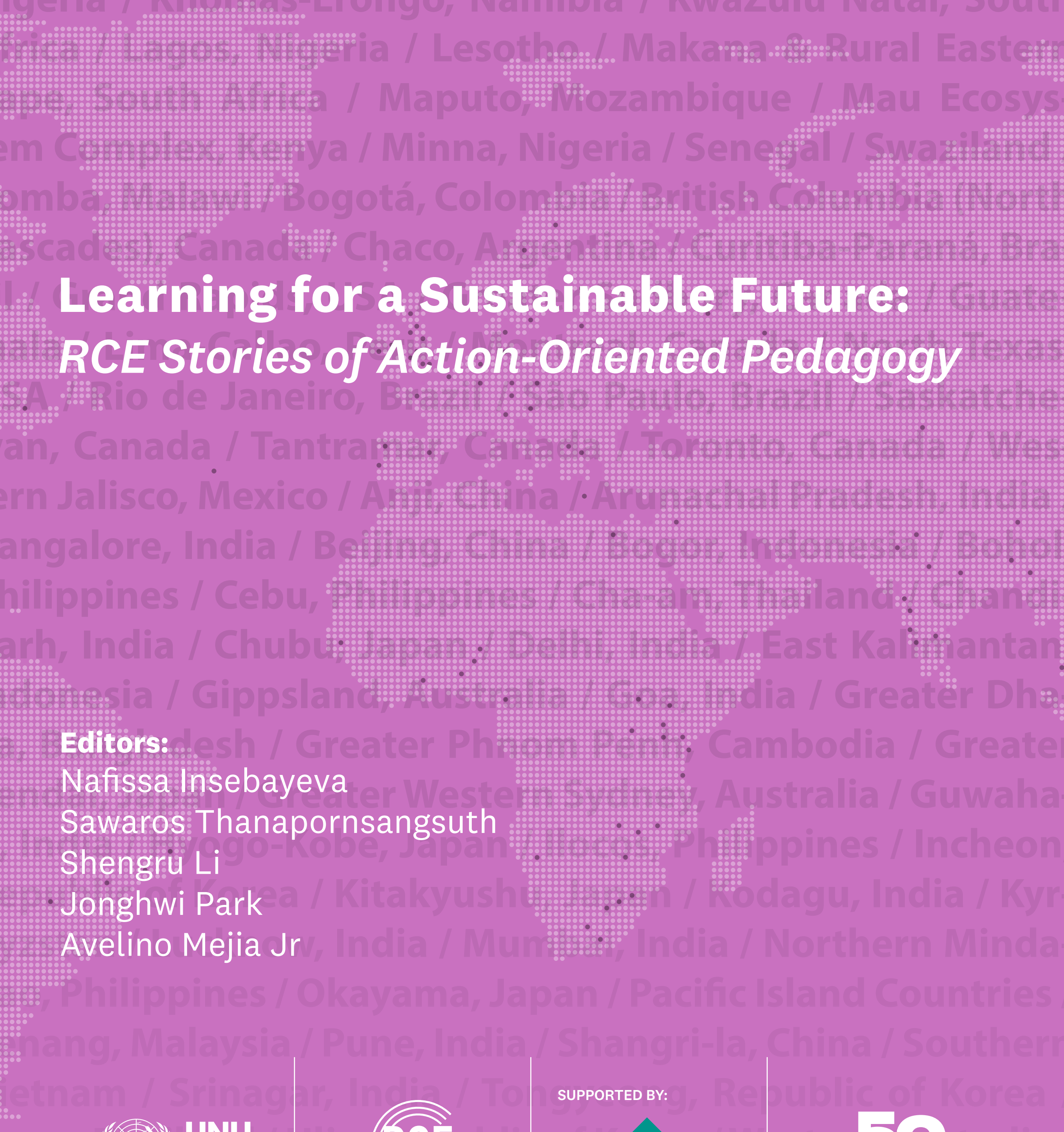

Learning for a Sustainable Future:
RCE Stories of Action-Oriented Pedagogy

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Sawaros Thanapornsangsuth
Shengru Li
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UNU
IAS

RCE

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2025

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Foreword by UNU-IAS

Across the world, education is increasingly recognized as a powerful lever for addressing the climate crisis, biodiversity loss and social and economic inequalities. International frameworks such as the Baku Guiding Principles on Human Development for Climate Resilience call for education systems to support human development by enhancing skills, fostering well-being and enabling participation in building climate-resilient societies. In this context, Action-Oriented Pedagogy (AOP) for Education for Sustainable Development (ESD) offers a concrete approach for equipping learners with the values, competencies and agency needed to drive transformative change.

As we celebrate the 20th anniversary of the Global Regional Centre of Expertise on ESD Network (Global RCE Network), we reflect on its role in advancing ESD. Established in 2005 and coordinated by UNU-IAS, the network has grown to 200 RCEs worldwide. The Ministry of the Environment of Japan has been a steadfast supporter of the Global RCE Network, further strengthening its efforts to integrate ESD into diverse educational settings and empower learners to take action toward a sustainable future. RCEs have been serving as multi-stakeholder platforms for the past two decades, bridging formal education with local sustainability challenges by engaging universities, schools, local governments, businesses and civil society organizations. Through this collaborative and problem-solving approach, RCEs provide learners with hands-on, real-world experiences that cultivate critical thinking, creativity and agency. RCEs have been integrating local sustainability priorities into education and community projects, thereby helping ensure that learning is not only knowledge-based but also practical, transformative and solution-oriented. These efforts have contributed significantly to the localization of global sustainability agendas, reinforcing ESD as a means to drive meaningful change at the grassroots level.

This publication presents 10 compelling cases from RCEs around the globe, illustrating the successful implementation of AOP for ESD in diverse educational contexts. These narratives highlight the collaborative efforts of educators, researchers, policymakers and communities in co-creating solutions through participatory learning approaches. From integrating sustainability into curricula to fostering community-based initiatives, these cases exemplify the profound impact of action-oriented education in driving meaningful change. The RCEs showcased in this publication are demonstrating how innovative educational strategies can bridge the gap between theory and practice, equipping learners with the tools needed to address real-world sustainability challenges. This collection is a fitting tribute to 20 years of RCEs, standing as a testament to the realized potential of localized efforts and offering valuable insights to educators, institutions and policymakers for advancing ESD.

In 2025, as UNU marks its 50th anniversary, UNU-IAS reaffirms its commitment to advancing innovation and education for sustainable development. As part of its broader efforts in sustainability research and capacity-building, UNU-IAS continues to not only strengthen AOP for ESD and lifelong learning but also provide research-based policy advice for transformative ESD. We will continue to position education as a driving force for sustainable development by fostering partnerships and broadening the reach of AOP for ESD. Through these concerted efforts, UNU-IAS aims to enable learners of all ages to help contribute to a more sustainable and equitable future.

