals would be willing to pay", underscoring the necessity of public funding to ensure broad participation across socioeconomic groups. The quality of AESD is also directly influenced by public funding. It enables organizations to employ experts, develop high-quality programs, and utilize diverse methodologies. The education manager at the cultural and educational association emphasized that funding allows them to "hire external experts for areas they do not cover internally", while one interviewee (the president of the Focus organization) stressed its importance for "employing and educating instructors".

The analysis revealed significant challenges within existing funding models. The predominance of project-based funding leads to instability and unpredictability, complicating long-term planning and program development. One interviewee cautioned that changes in political currents can "significantly destabilize the entire youth or non-governmental sector". Additionally, the lack of systematic and long-term state funding, with most support coming from European funds, restricts comprehensive program development and impedes long-term planning. To address these challenges and improve the accessibility and quality of AESD, several solutions were proposed, such as increasing and stabilizing public funding, developing systematic instructor education, promoting collaboration among various stakeholders and raising awareness about the importance of AESD. While public funding plays a crucial role in ensuring the accessibility and quality of AESD, the instability and unpredictability of existing funding models present significant challenges. The analysis suggests that systemic solutions ensuring stable, long-term funding and encouraging stakeholder collaboration are necessary to provide high-quality and accessible education for sustainable development to all adults.

5. Discussion

5.1. RQ1 Disparities in Funding: Operational Support vs. AESD Implementation

The first research question of our study sought to investigate the proportion of organizations receiving public funds for Adult Education for Sustainable Development (AESD). Our findings reveal a complex landscape of public funding distribution among AESD organizations, with notable variations in both operational funding and implementation-specific support. A key finding of our study is the disparity between funding for general operations and AESD implementation. While 32.2% of organizations receive public funding for more than half of their operations, only 13.6% receive similar levels of support for AESD implementation. These findings highlight potential challenges for AESD organizations, particularly in terms of resource allocation and program sustainability. Organizations receiving limited public funding for AESD implementation may struggle to develop and maintain effective programs, potentially hampering progress towards sustainable development goals. Our results align with observations from other European countries, where the landscape of public funding for adult education and sustainable development initiatives varies considerably. The diverse funding landscape observed in our study reflects similar patterns noted by Guimaraes and Gontarska [2] in Poland and Portugal, where civil society organizations and social movements play crucial roles in AESD. These organizations often face resource constraints, echoing our finding that a significant proportion of organizations receive limited or no public funding for AESD implementation. Several factors may explain the observed funding disparities. Government priorities, policy frameworks, and the perceived value of AESD in different contexts could all

influence funding allocation. Additionally, the capacity of organizations to secure and manage public funds may vary, contributing to the uneven distribution observed in our study.

5.2. RQ2 Funding Dynamics: NGOs at the Forefront of AESD Support

Next, we wanted to investigate differences in the share of public funding among various types of organizations (public, private, non-governmental) providing Adult Education for Sustainable Development (AESD). The findings reveal a distinctive pattern in the distribution of public funding, with non-governmental organizations (NGOs) consistently receiving a higher proportion of funding across all categories. Public organizations' share declines as funding increases, and private organizations have minimal representation in higher funding categories. These results indicate a significant shift in the landscape of AESD funding, with NGOs emerging as the primary recipients of public funds. This trend raises important questions about the factors driving this distribution and its potential implications for the quality, accessibility, and effectiveness of AESD programs. The increasing reliance on NGOs for delivering AESD could be interpreted as a recognition of their specialized expertise or perceived efficiency in this domain. However, it also highlights potential challenges for public and private organizations in securing adequate funding for their AESD initiatives.

The observed funding pattern aligns with findings from similar studies in other contexts. For instance, Yu and Ma [5] reported an uneven distribution of education funding in China, emphasizing the need for a more balanced approach to ensure equitable education services. Similarly, Causevic et al. [6] found selective funding patterns in environmental sectors in Bosnia and Herzegovina, with certain areas receiving disproportionate resources. These parallels suggest that the unequal distribution of public funding across different types of organizations is not unique to AESD but may be a broader trend in various educational and developmental contexts.

