

# Strengthening Environmental Education in Azerbaijan

*Parvana Babayeva*

Azerbaijan's system of environmental education is at a pivotal point where we can capitalize on the nation's distinctive biodiversity and cultural legacy to build an informed and involved citizenry. At the moment, academic instruction of basic theoretical concepts constitutes the majority of environmental education. This curriculum needs to be broadened and strengthened immediately if we are to address more successfully contemporary environmental issues like biodiversity loss, pollution, and climate change.

The present educational system falls short, particularly when it comes to creating a close connection between students and their environment and practical, hands-on learning. Additionally, educators lack the necessary training to facilitate thorough environmental education, which results in them frequently missing opportunities to integrate it into more general courses.

A comprehensive strategy for environmental education should involve updating academic curricula to incorporate a more thorough environmental focus; supporting community-based learning programs; encouraging experiential learning through outdoor classrooms and field trips; and facilitating teacher professional development programs. Implementing such a strategy would enable Azerbaijan to raise a generation that is more aware of the environment and ready to lead the charge in resolving its current environmental problems. With sufficient funding and dedication, environmental education may act as a catalyst for promoting resilience and sustainable development in Azerbaijan.

*Parvana Babayeva is a Senior Engineer in the Science and Technology Division of Ekol Engineering Services CJSC. She formerly worked as a Senior Engineer in the Science and Technology Division of SOCAR's Ecology Department. She holds a master's degree in energy science and policy from Ajou University in South Korea, a master's degree in environmental chemistry from Baku State University, and a bachelor's degree in chemistry from Baku State University. She is on the roster of experts for the United Nations Framework Convention on Climate Change (UNFCCC). The views and opinions expressed herein are solely those of the author.*

## *History of Environmental Education in Azerbaijan*

In the early period of the restoration of Azerbaijan's independence, environmental education was largely neglected and marginalized in its education system, much like in many other post-Soviet nations. Facilitating rapid socio-economic and industrial development was the main goal of the educational system. And because the consequences on the environment were not taken into consideration, the result was environmental deterioration and a significant reduction in biodiversity.

In the late 1990s, there was a substantial shift in national objectives, as the drawbacks of the adopted approach became increasingly apparent. The government began introducing basic environmental education in academic curricula at the primary and secondary school levels. Unfortunately, these initial attempts were largely theoretical, leaving a gap in practical, experiential learning.

In the early years of the twenty-first century, a significant transformation took place, as Azerbaijan joined international agreements and commitments aimed at fostering environmental sustainability and instilling conservation. The country showed a proactive attitude towards incorporating sustainability principles in its national policies and strategies.

An essential step was taken toward formalizing environmental education with the launch of a Comprehensive Action Plan on Improving the Environmental Situation in the Azerbaijan Republic for 2006-2010. One of its objectives was the introduction of environmental education in the community and at all educational levels, from pre-kindergarten to higher education.

Additional developments have followed more recently. Through various projects and activities, a number of non-governmental groups have significantly contributed to increasing environmental awareness. Despite these advancements, gaps still exist. A majority of the teaching remains theoretically oriented whilst still failing to incorporate field-based experiential learning. Additionally, teacher training programs in environmental education are sparse and inconsistent.

The opportunity now lies in building on these foundations to create a more comprehensive, practical, and effective environmental education framework that can prepare future generations to address complex environmental challenges.

## *Environmental Education Issues*

The issues concerning environmental education in Azerbaijan are multifaceted and require immediate attention. Primarily, the scope of environmental education in the current curricula is not comprehensive enough. While it introduces basic environmental

concepts, it largely overlooks the complex, intertwined relationship between the environment, society, and economy. In other words, it fails to account for the holistic approach championed by the UN 2030 Agenda for Sustainable Development.

The majority of current teaching strategies are theoretical, giving students few chances to participate in experiential learning. Students' capacity to comprehend current environmental challenges and how they might help to solve them is hindered by the lack of actual, field-based instruction.

In addition, there is a chasm between local communities and the educational system. For children to understand and value their immediate environment, environmental education should ideally be grounded in the local context. This gap limits the potential for students to learn about, respect, and protect Azerbaijan's unique biodiversity and ecosystems.

Additionally, teacher training in environmental education is insufficient. Without properly-qualified teachers, children lack the direction required to study and comprehend the complexity of environmental concerns. Investment in teachers' professional development is necessary since they play a crucial role in determining how students perceive the environment.

The repercussions are extensive if these issues are not resolved. Future generations in Azerbaijan won't be well-equipped to handle the mounting problems of environmental degradation, climate change, and sustainability without a comprehensive awareness of environmental issues. As a result, there may be a continual loss of biodiversity, poor health outcomes from pollution, and a lack of environmental disaster resilience.

The consequences of inaction extend beyond the environmental sphere. A lack of sustainable practices could have a negative influence on the economy and negatively affect sectors like agriculture and fishing, which depend largely on environmental health.

