













Category: Education, Teaching, Learning and Assessment

ORIGINAL

The role of education in sustainable development: training for effective public administration and development of environmental and food security

El papel de la educación en el desarrollo sostenible: formación para una administración pública eficaz y el desarrollo de la seguridad ambiental y alimentaria

Iryna Kapelista¹  , Iryna Shymkova²  , Oksana Marushchak²  , Vitalii Hlukhaniuk²  , Iryna Krasylnykova²  

¹Interregional Academy of Personnel Management, Department of Public Administration, Kyiv, Ukraine.

²Vinnitsia Mykhailo Kotsiubynskyi State Pedagogical University, Faculty of Arts and Art-Educational Technologies, Department of Fine and Decorative Art, Technology and Life Safety, Vinnitsia, Ukraine.

Cite as: Kapelista I, Shymkova I, Marushchak O, Hlukhaniuk V, Krasylnykova I. The role of education in sustainable development: training for effective public administration and development of environmental and food security. Salud, Ciencia y Tecnología - Serie de Conferencias. 2024; 3:665. <https://doi.org/10.56294/sctconf2024665>

Submitted: 15-11-2023

Revised: 08-02-2024

Accepted: 29-05-2024

Published: 30-05-2024

Editor: Dr. William Castillo-González 

ABSTRACT

This article delves into the profound role of education in shaping sustainable values and fostering a conscientious attitude toward the environment. It examines how education serves as a transformative tool, instilling principles of environmental stewardship and ethical responsibility within individuals. Additionally, the article explores contemporary approaches to seamlessly integrating sustainable development and education. It elucidates how innovative strategies intertwine these two domains, propelling a paradigm shift in learning methodologies and curriculum design. committed to sustainable practices. By bridging the gap between theoretical knowledge and actionable insights, the article underscores the dynamic potential of education to cultivate a generation of informed global citizens. Through a comprehensive analysis of these themes, the article underscores the pivotal role of education in nurturing a conscious and responsible approach to the environment while embracing progressive methodologies for achieving the synergy between sustainable development and education.

Keywords: Education for Sustainable Development (ESD); Sustainable Development; Public Administration; Sustainable Values.

RESUMEN

Este artículo profundiza en el profundo papel de la educación en la configuración de valores sostenibles y el fomento de una actitud consciente hacia el medio ambiente. Examina cómo la educación sirve como herramienta transformadora, inculcando principios de gestión ambiental y responsabilidad ética en los individuos. Además, el artículo explora enfoques contemporáneos para integrar perfectamente el desarrollo sostenible y la educación. Aclara cómo las estrategias innovadoras entrelazan estos dos dominios, impulsando un cambio de paradigma en las metodologías de aprendizaje y el diseño curricular. comprometidos con prácticas sustentables. Al cerrar la brecha entre el conocimiento teórico y las ideas prácticas, el artículo subraya el potencial dinámico de la educación para cultivar una generación de ciudadanos globales informados. A través de un análisis exhaustivo de estos temas, el artículo subraya el papel fundamental de la educación en el fomento de un enfoque consciente y responsable del medio ambiente, adoptando al mismo tiempo metodologías progresistas para lograr la sinergia entre el desarrollo sostenible y la educación.

Palabras clave: Educación para el Desarrollo Sostenible (EDS); Desarrollo Sostenible; Administración Pública; Valores Sostenibles

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INTRODUCTION

An approach that is not only about preserving the environment, but also about ensuring a strong, healthy and just society that meets the diverse needs of all people in existing and future communities, promotes personal well-being, social cohesion and inclusion, and creates equal opportunities; it is not a fantasy of a utopian author, but a well-established holistic and long-term concept of sustainable development. The genesis of the sustainable development concept can be traced back to the World Conference on Environmental Development (WCED), a seminal event orchestrated by the United Nations (UN) under the stewardship of Norwegian Prime Minister Gro Harlem Brundtland.⁽¹⁾

Such pivotal assembly, also known as the Brundtland Commission, culminated in a seminal 1987 publication entitled *Our Common Future*, also known as the Brundtland Report.⁽²⁾ This influential document is a testament to the Commission's passionate commitment to charting a path to global sustainable development, providing a comprehensive assessment of the complex intersections between environmental conservation, socio-economic justice and future-oriented political imperatives. Basically, the goal of sustainable development is to strike a balance between society's social, environmental, and economic needs.^(3,4)