Shinobu Yume Yamaguchi
Director
United Nations University
Institute for the Advanced
Study of Sustainability (UNU-IAS)

Photo by Chelsea Aaron | Unsplash

Foreword by UNESCO

Achieving sustainable development requires a global change of mindsets, beliefs and behaviours, and education is vital to this task. Everyone in the world would like a better life for themselves and their children, and education makes a difference – it can help people to work together to find new solutions to their problems and can lead to new opportunities in an increasingly complex world.

Education for Sustainable Development (ESD) is one of the most effective forces to bring about the changes in knowledge, values, behaviour and lifestyles required to achieve sustainability and stability within and among countries, and to guarantee democracy, human security and peace. We have seen a growing recognition of the role and importance of lifelong learning and education as a vital element in helping communities create sustainable futures.

Much progress has been made over the years. Yet, the underlying issues remain constant and challenging. Poverty, climate change, biodiversity loss, frequent disasters and dramatic social inequities only make the need to empower everyone to acquire the knowledge, skills, attitudes and values necessary to shape a sustainable future more pressing than ever.

Promoting ESD at the local level through multi-stakeholder and cross-sectoral partnerships, the global community of Regional Centres of Expertise (RCEs), coordinated by UNU, is a success story in terms of ESD. ESD can only be successful when we continue fostering and building strong partnerships that bring together the global and the local levels. The global network of RCEs can serve as a model for both strong partnerships and local engagement. The characteristic diverse membership, bringing together higher education, local media, government offices, international and local organizations, and businesses, allows RCEs to build innovative platforms to share information and experiences, and promote dialogue among regional and local stakeholders.

The ESD for 2030 Priority Action Areas, which focus on *accelerating sustainable solutions at local level through ESD* and the *Greening Communities* pillar of the Greening Education Partnership, includes measures to encourage local communities and municipal authorities to integrate ESD programmes and ESD perspectives into the planning and decision-making processes of communities, as well as to develop community-based ESD programmes. Clearly, the RCE community's experience provides an important foundation to build upon in driving forward these priorities, and help diversify and expand existing networks in order to embrace new stakeholders and new sustainability challenges.

Furthermore, finding sustainable development solutions at the local level also means that local authorities and governments enhance their role in providing learning opportunities for sustainable development. This includes, as appropriate, supporting, at the local level, the integration of ESD in formal education, as well as the provision of, and support to, non-formal and informal learning opportunities in sustainable development for all members of the community. RCEs' experiences are equally relevant to help drive this forward, as they display flexibility and ability to adapt to local contexts and cultures, and to truly engage a variety of people from different sectors to take action at the local level.

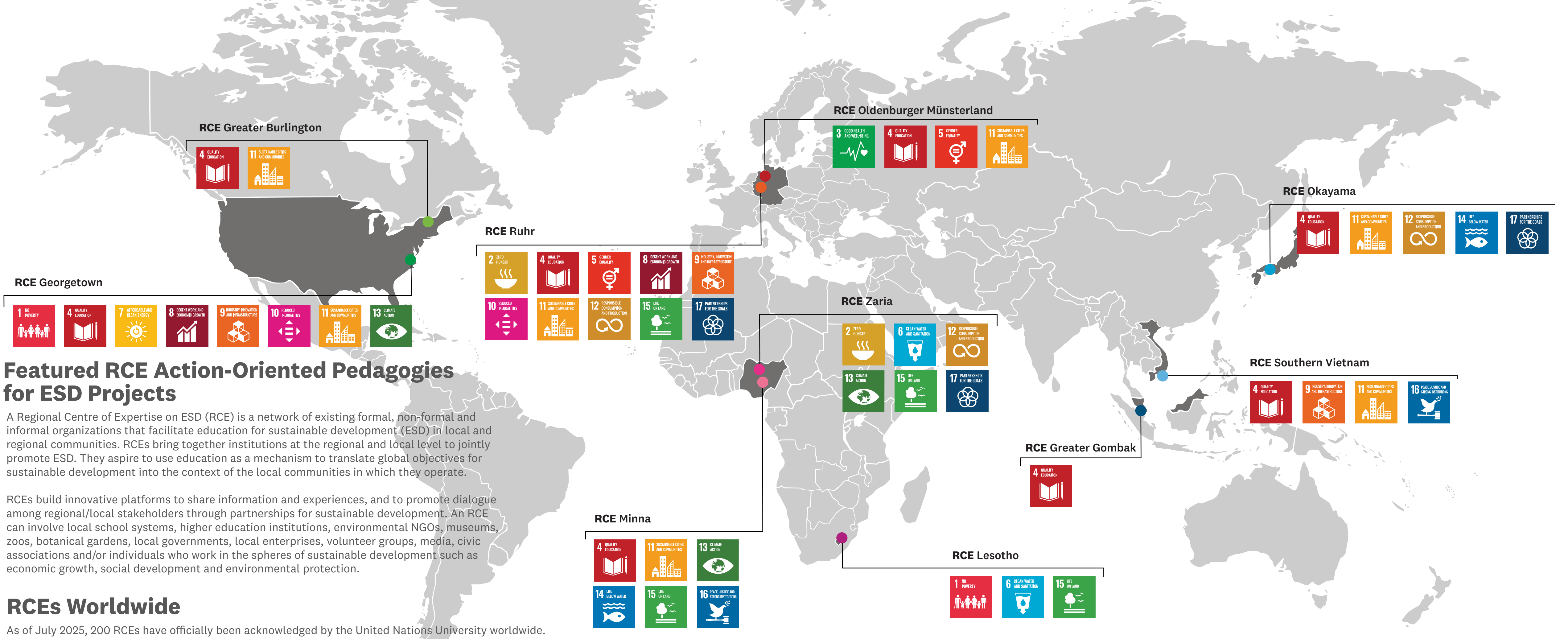
As evidence shows, effective and innovative solutions to sustainable development challenges are frequently developed at the local level. Critical for the future will be to further develop, operationalize and enhance local networks that facilitate multi-stakeholder learning and collaboration for sustainable development. In the framework of ESD for 2030 and the Greening Education Partnership, UNESCO thus will continue its collaboration with UNU and the RCEs.

Photo by Vanessa Serpas | Unsplash

The present publication offers an opportunity to revisit the vitality, breadth and variety of ideas and practices in community-based ESD across the world. This vibrancy is an excellent basis for an even stronger role for ESD in the years ahead, as we all learn our way towards a sustainable future. Indeed, using these good examples of what works for ESD at the local level, we can face the world's ongoing challenges together with confidence.

Education alone cannot achieve a more sustainable future; however, without lifelong education and learning for sustainable development, we will not be able to reach that goal.