Current findings also resonate with Okoye et al.'s [7] observation of funding disparities between high and low-income regions, where non-governmental and private organizations in less affluent areas often struggle to obtain adequate public funding for sustainable development education. This global perspective underscores the importance of considering regional economic factors when analyzing funding distribution patterns.

The predominance of NGOs in receiving public funding for AESD could be considered a positive trend due to their potential for specialized focus and community engagement. However, this distribution may also reflect policy shifts favoring non-governmental actors or perceptions of NGOs as more cost-effective or innovative in delivering AESD programs.

5.3. RQ3 Challenges of Sustainability: The Need for Continuous Financing in ESD

RQ3 sought to investigate the types of public funding most common among organizations providing education for sustainable development (ESD). The findings reveal a clear dominance of project-based funding across all organization types, with significant variations in the utilization of other funding sources, particularly among non-governmental organizations (NGOs).

The overwhelming reliance on project-based funding, as evidenced by 100% utilization among public and private organizations and 85.2% among NGOs, aligns with the concept of a 'project world' in EU policy implementation, as described by Büttner and Leopold [9]. This trend suggests a shift towards more flexible, goal-oriented funding mechanisms in the ESD sector. However, the heavy dependence on project financing also raises concerns about the long-term sustainability and stability of ESD programs, given the typically time-limited nature of such funding. Notably, NGOs demonstrate the most diverse funding portfolio, tapping into municipal (33.3%), national (51.9%), and EU (66.7%) funding sources. This eclectic approach may reflect NGOs' adaptability and their capacity to align with various funding priorities at different governmental levels. The high utilization of EU funding by NGOs (66.7%) compared to public organizations (30.8%) is particularly striking. This finding resonates with Karafolas's [11] discussion of EU funding programs and their focus on sustainable growth and resource preservation, suggesting that NGOs may be more adept at aligning their objectives with EU priorities.

The near absence of continuous financing across all organization types, with only 2% of NGOs reporting this funding source, is concerning. This lack of stable, long-term funding could potentially impact the continuity and quality of ESD programs. As Kurekova et al. [10] emphasize, public funding plays a crucial role in fostering innovation and sustainable technologies. The absence of continuous financing might hinder long-term planning and sustained innovation in the ESD sector.

The predominance of project-based funding could reflect policy preferences at national and EU levels, potentially driven by a desire for greater accountability and measurable outcomes. The diverse funding sources utilized by NGOs might be attributed to their organizational flexibility and expertise in grant writing. Additionally, the high use of EU funding by NGOs could indicate their strong alignment with EU priorities in sustainable development education.

5.4. RQ4 Curriculum Implications: Balancing Content Areas and Funding Distribution

We also were eager to explore the connections between the share of public funding and various aspects of education for sustainable development (ESD), focusing on content areas and teaching approaches. The findings reveal a complex landscape of funding allocation and its relationship with ESD implementation, highlighting both notable patterns and areas requiring further investigation.

A key finding is the uneven distribution of public funding across different ESD content areas. Topics such as peace and security, intercultural and global interdependence, and sustainable development goals receive substantially more funding than areas like economic systems and ethics. This pattern suggests a prioritization of global challenges and sustainability-focused content in publicly funded ESD programs. The emphasis on these areas aligns with the growing global recognition of the importance of ESD in achieving Sustainable Development Goals (SDGs), as noted by Edwards et al. [18](2020). However, the relatively lower funding for economic systems and ethics raises questions about the comprehensiveness of ESD curricula and their ability to address all aspects of sustainability.

The study also found significant correlations between public funding share and specific teaching approaches, particularly discussion-based methods and artistic practices in ESD implementation. This finding resonates with the observations of Mokski et al. [14], who noted that well-funded higher education institutions often develop dual strategies for integrating ESD, including innovative approaches that appeal to students across disciplines. The positive correlation with discussion-based methods suggests that increased public funding may facilitate more interactive and participatory learning environments, which are crucial for developing critical thinking skills in sustainability education.

These findings have important implications for ESD curriculum development and teaching strategies. The concentration of funding in certain content areas may lead to a more focused but potentially narrow approach to sustainability education. This situation echoes the challenges observed by Gomes et al. [19] in Portuguese economics degrees, where limited integration of ESD content was attributed to insufficient funding and policy support. The positive correlation between funding and specific teaching approaches suggests that financial resources may influence pedagogical choices, potentially favoring more resource-intensive methods.