The economic pillar of sustainable development centers on fostering prosperity, innovation, and equitable wealth distribution. It encompasses strategies that engender robust economic growth, empower diverse industries, and create livelihood opportunities. However, the emphasis within this dimension is not solely on growth but on inclusive and equitable growth. This entails the elimination of poverty, reduction of disparities, and ensuring that economic advancements do not come at the cost of environmental degradation or social injustices. A world in which poverty is endemic will always be prone to ecological and other catastrophes.⁽²⁾

The importance of social justice, equity, and human well-being is emphasized by the social pillar. It includes the provision of necessities including housing, food, clean water, sanitation, and healthcare. Additionally, it places a high priority on eliminating disparities based on socioeconomic class, race, and gender. A strong social dimension works to build inclusive communities where every person has the chance to succeed, promoting social cohesion and stability. The following is taken directly from paragraph 28 of the report of the World Commission on Environment and Development (*Our Common Future*): meeting essential needs requires not only a new era of economic growth for nations in which the majority are poor, but an assurance that those poor get their fair share of the resources required to sustain that growth. Such equity would be aided by political systems that secure effective citizen participation in decision making and by greater democracy in international decision making.⁽²⁾

The environmental pillar accentuates the necessity of safeguarding the planet's ecosystems, biodiversity, and natural resources. It entails responsible resource management, pollution control, and the mitigation of climate change.⁽⁵⁾ According to paragraph 15 of the World Commission on Environment and Development's Report (*Our Common Future*) we have in the past been concerned about the impacts of economic growth upon the environment. We are now forced to concern ourselves with the impacts of ecological stress - degradation of soils, water regimes, atmosphere, and forests upon our economic prospects. We have in the more recent past been forced to face up to a sharp increase in economic interdependence among nations. We are now forced to accustom ourselves to an accelerating ecological interdependence among nations. Ecology and economy are becoming ever more interwoven locally, regionally, nationally, and globally into a seamless net of causes and effects.⁽²⁾

The Sustainable Development Goals (SDGs) represent a comprehensive and strategic roadmap aimed at orchestrating a superior and perpetually sustainable future for the entirety of humanity. This blueprint stands as a resolute response to the intricate and interconnected challenges that traverse the global landscape, encompassing multifaceted predicaments such as poverty, disparity, climate perturbations, ecological decline, and the imperative for peace and justice.⁽⁶⁾ The SDGs are crafted as a unified framework, aligning the international community's aspirations towards a shared vision of well-being, equity, and environmental preservation. At their core, these goals channel collective efforts to eradicate poverty in all its manifestations, fostering inclusivity and providing equitable opportunities for advancement. The goal of reducing inequality underscores the conviction that no society can be deemed truly prosperous unless disparities are rectified and prosperity is democratized.

Recognizing that environmental degradation poses an intricate web of repercussions for societies, these goals underscore the necessity of responsible resource stewardship, conservation of biodiversity, and safeguarding ecosystems to ensure the longevity of life-supporting natural systems. These goals stand not merely as a statement of intent but as a call to concerted action, enlisting governments, civil society, the private sector, and global citizens to marshal their resources, innovation, and resolve towards shaping a world where prosperity is all-encompassing, and where the legacy we bestow to succeeding generations is marked by resilience, inclusivity,

and the vitality of the planet we inhabit.

Public administration, as the machinery that executes governmental policies and delivers public services, plays a pivotal role in shaping the trajectory of sustainable development on both national and global scales.⁽⁷⁾ Sustainable development works for public administration practice because it offers an opportunity to consider systems that respect tenets already considered valuable in its normative orientation, simultaneously.^(8,9) Public administration can collaborate with other stakeholders, such as businesses, civil society organizations, and citizens, to promote sustainable development. Working collaboratively, the government and other stakeholders can accomplish more meaningful and long-term results.⁽¹⁰⁾

The cornerstone of empowerment, education and capacity building that extends its impact across generations and societies and is used by public administration is education. By nurturing informed citizens, fostering critical thinking, and promoting a deep understanding of the intricate interplay between economic, social, and environmental realms, education assumes a transformative role in propelling societies toward sustainable trajectories.