Bernard Combes
Programme Specialist
Education for Sustainable Development
UNESCO


RCE Greater Burlington
4 QUALITY EDUCATION
11 SUSTAINABLE CITIES AND COMMUNITIES
RCE Oldenburger Münsterland
3 GOOD HEALTH AND WELL-BEING
4 QUALITY EDUCATION
5 GENDER EQUALITY
11 SUSTAINABLE CITIES AND COMMUNITIES
RCE Okayama
4 QUALITY EDUCATION
11 SUSTAINABLE CITIES AND COMMUNITIES
12 RESPONSIBLE CONSUMPTION AND PRODUCTION
14 LIFE BELOW WATER
17 PARTNERSHIPS FOR THE GOALS
RCE Ruhr
2 ZERO HUNGER
4 QUALITY EDUCATION
5 GENDER EQUALITY
8 DECENT WORK AND ECONOMIC GROWTH
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
10 REDUCED INEQUALITIES
11 SUSTAINABLE CITIES AND COMMUNITIES
12 RESPONSIBLE CONSUMPTION AND PRODUCTION
15 LIFE ON LAND
17 PARTNERSHIPS FOR THE GOALS
RCE Georgetown
1 NO POVERTY
4 QUALITY EDUCATION
7 AFFORDABLE AND CLEAN ENERGY
8 DECENT WORK AND ECONOMIC GROWTH
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
10 REDUCED INEQUALITIES
11 SUSTAINABLE CITIES AND COMMUNITIES
13 CLIMATE ACTION
RCE Zaria
2 ZERO HUNGER
6 CLEAN WATER AND SANITATION
12 RESPONSIBLE CONSUMPTION AND PRODUCTION
13 CLIMATE ACTION
15 LIFE ON LAND
17 PARTNERSHIPS FOR THE GOALS
RCE Southern Vietnam
4 QUALITY EDUCATION
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
11 SUSTAINABLE CITIES AND COMMUNITIES
16 PEACE, JUSTICE AND STRONG INSTITUTIONS
RCE Greater Gombak
4 QUALITY EDUCATION
RCE Minna
4 QUALITY EDUCATION
11 SUSTAINABLE CITIES AND COMMUNITIES
13 CLIMATE ACTION
14 LIFE BELOW WATER
15 LIFE ON LAND
16 PEACE, JUSTICE AND STRONG INSTITUTIONS
RCE Lesotho
1 NO POVERTY
6 CLEAN WATER AND SANITATION
15 LIFE ON LAND

Featured RCE Action-Oriented Pedagogies for ESD Projects

A Regional Centre of Expertise on ESD (RCE) is a network of existing formal, non-formal and informal organizations that facilitate education for sustainable development (ESD) in local and regional communities. RCEs bring together institutions at the regional and local level to jointly promote ESD. They aspire to use education as a mechanism to translate global objectives for sustainable development into the context of the local communities in which they operate.

RCEs build innovative platforms to share information and experiences, and to promote dialogue among regional/local stakeholders through partnerships for sustainable development. An RCE can involve local school systems, higher education institutions, environmental NGOs, museums, zoos, botanical gardens, local governments, local enterprises, volunteer groups, media, civic associations and/or individuals who work in the spheres of sustainable development such as economic growth, social development and environmental protection.

RCEs Worldwide

As of July 2025, 200 RCEs have officially been acknowledged by the United Nations University worldwide.

Africa & Middle East

Cameroon:
- Buea

Egypt:
- Cairo

Eswatini:
- Eswatini

Ghana:
- Ghana

Jordan:
- Jordan

Kenya:
- Central Kenya
- Greater Nairobi
- Greater Pwani
- Kakamega-Western Kenya
- Mau Ecosystem Complex
- Mount Kenya
- North Rift
- Nyanza
- South Rift

Lesotho:
- Lesotho

Malawi:
- Zomba

Mozambique:
- Mozambique

Namibia:
- Khomas-Erongo

Nigeria:
- Greater Yenagoa
- Ilorin
- Kano
- Lagos
- Minna
- Ogun
- Port Harcourt
- Zaria

Senegal:
- Senegal

Somalia:
- Mogadishu

South Africa:
- Gauteng
- KwaZulu-Natal
- Makana and Rural Eastern Cape

Tanzania:
- Dar es Salaam

Uganda:
- Greater Eastern Uganda
- Greater Kampala
- Greater Masaka
- Greater Mbarara

United Arab Emirates:
- Abu Dhabi

Zambia:
- Lusaka

Zimbabwe:
- Harare
- Mutare

Europe

Albania:
- Middle Albania

Austria:
- Graz-Styria
- Vienna

Belarus:
- Belarus

Czech Republic:
- Czechia

Denmark:
- Denmark

Finland:
- Helsinki Metropolitan

France:
- Bordeaux Aquitaine
- Brittany
- Paris Seine

Germany:
- Hamburg
- Munich
- Nuremberg
- Oldenburger Münsterland
- Ostwürttemberg
- Ruhr
- Southern Black Forest
- Stettiner Haff

Greece:
- Central Macedonia
- Crete

Ireland:
- Dublin

Italy:
- Euroregion Tyrol

Lithuania:
- Vilnius

Netherlands:
- Fryslân

Poland:
- South Poland
- Warsaw Metropolitan

Portugal:
- Açores
- Creias-Oeste
- Porto Metropolitan Area

Regional:
- Basque Country - Navarre
- Rhine-Meuse

Russia:
- Nizhny Novgorod
- Samara

Serbia:
- Vojvodina

Spain:
- Galicia

Sweden:
- North Sweden
- Skane
- Uppsala-Gotland
- West Sweden

Switzerland:
- Zurich

United Kingdom:
- East Midlands
- Greater Manchester
- London
- North East
- Scotland
- Severn
- Wales
- Yorkshire & Humberside

The Americas

Argentina:
- Chaco
- Cuenca del Plata

Brazil:
- Curitiba-Paraná
- Rio de Janeiro
- São Paulo

Canada:
- British Columbia
- Greater Sudbury
- Mauricie/Centre-du-Quebec
- Peel
- Peterborough-Kawartha-Haliburton
- Saskatchewan

Colombia:
- Bogota

Guatemala:
- Guatemala

Mexico:
- Borderlands Mexico-USA
- Western Jalisco

Peru:
- Lima-Callao

Puerto Rico:
- Puerto Rico

United States of America:
- Detroit Windsor
- Georgetown
- Grand Rapids
- Greater Atlanta
- Greater Burlington
- Greater Cincinnati
- Greater Phoenix
- Greater Portland
- Hawaii
- North Texas
- Salisbury
- Shenandoah Valley

Venezuela:
- Gran Caracas

Asia-Pacific

Australia:
- Gippsland
- Greater Western Sydney
- Murray-Darling
- Tasmania
- Western Australia

Bangladesh:
- Greater Dhaka
- Sundarbans

Cambodia:
- Greater Phnom Penh

China:
- Anji
- Beijing
- Greater Shangri-la
- Hangzhou
- Hohhot
- Kunming
- Ningbo
- Qingdao
- Shanghai
- Suzhou
- Tianjin
- Zhangjiakou