The funding distribution across content areas might reflect broader policy priorities or societal concerns rather than purely educational considerations. Similarly, the correlation between funding and teaching approaches could be influenced by organizational capacity, expertise, or cultural factors that were not accounted for in this study.

5.5. RQ5 Challenges Ahead: Addressing Instability in Funding Models for AESD

Lastly, we wanted to investigate the impact of public funding on the accessibility and quality of Adult Education for Sustainable Development (AESD). The findings reveal that public funding plays a crucial role in both aspects, while also highlighting significant challenges within existing funding models.

One of the key findings is that public funding is essential for ensuring the accessibility of AESD programs, particularly given that most organizations operate in the non-profit sector. This aligns with

the observations of Maina and Orodho [20], who found that inadequate government funding in Kenya hindered the ability of adult education centers to provide resources, thereby limiting learner participation. The current study extends this understanding to the context of AESD, emphasizing that without external financial support, these programs would be inaccessible to many individuals due to cost barriers.

The quality of AESD programs is also significantly influenced by public funding. The ability to hire experts and develop high-quality programs directly contributes to the overall effectiveness of AESD initiatives. This finding resonates with the work of Wehrmeyer et al. [25], who highlighted the effectiveness of short, publicly funded training courses in maximizing learning outcomes. The current study suggests that this principle applies more broadly to AESD, where expert knowledge and diverse methodologies are crucial for addressing complex sustainability issues.

Nevertheless, the study also reveals significant challenges within the current funding landscape. The predominance of project-based funding leads to instability and unpredictability, echoing the concerns raised by Blewitt [24] regarding the tension between business approaches and more holistic, ecological methods in Education for Sustainable Development. This instability complicates long-term planning and comprehensive program development, potentially undermining the overall effectiveness of AESD initiatives. The lack of systematic, long-term state funding, with most support coming from European funds, further exacerbates these challenges. This finding aligns with the arguments of Orlovic and Lovren [4], who emphasized the need for a more cross-sectoral approach to policymaking that adequately includes adult education. The current study suggests that this need extends to funding mechanisms, highlighting the importance of stable, long-term funding for AESD.

While the study provides valuable insights, it is important to consider the fact that the role of private sector funding or partnerships in AESD was not extensively explored. Additionally, the impact of organizational efficiency on resource utilization could influence the perceived effects of public funding. The influence of policy priorities on funding allocation might also play a significant role in shaping the AESD landscape.

5.6. Limitations and Future Research

However, it is critical to consider alternative explanations for some of our findings. The higher proportion of public funding received by NGOs could be attributed to factors beyond their adaptability, such as their perceived neutrality or their ability to reach marginalized communities. Additionally, the prioritization of certain content areas might reflect not only funding decisions, but also broader societal trends and perceived urgency of specific global challenges.

The study's limitations, including its focus on a specific geographical context and reliance on self-reported data, should be considered when interpreting these results. Future research could benefit from a more extensive cross-national comparison and longitudinal studies to track changes in funding patterns over time. Future research could also explore the long-term impacts of different funding models on AESD outcomes, investigate the factors influencing the success of NGOs in securing public funding, and examine how funding patterns vary across different national and cultural contexts. Such investigations would contribute to a more nuanced understanding of the complex relationship between public funding and the provision of high-quality, accessible education for sustainable development.

6. Conclusions

This study underscores the critical role of public funding in shaping the landscape of Adult Education for Sustainable Development (AESD). The findings highlight the need for more stable and diverse funding models to ensure the long-term sustainability and effectiveness of AESD programs. To achieve that, policymakers should consider ways to balance project-based funding with more stable, long-term support mechanisms. Furthermore, efforts should be made to address the apparent funding gaps in certain content areas to ensure a comprehensive approach to sustainability education. As we navigate the complex terrain of AESD funding, we must recognize that our investment in this field is an investment in our collective future. Like seeds planted in fertile soil,

well-funded AESD programs have the potential to grow into robust trees of knowledge, their branches reaching far and wide, nurturing a sustainable world for generations to come.

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