Educational institutions play an instrumental role in shaping sustainable values and cultivating a conscious attitude toward the environment.^(11,12) Education serves as a potent tool that influences individual mindsets, attitudes, and behaviors, nurturing a profound understanding of the interconnectedness between human activities and the health of the planet. First off, education acts as a means of transferring important information about ecological systems, ecosystems, and the complex interdependence of all living things. People are given insights into the extensive effects of their actions on the environment through educational platforms, providing a solid basis for making well-informed decisions. For instance, training courses for experts in engineering and urban planning include instruction on conducting environmental impact assessments. These evaluations examine the potential ecological effects of development plans while highlighting the significance of knowing how ecosystems function.

Great example is an Environmental Impact Assessment (EIA). It is a systematic process used to assess and evaluate the potential environmental consequences or impacts of proposed projects, policies, or activities before they are undertaken. EIA is a tool for both planning and making decisions. EIA offers strategies and procedures for detecting, forecasting, and analyzing potential environmental consequences of projects in accordance with the project cycle as a planning tool. As a tool for making decisions, it offers data that encourages the creation of policies and activities that guarantee the sustainability of projects that are put into action.⁽¹³⁾

An Environmental Impact Assessment (EIA) exemplifies the integration of sustainable development principles within the realm of Public Administration. Depending on the jurisdiction, projects subject to EIA must obtain government approval before they can proceed. Regulatory agencies, functioning as custodians of environmental well-being, diligently review the comprehensive EIA findings and recommendations. These recommendations often encompass an essential component known as the Environmental Management Plan (EMP), which intricately outlines the strategic execution of the project while upholding the recommended mitigation measures and environmental safeguards

To cover a wide range of issues, from poverty eradication and gender equality to clean energy, climate change and biodiversity conservation, the Sustainable Development Goals (SDGs) were developed. Commonly referred to as the Global Goals, the Sustainable Development Goals (SDGs) constitute a comprehensive assemblage of 17 interrelated objectives that were instituted by the United Nations (UN) in 2015. Their inception serves the purpose of confronting a diverse spectrum of worldwide challenges and providing a guiding framework for international endeavors aimed at achieving sustainable development by the year 2030.⁽⁶⁾

Goal 4, in particular, pertains to "Quality Education," and it holds a pivotal role in advancing the principles of sustainable development. This goal underscores the significance of education as a transformative force that not only imparts knowledge but also cultivates critical skills, values, and attitudes essential for personal development and societal progress.⁽¹⁴⁾ The inclusion of environmental education within educational programs empowers individuals to assume the role of proponents for sustainable methodologies, thereby cultivating a culture of environmental conscientiousness spanning across public administration and the wider societal context.

Through the dissemination of knowledge concerning sustainable development, it is possible to engender an enhanced comprehension of the paramount significance of this imperative. This educational endeavor is based on using contemporary methods for fusing education with sustainable development.

A lot of nations have made progress in updating their educational systems and curriculum to include sustainability ideas in all subject areas. The Decade of Education for Sustainable Development (DESD), a project run by the United Nations Educational, Scientific, and Cultural Organization (UNESCO), gave momentum to changes in education that were in line with sustainable development. Among the most notable is the Regional Centres of Expertise (RCEs) programme of the United Nations University (IAS), which has grown from zero participating local networks at the beginning of 2005 to 154 by January 2017.⁽¹⁵⁾

Regional Centres of Expertise on Education for Sustainable Development (RCEs) are networks or initiatives that bring together various stakeholders, including educational institutions, governmental bodies, non-governmental organizations, businesses, and community groups, to promote and advance education for sustainable development

(ESD) at the local and regional levels.⁽¹⁶⁾ The RCE is not a physical center or structure, but rather a network of people, organizations, and experts who are dedicated to using education as a tool to build a sustainable future.⁽¹⁷⁾

A Regional Centre of Expertise (RCE) encompasses a diverse assemblage of stakeholders, including educators from schools and higher education institutions, environmental non-governmental organizations (NGOs), scholars, researchers, establishments like museums, zoos, and botanical gardens, local governmental representatives, delegates from local enterprises, volunteers, media professionals, civic associations, and individuals who specialize in various domains of sustainable development, spanning economic growth, social advancement, and environmental preservation.⁽¹⁸⁾ Additionally, students and learners across all educational strata contribute to this collective effort.