India:
- Bengaluru
- Chandigarh
- Chennai
- Delhi
- East Arunachal Pradesh
- Goa
- Guwahati
- Jammu
- Kodagu
- Kozhikode
- Lucknow
- Mishmi Hills
- Mumbai
- Pune
- Srinagar
- Thiruvananthapuram
- Tirupati

Indonesia:
- Bogor
- East Kalimantan
- East Java
- Yogyakarta

Japan:
- Chubu
- Greater Sendai
- Hokkaido Central
- Hyogo-Kobe
- Kitakyushu
- Okayama
- Omuta
- Yokohama

Kyrgyzstan:
- Kyrgyzstan

Malaysia:
- Central Semenanjung
- Greater Gombak
- Greater Kuala Lumpur
- Iskandar
- Kuching
- Melaka
- Penang

Mongolia
- Mongolia

Nepal:
- Nepal

New Zealand:
- Otago
- Waikato

Philippines:
- Bohol
- Cebu
- Davao
- Ilocos
- Negros Island Region
- Northern Mindanao

Regional:
- Pacific Island Countries

Republic of Korea:
- Changwon
- Dobong-gu
- Gwangmyeong
- Incheon
- Inje
- Sejong
- Tongyeong
- Ulju

Thailand:
- Cha-am
- Maha Sarakham
- Phayao Municipality
- Sakon Nakhon
- Trang

Viet Nam:
- Southern Vietnam

Action-Oriented Pedagogies for Education for Sustainable Development

Dr. Jonghwi Park
Academic Programme Officer and Head of Innovation and Education, UNU-IAS

The journey for this publication, “Learning for a Sustainable Future: RCE Stories of Action-Oriented Pedagogy”, started from a simple question: what does it look like to learn for the planet?

There has been no shortage of international frameworks and declarations on Education for Sustainable Development (ESD). Starting from the Agenda 21 at the Rio Earth Summit in 1992 and evolved through the Decade of Education for Sustainable Development (DESD, 2005-2014), Global Action Programme on ESD (2015-2019) and the ESD 2030 Roadmap (2020-2030), they have been advocating and emphasizing the vital role of education in building a sustainable future.

While there is no doubt that these milestone frameworks provided solid instruments for raising public awareness and integrating ESD into the school curriculum over the last decades, we all realize we are far from reaching the goal. The world has been facing newly emerging or heightened challenges, such as climate change, increasing pollution, wars and conflicts, rapid biodiversity losses and growing inequality. Consequently, only 35 per cent of the SDG targets that we set in 2015 have been met in July 2025, with some of them even regressing.

To respond to the renewed urgency in putting the SDGs back on track and solving the compounding issues of sustainability, the United Nations has called for transforming education to contribute to the achievement of SDGs (United Nations, 1992). We need education systems that empower every person (beyond formal schools) to be capable of making informed decisions to support the global effort towards a sustainable future. We need education systems that leave no one behind, helping every learner stay resilient and adaptable to uncertainty and fast-changing times. We need a new perspective that the purpose of education itself—not just ESD—is to learn for our planet.

This is easier said than done.

There is a myriad of challenges in transforming education to place a new purpose of “learning for our planet” into the centre. This includes policy support, educator capacity, localization of global agenda and multi-stakeholder engagement, to name a few. Among them, one of the biggest and probably most persistent challenges is how to foster fundamental shifts from the cognitive knowledge and beliefs of learners to behavioural changes in action (Farooq, 2023; UNESCO, 2020; Varela-Losada et al., 2016).

The Regional Centres for Expertise on Education for Sustainable Development (RCEs) exist for that exact purpose. Commemorating its 20th anniversary in 2025, RCEs have been at the forefront of translating the global agenda into local contexts, empowering every person in all walks of life to become part of the solutions to sustainability issues. With 200 members around the globe, the Global RCE Network is committed to fostering action-oriented ESD, encouraging learners to go beyond merely understanding issues and take collective actions to tackle them. This action-oriented ESD cuts across formal, informal and non-formal learning, and engages multiple stakeholders and communities where RCEs are embedded and actively operating.

This publication is an output of a research project “Fostering Innovative Pedagogies and

PRESERVE ENVIROMENT
E

Photo by Bradford Zak | Unsplash

Action-Oriented Education for Sustainable Development”, an initiative under the Ministry of Education, Culture, Sports Science and Technology of Japan and funded by the Japan Society for the Promotion of Science. The Global RCE Service Centre initiated the research to understand the common success factors in Action-Oriented Pedagogies for ESD (AOP-ESD) that RCEs around the world have been exercising. The research began with the hope that it would establish a data-informed framework for AOP-ESD and advocates AOP-ESD as transformative learning for the planet and our sustainable future.