Therefore, a change in policy is an essential component to secure the wellbeing of Azerbaijan's environment and population. A sustainable, resilient, and affluent future will be shaped by a comprehensive and successful environmental education policy.

## *Revise the Existing Curriculum*

Environmental education should not be treated as a standalone topic. Instead, it should be integrated across all academic disciplines to foster a holistic understanding of the interconnectedness of environmental, social, and economic systems.

The first step in achieving this would be to evaluate the current curricula across all subjects and educational levels. The aim should be to identify opportunities to introduce

environmental concepts and case studies. For example, in science classes, discussions about climate change or biodiversity can be woven in. In social studies or history, the environmental impact of industrialization or agriculture could be discussed. Even in subjects like literature or art, themes of nature and the environment can be explored.

Next, it would be important to ensure the curriculum is current, relevant, and taps into critical environmental issues. Given Azerbaijan's rich biodiversity and unique environmental challenges, the curriculum should cover local case studies alongside global environmental issues. This would help students understand the implications of environmental challenges at different scales, "from local to global" as the saying goes.

Special emphasis should be placed on the development of critical thinking skills. Instead of simply learning facts about the environment, students should be encouraged to ask questions, discuss ideas, and consider the potential impacts of different actions. This would prepare them to make informed decisions and take action on environmental issues in their personal lives and communities.

Lastly, the curriculum should also equip students with the skills necessary to investigate and address environmental issues. This includes research skills, problem-solving skills, and the ability to use tools and technologies relevant to environmental science. By doing so, the curriculum would not only educate students about environmental issues but also empower them to be active participants in solving these issues.

In implementing this recommendation, it is important to collaborate with a diverse set of stakeholders, including educators, environmental experts, grassroots community leaders, and even students. Their input can ensure that the curriculum is comprehensive, practical, and relevant. Additionally, resources should be allocated for the development of new teaching materials and teacher training to support the new curriculum.

Revising the curriculum in this way will create a generation of Azerbaijani students who are not only knowledgeable about environmental issues but also have the skills and motivation to address them.

## *Promote Experiential Learning*

Experiential learning, or learning by doing, plays a crucial role in environmental education. It transforms theoretical knowledge into practical understanding and fosters a direct connection between students and their surrounding environment.

Here are some suggestions for experiential learning:

1. Outdoor classrooms can serve as dynamic spaces for learning, bringing education into the heart of nature. These could range from school gardens to local parks or protected areas. Lessons conducted in such settings could involve direct

observation of flora and fauna, soil testing, or learning about water cycles in a nearby river or pond.

2. Trips to local ecosystems like forests, wetlands, or the Caspian shoreline would offer students first-hand experiences of diverse environments. Visits to industries or waste treatment plants could be organized to understand environmental management or the impact of human activities on the environment.
3. Encouraging students to undertake environment-themed projects can deepen their understanding. These could involve planting and caring for a school garden, establishing a recycling campaign, or conducting a local biodiversity survey. Such projects can stimulate creativity, teamwork, and problem-solving skills.

To effectively implement this recommendation, partnerships with local environmental organizations, community groups, and conservation areas are vital. They can provide access to various ecosystems, resources, and expert guidance. Teachers would also require training and resources to facilitate these outdoor and project-based learning experiences.

Investment in the infrastructure for outdoor classrooms, like establishing learning trails, installing informational signage, or setting up equipment for water or soil testing, would also be necessary. While this approach requires initial investment, the long-term educational benefits justify the costs.

By providing opportunities for experiential learning, Azerbaijan's education system would nurture an intimate relationship between students and their environment, leading to a stronger commitment to its protection. This direct interaction with the environment can help spark curiosity, foster empathy for the natural world, and inspire future environmental stewards.

## *Community-Based Environmental Education*

Community-based environmental education is a powerful way to root learning in local context and engage the broader community in environmental stewardship. It promotes intergenerational learning and harnesses local knowledge, making environmental education more relevant and impactful.

Here are some suggestions for community-based environmental education:

1. Schools can partner with local environmental organizations, community groups, and elders to develop learning programs that highlight local environmental issues. For example, in areas facing water scarcity, community members could share their experiences and strategies, providing valuable localized insights to students.
2. Schools can organize regular clean-up initiatives in collaboration with local communities, targeting local parks, beaches, or neighborhoods. These activities

- not only serve to improve the local environment but also raise awareness of waste management and the impact of littering.
3. Schools, in partnership with local communities, could organize tree-planting drives. This hands-on experience can help students understand the importance of trees in maintaining ecological balance and combating climate change.
  4. Students could take part in or even lead workshops aimed at educating the community about environmental issues. Topics could range from energy conservation and recycling to biodiversity and climate change.
  5. Schools could involve students and community members in citizen science projects. These might involve tracking local bird populations, monitoring water quality, or mapping local flora. Such initiatives could significantly contribute to local environmental data while educating participants.