METHODS

This study undertakes an analysis of diverse projects and initiatives from various geographical regions, spanning the period from 2020 to 2023, with a focus on ensuring sustainable development within the realms of Public Administration and the Development of Environmental and Food Security. The methodology is grounded in an examination of real-world endeavors, reflecting the practical application of sustainable development principles. The analysis is conducted in accordance with established ethical standards and guidelines.

To begin, a comprehensive search was conducted across academic databases, governmental reports, NGO publications, and relevant online repositories to identify projects and initiatives related to sustainable development within the specified domains. This search encompassed a wide range of geographical locations to ensure diversity and inclusivity in the sample.

Each identified project underwent a systematic review process, wherein its objectives, strategies, challenges, and outcomes were meticulously dissected and analyzed. This process involved the extraction of relevant data points and the categorization of information. The analysis was guided by a thematic approach, allowing for the identification of recurring themes, patterns, and best practices across the diverse spectrum of projects.

The synthesis of findings from the analyzed projects culminated in a comprehensive understanding of how sustainable development is interwoven into the realms of public administration, environmental stewardship, and food security. The resulting insights provide a nuanced exploration of the dynamic interplay between sustainable development, education, and public administration, offering valuable implications for policymakers, educators, and stakeholders navigating the complex terrain of sustainability in diverse contexts.

RESULTS

Presently, the RCE initiative has burgeoned into a globally encompassing network that spans four distinct geographical spheres: Africa and the Middle West, Asia-Pacific, Europe, and the Americas. The following is a branched map illustrating the intricate network of Regional Centres of Expertise (RCEs) (figure 1). It is paramount to acknowledge the dynamic and perpetually transformative nature inherent to the RCE network.



Figure 1. Regional Centres of Expertise on Education for Sustainable Development
Source: RCE Network.⁽¹⁹⁾

As of August 2023, the global RCE network has burgeoned to comprise a total of 190 officially acknowledged RCEs, an embodiment of the sustained expansion of this influential endeavor under the aegis of the United Nations University.⁽²⁰⁾

Subsequently, our exploration will delve into tangible illustrations of projects emanating from diverse corners of the globe within the ambit of Regional Centres of Expertise (RCEs). This endeavor begins with a focus on the Czech Republic in table 1, shedding light on initiatives that exemplify the collaborative and innovative efforts fostered by RCEs to address local sustainability challenges and contribute to the broader framework of sustainable development. Through these examples, we will discern the far-reaching impact of RCEs in translating the principles of education, engagement, and action into transformative projects with profound implications for their respective regions and beyond.

Table 1. RCE project ‘Schools for the Future’

Basic information	
Title of project	Schools for the Future
Organizational Affiliation	RCE Czechia, Charles University Environment Centre
Format of project	3-year project of cooperation with schools
Target Audience	Primary, Secondary, Teacher Ed.
Region	Europe
Contents	
Rationale	In the Czech Republic, frontal teaching is primarily used to present historical information in silos of knowledge. There are few chances for critical thinking, contemplation on values, collaboration, different forms of knowledge, creativity, imagination, and empowerment for active citizenship. Students are unfamiliar with the notion that they will shape their shared future and that it is up to them to decide how it will look
Objectives	1) Development of transformational learning, futures thinking, the development of sustainability competencies and agency of pupils. 2) Support for activating teaching methods with an emphasis on creative education, integrated thematic teaching. 3) Development of values reflection, critical thinking, self-awareness, cooperation, and creativity. 4) Engaging schools, teachers and pupils in cooperation with artists to realize practically oriented projects in the context of the school environment
Activities and/or practices employed	In order to give students, the chance to participate in significant decisions, the project integrates processes of participation and collaboration (e.g., choosing an artist or artistic medium, identifying project themes based on a mapping process of students' interests and local sustainability challenges, selecting potential activities, and implementing a public forum). Activities provide opportunities for place-based learning, connection to local community life, cooperation, accountability to the group for completing tasks, and public presentation of the outcomes
Results	With a 600-person academic audience, this project operated twice, beginning in the 2020-2021 school year and continuing in the 2021-2022 school year, primarily with the same classes and students but with different projects. In total, 22 classes participated in 2 cycles (with at least 20 classes in each cycle), 19 teachers participated in each cycle (with minor modifications), 542 students participated, 67 of whom had special needs, and 30 artists. Each project's specific actors included students, instructors, artists, and a creative consultant
Lessons learned	By attentively listening to and contemplatively assimilating the "voice of the child" articulated by educators and adults, the students experienced a sense of empowerment that galvanized their capacity to effectuate transformative alterations in matters pertinent to their circumstances. Anchoring this constructive metamorphosis were the Sustainable Development Goals (SDGs), furnishing a moral and ethical scaffolding for the envisaged modifications. Facilitating the tangible realization of these envisioned modifications were a consortium of stakeholders, including artists whose involvement catalyzed creative ideation and the nurturing of action-oriented competencies