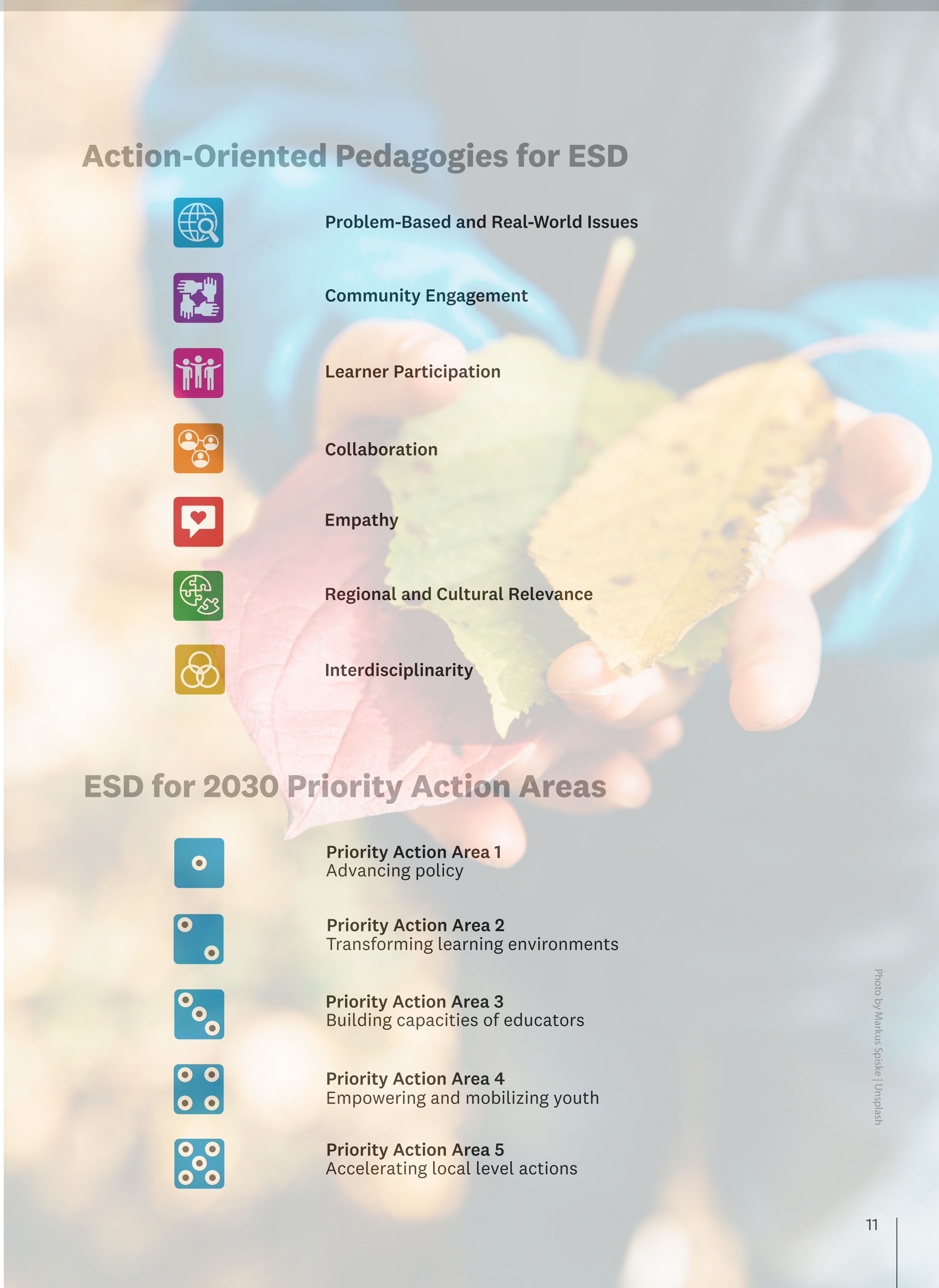
From September 2023 to July 2024, the Global RCE Service Centre research team interviewed and collected the cases from 28 RCE members who have been consistently active in fostering local actions for sustainable development through empowering learners. The analysis of the extensive data revealed seven key components of AOP-ESD: 1) Problem-Based and Real-World Issues, 2) Community Engagement, 3) Learner Participation, 4) Collaboration, 5) Empathy, 6) Regional and Cultural Relevance, and 7) Interdisciplinarity. The 10 cases that are presented in this publication exemplify how ESD can be designed to engage learners to take more active roles in identifying real-world issues in their local contexts and seeking collaboration with multi stakeholders in an interdisciplinary approach. They also illustrate learners’ empathizing process to deeply understand the local issues with careful consideration of regional and cultural relevance. Most of all, the cases showcase AOP-ESD driving learners to find solutions and take actions for our sustainable future.

What we found from the study is hope. A hope for our planet. From RCE Greater Gombak’s *Communiversity* course requiring university students to meet the local community and solve their sustainability problems, to RCE Minna’s Green Fingers tree-planting programme for young children, RCEs are transforming education to become “learning for the planet.”

We see the hope as we witness close and interdisciplinary collaboration that goes beyond schools, and extends to local government, authorities, businesses and parents joining hands to create a sustainable future for our next generation, as shown in the cases of RCEs Oldenburger Münsterland, Georgetown, Zaria and many more.

Drawing on the 28 cases and anchored in the seven key components, the research team translated the findings into a ready-to-use checklist (see page 66). The checklist enables readers to to revisit their existing education programmes, cross-check them, and enhance the action-oriented pedagogies.

As we celebrate the 20 years of RCEs, this publication is more than a tribute to their remarkable achievements—it is a call to action for educators, policy makers and communities around the world. The stories and lessons from these inspiring cases remind us that transformative changes are not only possible but already underway. This publication, along with the checklist and the online repository, is an invitation to reimagine education and to ensure that no one is left behind in learning for the planet. Scientists have confirmed that we have all the technologies we need to prevent further climate crises, and economists affirm that we have all the wealth we need to address inequality. It is the mindset and willingness of humanity that matter the most. And education has the power to shape them and drive actions for the change we urgently need.



Action-Oriented Pedagogies for ESD

Problem-Based and Real-World Issues

Community Engagement

Learner Participation

Collaboration

Empathy

Regional and Cultural Relevance

Interdisciplinarity

ESD for 2030 Priority Action Areas

Priority Action Area 1
Advancing policy

Priority Action Area 2
Transforming learning environments

Priority Action Area 3
Building capacities of educators

Priority Action Area 4
Empowering and mobilizing youth

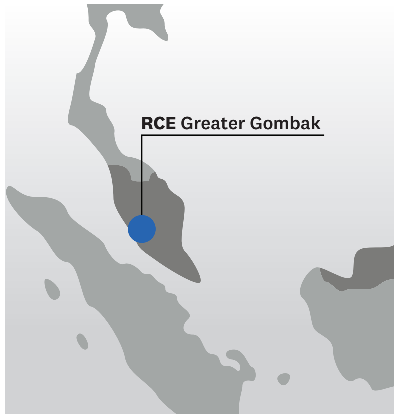
Priority Action Area 5
Accelerating local level actions

Photo by Markus Spiske | Unsplash

Photo by Yu Kato | Unsplash

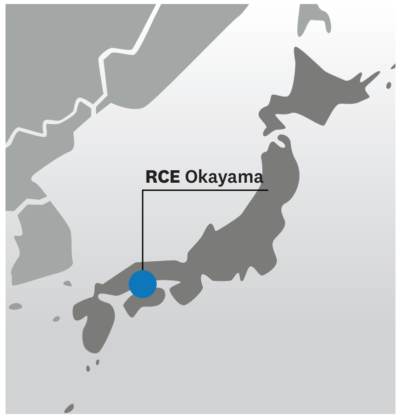
Chapter

Asia-Pacific



Usrah in Action
RCE Greater Gombak 14

4 QUALITY EDUCATION



Let's Save the Rivers and the Sea
RCE Okayama 18

4 QUALITY EDUCATION
11 SUSTAINABLE CITIES AND COMMUNITIES
12 RESPONSIBLE CONSUMPTION AND PRODUCTION
14 LIFE BELOW WATER
17 PARTNERSHIPS FOR THE GOALS

RCE Southern Vietnam

IU Innovation Camp
RCE Southern Vietnam 22

4 QUALITY EDUCATION
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
11 SUSTAINABLE CITIES AND COMMUNITIES
16 PEACE, JUSTICE AND STRONG INSTITUTIONS

Photo by RCE Greater Gombak

Interaction with refugees from the "No One Left Behind" initiative.

Usrah in Action

RCE Greater Gombak

Abstract

Moving away from the ivory tower concept of a university, the International Islamic University Malaysia (IIUM) is focused on its journey to bring back the role of university for the community, emphasizing the real impact of working on the ground. Although community engagement has been a priority of IIUM for decades, in 2018 it has amplified efforts towards mainstreaming the Communiversity concept and ensuring that transformation happening within IIUM will also take place in the immediate community. The university has now focused on producing balanced graduates and staff who display the characteristics of "Insan Sejahtera"—individuals whose cognitive, physio-psychological, intellectual and spiritual dimensions are in harmony with each other. In turn, this harmony of the inner self enables the person to function well within their surrounding environment. The ecological, economic, cultural and societal elements enhances the awareness of the individual.