Implementing this recommendation requires strong partnerships between schools, local communities, and environmental organizations. Schools would need to engage proactively with these groups, identifying shared goals and opportunities for collaboration.

This approach fosters a sense of shared responsibility and collective action for environmental stewardship. By involving the community, students see the immediate relevance and impact of their learning, encouraging them to become active environmental citizens. Through community-based environmental education, Azerbaijan's education system would build a strong network of environmental guardians, deeply rooted in their local context, working together to protect and enhance their environment.

## *Professional Development Programs for Teachers*

Teachers play a critical role in delivering effective environmental education. Therefore, investing in their professional development is key to the successful implementation of a comprehensive environmental education program.

Here are some suggestions for professional development programs for teachers:

1. Teachers need a robust understanding of environmental science concepts and current environmental issues to deliver effective instruction. This could be addressed through workshops, courses, or seminars delivered by environmental experts.
2. Alongside content knowledge, teachers also need training in effective pedagogical strategies for environmental education. This could include methods for integrating environmental topics across various subjects, promoting inquiry-based learning, facilitating outdoor learning experiences, or using technology and digital resources in teaching environmental concepts.
3. Teachers, too, could benefit from hands-on experiences, such as field trips, workshops at local conservation areas, or participation in citizen science projects.



These experiences can enhance their understanding and appreciation of the environment and provide ideas for classroom activities.

4. Establish platforms where teachers can share their experiences, challenges, and best practices in teaching environmental education. This could involve regular meetings, an online forum, or a shared resource bank.
5. Professional development should not be a one-time event but an ongoing process. This can be facilitated through regular refresher courses (i.e., executive education and expert training sessions), access to up-to-date resources, and opportunities to engage with environmental experts.

Implementation of this recommendation requires collaboration with environmental experts, educational institutions, and teacher training agencies. It is crucial to ensure these programs are accessible to all teachers, regardless of their location or the resources of their school.

By equipping teachers with the necessary knowledge, skills, and resources, Azerbaijan's education system would ensure that students receive high-quality environmental education. Teachers will be more confident and effective in delivering lessons, leading to better student engagement and understanding. Furthermore, well-trained teachers can act as role models, inspiring students to care for the environment and take action on environmental issues.

## *Public-Private Partnerships*

Public-Private Partnerships (PPPs) can play a pivotal role in enhancing environmental education by pooling resources, expertise, and innovative solutions from different sectors.

Here are some ways PPPs could be leveraged in the context of environmental education in Azerbaijan:

1. Private sector entities (both for-profit companies and non-profit foundations) can provide much-needed funding to help implement the recommendations proposed in this policy brief. This could include funds for teacher training, infrastructure for outdoor classrooms, or resources for experiential learning activities.
2. Private sector entities, particularly those in the environmental field, have a wealth of expertise that could be shared with schools. They could conduct workshops, offer guest lectures, or provide guidance on curriculum development.
3. Private sector entities could offer internships or project opportunities for students. For instance, an energy company could involve students in a renewable energy project, or a waste management company could give students a hands-on understanding of recycling processes.

4. Private entities often have strong ties with local communities, and their participation in school programs could help foster community engagement in environmental education. They could support or co-organize community-based environmental education initiatives such as clean-up drives or tree-planting events.
5. Private entities, particularly tech companies, can provide schools with access to cutting-edge technology or digital resources that can enhance environmental learning. This could range from educational software to equipment for environmental monitoring or experimentation.

To implement this recommendation, the government and schools need to actively engage with private entities, inviting their participation and collaboration. It is important to identify mutual benefits and shared goals to ensure the sustainability of these partnerships.

By leveraging PPPs, Azerbaijan's education system would enhance the quality and reach of environmental education, making it more relevant, engaging, and effective. Private sector entities can bring fresh perspectives, innovative solutions, and additional resources to environmental education, complementing and enhancing the efforts of the public sector.

### *A Necessary Step*

The foregoing set of recommendations, if implemented holistically, would catalyze an integrated pedagogical approach that fully addresses the need for comprehensive and practical environmental education and the need to engage local communities and teachers as central agents of change.

Each policy recommendation addresses specific gaps in the current environmental education approach. Curriculum revision provides a robust academic foundation, while experiential learning offers hands-on experiences to enrich this knowledge. Community involvement ensures local relevance and fosters stewardship, while teacher training ensures effective delivery of the new curriculum. Leveraging PPPs provides a practical solution to resource constraints, engaging a wider network of stakeholders in improving environmental education. It also opens avenues for students to explore environmental careers and innovations.

Implementing properly this set of recommendations would ensure a comprehensive, sustainable, and effective approach to environmental education in Azerbaijan. By addressing the identified gaps, Azerbaijan's education system would take the lead in fostering an environmentally aware, informed, and proactive citizenry capable of leading the country towards a sustainable and prosperous future.