Source: RCE Czechia.⁽²¹⁾

One of the paramount sustainable development challenges addressed by the project pertains to the limited empowerment of school children in the Czech Republic (CR) to engage in decision-making and proactive involvement in matters that directly impact them. This intricate decision-making process is underpinned by a values framework, presenting a unique avenue to deliberate upon and actualize sustainability values within the formal education milieu. The strategic involvement of the creative sector in this endeavor furnishes a sanctuary

conducive to experimentation and the cultivation of essential sustainability competences. These pivotal competences encompass a spectrum that encompasses self-awareness, collaborative prowess, critical thinking acumen, and normative awareness, collectively shaping a holistic foundation for sustainable development principles to take root and flourish within the student populace.

The ensuing exemplification of a project underscores a concerted endeavor to raise awareness of and preempt an additional sustainable development challenge. Across the global spectrum, the security of sustenance stands imperiled by the repercussions of climate change, which cast a shadow over the diversity of our ecological tapestry encompassing flora and fauna. In accordance with the discernments of the Intergovernmental Panel on Climate Change (IPCC), a pivotal corollary of climate change manifests as an escalation in the count of undernourished populace. This concerning trajectory predominantly emanates from the far-reaching adverse impacts on agricultural productivity, an essential cornerstone for the subsistence of myriad individuals. It thus assumes utmost exigency to not only attain food security but also ameliorate nutritional standards while propelling sustainable agricultural paradigms. The ‘Strategies for adaptation and mitigation to climate change and food security in Peru’ (table 2) stands as a commendable manifestation of collaboration within the ambit of Regional Centres of Expertise (RCEs), wherein concerted efforts converge to enhance the regional food landscape.

Table 2. RCE project ‘Strategies for adaptation and mitigation to climate change and food security in Peru’

Basic information	
Title of project	Strategies for adaptation and mitigation to climate change and food security in Peru
Organizational Affiliation	RCE Lima-Callao (Submitting RCE), Universidad Ricardo Palma, San Martín Region’s Civil Society Organizations, San Martín Region’s Indigenous Communities, Red Ambiental Peruana and teams from Universidad Ricardo Palma’s Engineering School, Biology Program and others
Format of project	Manuscript
Target Audience	Community
Region	Americas
Contents	
Rationale	One of the 10 nations in the world most at risk from climate change is Peru. The majority of Peruvians—71 %—live in dangerously exposed places. Each agricultural season, more than 15 000 hectares are lost as a result of climatic occurrences, and over the past twelve agricultural seasons, the Peruvian State has been able to report losses as a result of weather-related factors totaling 2 597 million USD
Objectives	To attain food security in Peru, investigate a proposal that enables the suggestion of solutions for resilience, mitigation, and adaptation to the effects of climate change
Activities and/or practices employed	Cabinet work; field work (interviews with Peruvian’s climate change mitigation and adaptation projects representatives, workshop with experts and interviews with community members); organization and development of workshops with stakeholders in Lima and San Martín; preparation of scientific articles
Results	1) Identify global and Peruvian solutions for climate change adaptation and mitigation that may help to attain food security. 2) Advice on how to better manage the use of water in agriculture to ensure Peru’s food security. 3) Identify the circular economy methods that need to be put into practice to lower greenhouse gas emissions in the agro-industrial sector and improve Peru’s food security.
Lessons learned	The principal threats to food security posed by climate change include: Loss of income and livelihoods in rural regions; Loss of marine and coastal ecosystems and livelihoods; Loss of terrestrial and inland water ecosystems and livelihoods; Food insecurity and collapse of food systems. We need methods that will enable us to comprehend the intricate dynamics of climate change and how it affects nutrition and food security.
Source: RCE Lima-Callao. ⁽²²⁾	