Background

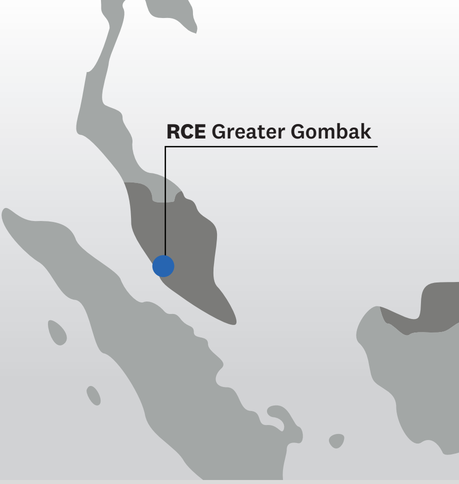
The Usrah in Action project is a manifestation of how IIUM integrates community engagement initiatives of the university into the formal curriculum, serving as a platform for experiential learning for the learners. An Usrah is a structured informal education system that allows students to share experiences and ideas about their daily lives and the state of Islam and the Ummah, the global community of Muslims (Awang Marusin, Sintang & Ibrahim, 2018). Usrah in Action is a series of sustainability-based community engagement courses compulsory to all IIUM undergraduates (Figure 1). Prior to participating in the project, learners must enrol in an introductory course on sustainability, which aims to build a foundation of understanding the concept and principles of sustainable development as well as sustainability-related issues. After taking the introductory course, learners will subsequently take the two project courses designed to translate the concept and principles of sustainability into actions. The first course (Usrah in Action 1) engages learners to perform community profiling and issue mapping of the target community, where learners are expected to propose solutions. Sustainable community projects will be developed from these proposed solutions and will be based on the profiling and mapping of the community. The proposed solutions will be implemented in the second project course (Usrah in Action 2). The two project courses are in line with the concept of the Communiversity agenda which supports the purpose of IIUM to engage communities in sustainable development, thus making more participatory the creation of a harmonious ecosystem of balanced and holistic students, staff and societies. Additionally, and most importantly, these courses are based on the Malaysian Qualifications Framework (Malaysian Qualifications Agency, 2017) where the students will have an ability to apply sustainable practices ethically, and in the context of local and global work and social environments.

Contents

Learners begin by crafting profiling-based proposals to acclimate themselves to the community. Subsequently, they embark on executing these projects, a vital aspect of their coursework. A comprehensive situational analysis ensues afterwards, marked by a rigorous conduct of professional

"Urban Natural Farming Towards Madani Society", a community engagement project created from *Usrah in Action*.

Photo by RCE Greater Gombak



Region:
Asia-Pacific

Country:
Malaysia

SDG(s): 4

AOP for ESD:
Problem-Based and Real-World Issues; Community Engagement; Learner Participation; Collaboration; Empathy; Regional and Cultural Relevance; Interdisciplinarity

Target audience(s):
University Students

ESD for 2030 Priority Action:

Language(s) of the project:
Malay, English

Stakeholders:
Learners; Community Members; Local Government

Duration of project:
2021 - Ongoing

Learning Aspects	Objectives	AOP for ESD	Example Activities
Grouping learners across various disciplines	To analyze community problems using diverse disciplines and perspectives of learners	Collaboration; Interdisciplinarity	Group discussions
Community profiling	To develop profiles of targeted communities	Community Engagement; Empathy	Field trips; interview; survey; documentary
Create solutions for community	To formulate solutions to community problems	Community Engagement; Learner Participation Regional and Cultural Relevance	Prototyping tools; re-imagining new products and services

surveys and interviews with relevant stakeholders. Each semester, learners immerse themselves in the community surrounding the campus, such as the 24 makeshift houses settlement outside the university gates. The residents of this community endure dire living conditions, highlighted by the absence of basic amenities like water and electricity. Over the past five semesters, learners have consistently engaged with this community, gaining profound insights into their struggles. For many, it is an eye-opener to step into homes devoid of such essentials which is a stark departure from their accustomed environment. The significance of this experiential learning is underscored by the reflection of the learners; many learners express astonishment, admitting that despite years of academic pursuit, this is the first time they have interacted intimately with such marginalized groups. Such experiences serve as a poignant reminder of the realities faced by those on the fringes of society within the Greater Gombak community.

Policy Support and Implications

The project is made possible given the policy requirement at the Ministry level (Ministry of Higher Education of Malaysia) to nurture balanced and holistic learners, which states that learners must be exposed to an education process that will instil knowledge, attitude, values and skills necessary to contribute and function as members of a community or society at large. The policy also requires learners to develop a project with the community for a certain period of time. This policy is in synergy with local level initiatives engaging the local community and helping them address environmental issues and empowering the community to address socio-economic problems. The project aims to highlight the importance of changing the delivery of the education, to go beyond the classroom and towards more experiential learning. It also proves that ESD requires top-down support for successful implementation.

Scale-up Effort

The courses have been made compulsory for IIUM graduates. Each semester, the courses are taken by an estimated 3,000 students throughout IIUM.

Evaluation

Evaluation methods include project-based assessments, surveys and interviews with the community, and feedback from community partners.

Results

Starting with a small-scale effort of 60 community engagement projects around the district in 2021, Usrah in Action has produced 402 projects which have reached 6,000 community members across Peninsular Malaysia (particularly Klang Valley, Pahang and Johor), many of whom belong to Indigenous communities, face various systemic barriers, including those related to disability or poverty. Likewise, Usrah in Action has engaged 8,640 students and around 300 voluntary instructors consisting of IIUM faculty, local businesses and community organizations (Figure 2). The community engagement projects are monitored and documented using the Google Earth platform. These are updated every semester and are accessible for public view. The source is also published on the Sejahtera Centre website. Usrah in Action exemplifies the university's shift from their traditional role as education institutions to a more structured, long-term approach aimed at empowering and transforming communities. This engagement is meticulously documented to serve as a model of good practice for other higher education institutions, both nationally and globally. At the end of each semester, students present their findings and projects to a diverse panel of jurors representing academia, industry, government agencies, non-governmental organizations (NGOs)–and the community, highlighting a pentahelix model of collaboration. The University in Action Symposium has evolved into a significant platform, not only for showcasing student projects but also for connecting Communiversity practitioners throughout Malaysia. In particular, the Fourth University in Action Symposium (2024), drew the attention of international delegates and subject matter experts, who participated as members of the panel of judges.

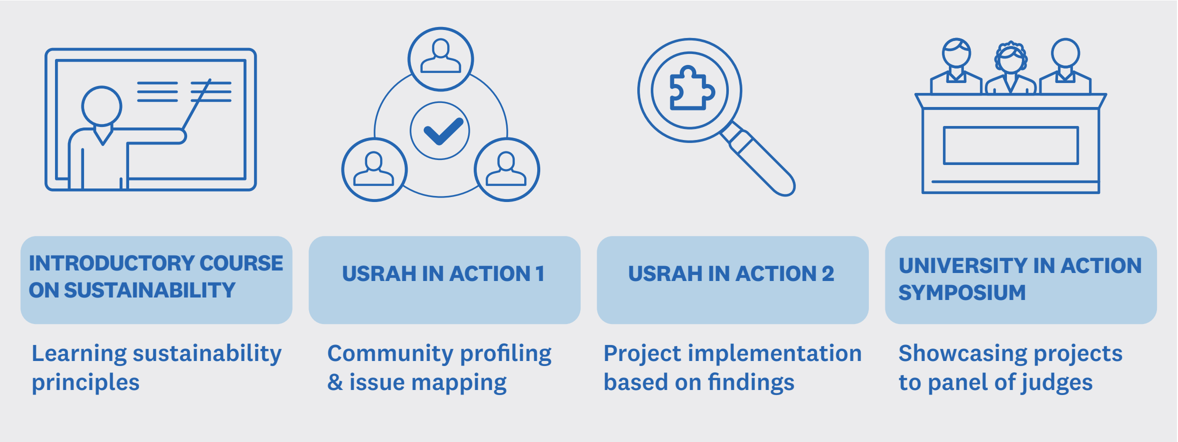

INTRODUCTORY COURSE ON SUSTAINABILITY
Learning sustainability principles
USRAH IN ACTION 1
Community profiling & issue mapping
USRAH IN ACTION 2
Project implementation based on findings
UNIVERSITY IN ACTION SYMPOSIUM
Showcasing projects to panel of judges

Figure 1. The Journey of *Usrah in Action*: From Classroom to Community (Source: IIUM, 2024).

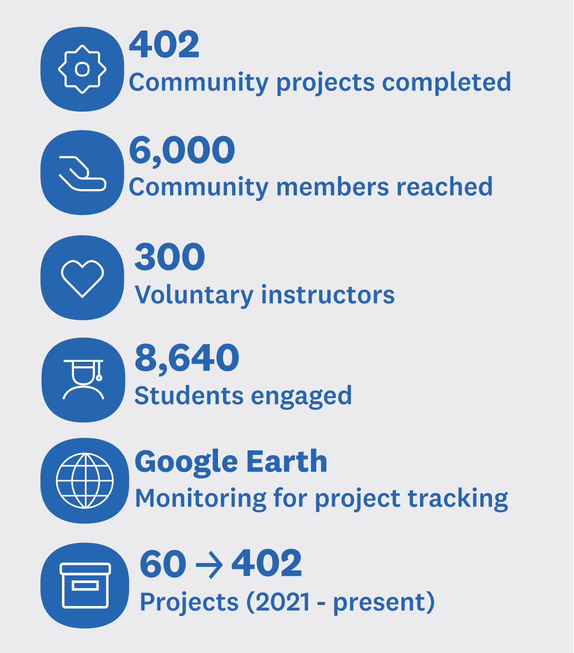


Figure 2. *Usrah in Action*, by the numbers (Source: IIUM, 2024).

Actions to Take

RCE Greater Gombak continues to secure funding from potential donors to financially support the projects under Usrah in Action.

More Information:

[Sejahtera Centre for Sustainability and Humanity](#)

[Usrah in Action project mapping (Google Earth)](#)

RCE Okayama

Region:
Asia-Pacific

Country:
Japan

SDG(s):
4 11 12 14 17

AOP for ESD:
Problem-Based and Real-World Issues; Community Engagement; Learner Participation; Collaboration; Empathy; Regional and Cultural Relevance

Target audience(s):
Residents, Educational Institutions, Businesses, Non-Profit Organizations

ESD for 2030 Priority Action:

Language(s) of the project:
Japanese

Stakeholders:
Learners; Educators; Community Members; Citizens' Organizations; Educational Institutions, Kominkans (Community Learning Centres); Businesses; Government Agencies

Duration of project:
April 2021 – Ongoing

Photo by Okayama City Office

Citizens participate in the litter pickup event in Okayama.

Let's Save the Rivers and the Sea

RCE Okayama

4 QUALITY EDUCATION
11 SUSTAINABLE CITIES AND COMMUNITIES
12 RESPONSIBLE CONSUMPTION AND PRODUCTION
14 LIFE BELOW WATER
17 PARTNERSHIPS FOR THE GOALS

Abstract

This project is a collaborative effort aimed at cleaning up streets, irrigation waterways, rivers and beaches, addressing the accumulation of marine debris in the Seto Inland Sea. Spearheaded by the Okayama ESD Promotion Commission (Figure 3), a multi-stakeholder network with its secretariat in the Okayama City Office, this project compiles activities conducted by different stakeholders. The Commission has provided subsidies or supported citizens' cleanup activities with learning sessions at Kominkans (Community Learning Centres, or CLCs), hosted forums where various stakeholders can present and discuss their efforts, and held exhibitions to raise awareness of marine debris, coordinating with other municipalities. By implementing a whole-community approach with cross-sectoral partnerships, this project has not only contributed to the removal of litter but also encouraged citizens to take action toward the protection of the blue environment.

Background

Okayama faces the Seto Inland Sea, designated as a national park and is home to numerous rivers and irrigation waterways (Figure 4). As a result, water issues are a familiar concern for its residents. Approximately 4,500 tons of litter end up in the sea each year, with 66 per cent flowing in from rivers and waterways in the prefectures adjacent to the sea (Fujieda et al., 2010) (see Figure 5). As such, reducing inland litter is a more efficient way to maintain Okayama's bodies of water. In response to the growing number of citizens' cleanup activities, the Okayama ESD Promotion Commission launched this project in line with the national government's vision to combat marine debris.

Contents

This project provides citizens with learning opportunities through litter pickup experiences. They learn about the relevance of environmental conservation, the marine litter problem and its impact on communities, and the city's countermeasures. It also encourages them to change their environmental behavior and take action for litter reduction and marine protection.

Policy Support and Implications

At the G20 Summit held in Japan in 2019, the G20 Implementation Framework for Actions on Marine Plastic Litter was endorsed by the members, and the Japanese government

Learning Aspects	Objectives	AOP for ESD	Example Activities
Understanding the issue	To understand the marine debris problem	Problem-Based and Real-World Issues; Community Engagement; Learner Participation; Empathy	Advocacy through available instruments and exhibitions; learning events
Awareness creation through experiences	To acquire knowledge on sustainable management of blue environment and reduction of marine litter	Community Engagement; Learner Participation; Collaboration	Forums hosted by the Okayama ESD Promotion Commission; litter cleanup events with learning sessions
Making behavioural changes and taking action toward solutions	To take further protective action toward the environment	Learner Participation; Collaboration	Individual and organizational behavioural changes; engaging previous participants in organizing new cleanup groups and events

Citizens sort litter at the litter pickup event in Okayama.