Applying knowledge of sustainable development to food security is of paramount importance as it addresses the intricate interplay between environmental resilience, socio-economic stability, and human well-being. Integrating sustainable development principles into food security initiatives ensures the availability of nutritious and safe food for current and future generations while safeguarding ecosystems and minimizing negative environmental impacts. The project highlighted by RCE Lima-Callao in 2023 exemplifies this significance. By engaging local communities, educational institutions, and stakeholders, the project endeavors to enhance food security through urban agriculture and responsible consumption practices. This endeavor not only addresses

nutritional needs but also promotes sustainable land use, reduces greenhouse gas emissions, and fosters community resilience. By intertwining sustainable development principles with food security initiatives, such projects underscore the potential to achieve multiple goals, from ending hunger and promoting environmental health to empowering communities and promoting equitable access to resources.

DISCUSSION

The incorporation of education for sustainable development (ESD) into different educational settings has the ability to empower people, transform societies, and contribute to a more sustainable and equitable future as awareness rises and worldwide initiatives gain traction. Still some scholars have underscored impediments to the effective implementation of Education for Sustainable Development (ESD) over the preceding decades.^(23,24)

At the structural level, a prevailing challenge resides in the entrenched siloed approach prevalent in higher education. This paradigm is characterized by a predominantly mono and multidisciplinary orientation, thereby impeding the capacity to formulate and implement inter and transdisciplinary educational approaches. This limitation hampers the integration of holistic perspectives essential for addressing complex sustainability challenges effectively.

Moreover, at the curricular level, overcrowded and inflexible curricula pose formidable obstacles to the incorporation of ESD principles. The emphasis on meeting bureaucratic accreditation requirements and industry-defined competencies often results in curricula that are narrowly focused and rigidly structured. These curricular frameworks, typically organized along disciplinary lines, perpetuate siloed thinking and fail to foster the interdisciplinary collaboration necessary for comprehensive sustainability education.

Notwithstanding the substantial progress achieved, certain challenges persist in the pursuit of advancing education for sustainable development (ESD), a narrative that finds resonance with the deliberations heretofore. It remains evident that a significant number of individuals, institutions, and communities continue to grapple with a deficit in awareness and a comprehensive grasp of sustainable development principles, consequently impeding the seamless assimilation of ESD.

Disparities between the levels of awareness and understanding of ESD among educators, policymakers, and the broader populace are conspicuous. This juxtaposition underscores the imperative for heightened awareness-raising endeavors aimed at underlining the significance of ESD. In a parallel vein, the development and execution of ESD programs often necessitate substantial financial investments, adept educators, and suitable pedagogical resources, resources that may be constrained within certain regions. The intricacies of this challenge are compounded by the inherent resistance displayed by conventional educational frameworks, ensconced as they are in well-established practices that often resist change. These considerations underscore the multifaceted barriers confronting the harmonious incorporation of ESD within conventional educational paradigms.

Moreover, within the sphere of ESD implementation, a distinctive complexity emerges due to the necessity of aligning strategies with local cultures, languages, and contextual idiosyncrasies. This vital adaptation to the sociocultural milieu is essential to engender relevance and resonance, yet it constitutes an intricate and often time-consuming endeavor. The task entails not only the selection of appropriate pedagogical methodologies but also a deep understanding of the cultural nuances that shape learning preferences and attitudes towards sustainability.

In light of these challenges, the work of entities like Regional Centres of Expertise (RCEs) assumes renewed significance. RCEs, through their collaborative frameworks, offer potent avenues for overcoming challenges by pooling resources, expertise, and knowledge. By forging alliances with diverse stakeholders, including educational institutions, businesses, and governmental bodies, RCEs exemplify the power of cross-sector cooperation. Their initiatives underscore the transformative potential of collective action in transcending the challenges that ESD confronts. While challenges persist, the concerted efforts of institutions such as RCEs imbue the ESD landscape with hope and impetus, laying a foundation for surmounting barriers and propelling society toward a sustainable future.

By forging alliances with diverse stakeholders, including educational institutions, businesses, and governmental bodies, RCEs exemplify the power of cross-sector cooperation. Their initiatives underscore the transformative potential of collective action in transcending the challenges that ESD confronts. While challenges persist, the concerted efforts of institutions such as RCEs imbue the ESD landscape with hope and impetus, laying a foundation for surmounting barriers and propelling society toward a sustainable future.

CONCLUSIONS

Significant strides have been made by numerous nations in updating their educational systems and curricula to incorporate sustainability principles across various subject areas. The Decade of Education for Sustainable Development (DESD), spearheaded by the United Nations Educational, Scientific, and Cultural Organization (UNESCO), has played a pivotal role in galvanizing these transformative changes. Among the notable initiatives

catalyzing progress is the Regional Centres of Expertise (RCEs) program, administered by the United Nations University Institute for the Advanced Study of Sustainability (IAS). The exponential growth of RCEs from inception to 154 participating local networks by January 2017 underscores the burgeoning momentum in advancing education for sustainable development (ESD) at local and regional levels.

RCEs serve as dynamic networks or initiatives that convene diverse stakeholders, including educational institutions, governmental bodies, non-governmental organizations, businesses, and community groups, with the shared objective of promoting and advancing ESD. These centers embody a collaborative ethos, leveraging the collective expertise and resources of stakeholders to drive meaningful change towards sustainability. Notably, RCEs transcend physical structures, functioning instead as networks of dedicated individuals and organizations committed to leveraging education as a catalyst for sustainable development.

The engagement of stakeholders within RCEs encompasses a broad spectrum, encompassing educators, environmental NGOs, scholars, researchers, governmental representatives, businesses, media professionals, and community members. This diverse assemblage collectively contributes to the multifaceted endeavor of integrating sustainability principles into education and fostering a culture of sustainability within communities.

The importance of applying sustainable development knowledge to address pressing challenges is exemplified by projects undertaken within the ambit of RCEs. For instance, initiatives such as the project in the Czech Republic focusing on empowering school children in decision-making processes and the 'Strategies for adaptation and mitigation to climate change and food security in Peru' project underscore the critical role of education in addressing complex sustainability challenges. By intertwining sustainable development principles with food security initiatives, such projects exemplify the potential to achieve multiple goals, from enhancing food security and environmental health to empowering communities and promoting equitable access to resources.

In essence, the collaborative efforts facilitated by RCEs exemplify a concerted commitment to leveraging education as a transformative tool for sustainable development. As we continue to navigate the complex terrain of sustainability, the invaluable contributions of RCEs and similar initiatives underscore the imperative of collective action in shaping a more sustainable and resilient future for all. Through its transcendental impact, ESD not only shapes the present but lays the foundation for a more resilient, equitable, and sustainable future.

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FINANCING

No financing.

CONFLICT OF INTEREST

None.

AUTHORSHIP CONTRIBUTION

Conceptualization: Iryna Kapelista, Iryna Shymkova, Oksana Marushchak, Vitalii Hlukhaniuk, Iryna Krasylnykova.

Formal analysis: Iryna Kapelista, Iryna Shymkova, Oksana Marushchak, Vitalii Hlukhaniuk, Iryna Krasylnykova.

Methodology: Iryna Kapelista, Iryna Shymkova, Oksana Marushchak, Vitalii Hlukhaniuk, Iryna Krasylnykova.

Drafting - original draft: Iryna Kapelista, Iryna Shymkova, Oksana Marushchak, Vitalii Hlukhaniuk, Iryna Krasylnykova.

Writing - proofreading and editing: Iryna Kapelista, Iryna Shymkova, Oksana Marushchak, Vitalii Hlukhaniuk, Iryna Krasylnykova.