Photo by Okayama City Office

introduced the National Action Plan for Marine Plastic Litter. In response to the growing momentum at the national and global levels and the increasing number of activities by local stakeholders, the Okayama ESD Promotion Commission established the Expert Committee on SDGs Project on Marine Environment and initiated this project in 2021. Additionally, Okayama City developed the Okayama City Action Plan for Marine Plastic Waste in 2022, which incorporated collaboration with the Expert Committee and the implementation of this project.

Scale-up Effort

The Okayama ESD Promotion Commission has expanded this project beyond the local area. At the forums, the Commission invites non-profit organizations (NPOs), schools and businesses from outside the area to share their experiences and join the discussions. Additionally, Okayama City, in cooperation with the existing network of neighboring local municipalities, holds exhibitions to showcase the efforts of each municipality. They conduct litter pickup activities in each area simultaneously to scale up the results of this project.

Evaluation

Evaluation method includes questionnaires and essay writing.

Results

The problem of marine debris is now well known among citizens at all levels, thanks to news coverage and publicity by the city and the network. Citizens' cleanup activities have become more stable and sustainable with the city's subsidies and sponsorship. Additionally, positive actions and new cooperative relationships among participants have emerged. For example, one environmental organization formed a new committee of students, who had previously been participants and learners, to take the lead in litter pickup activities. One local media outlet started a marine litter reduction campaign, actively covering related stories, and organized large-scale marine litter cleanup activities and workshops in cooperation with other stakeholders.

City mayor (second from left) joins the litter pickup event in Okayama.

Photo by Okayama City Office

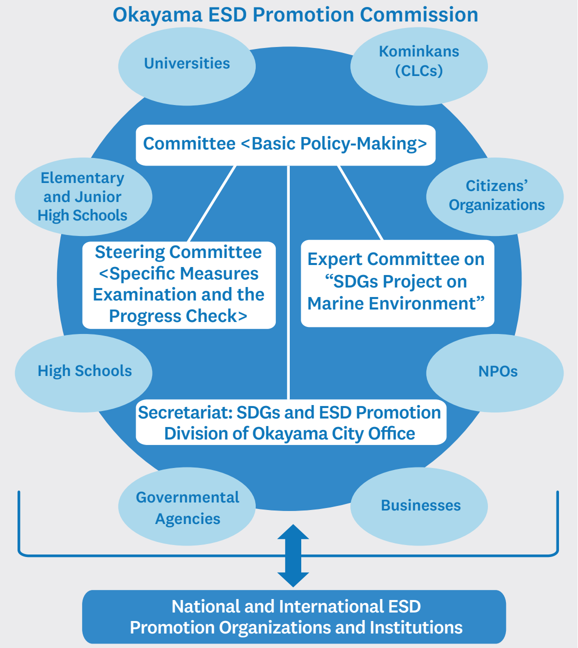

Okayama ESD Promotion Commission
Universities
Kominkans (CLCs)
Committee <Basic Policy-Making>
Elementary and Junior High Schools
Citizens' Organizations
Steering Committee <Specific Measures Examination and the Progress Check>
Expert Committee on "SDGs Project on Marine Environment"
High Schools
NPOs
Secretariat: SDGs and ESD Promotion Division of Okayama City Office
Governmental Agencies
Businesses
National and International ESD Promotion Organizations and Institutions

Figure 3. Organization Chart of the Okayama ESD Promotion Commission (Source: Okayama City, 2024).

Actions to Take

Cooperation among various sectors is essential to address common regional challenges. In 2005, Okayama City created a network of various stakeholders, the Okayama ESD Promotion Commission, to develop human resources for building a sustainable society. The Commission started with 19 member organizations and has now grown to include over 400 organizations, comprising citizens' groups, businesses, media, educational institutions, Kominkans and municipality offices. The Okayama City Office, acting as a secretariat, has provided both human and financial support to the Commission. The Commission conducts a series of ESD and SDGs activities under the name The Okayama ESD Project, including this marine environment project. Additionally, Okayama City promotes this project in cooperation with neighbouring municipalities, particularly through the network Okayama Core Regional Urban Area, which was established by 13 municipalities in 2017 to collaborate on regional revitalization.

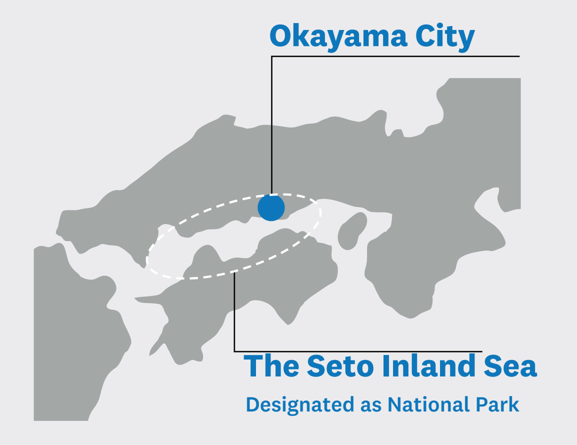

Okayama City
The Seto Inland Sea
Designated as National Park

Figure 4. Map of Okayama City and the Seto Inland Sea (Source: Okayama City, 2024).

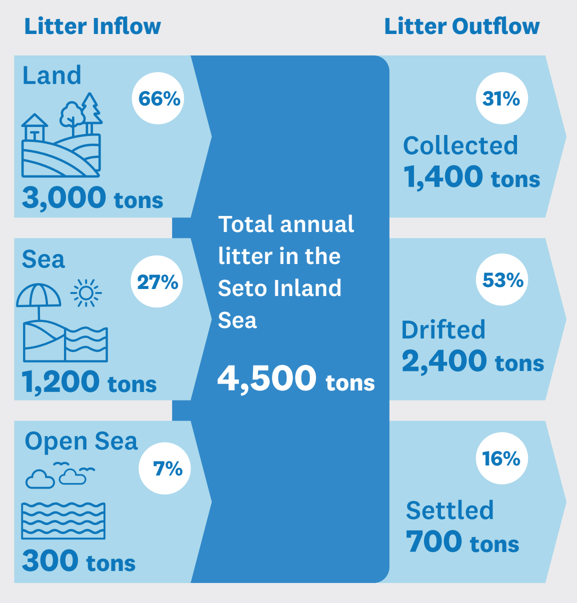


Figure 5. Inflow and outflow of litter in the Seto Inland Sea (Source: Fujieda et al., 2010).

More Information:

- Okayama City's Marine Debris Countermeasures
- Okayama City SDGs and ESD
- The Okayama ESD Project

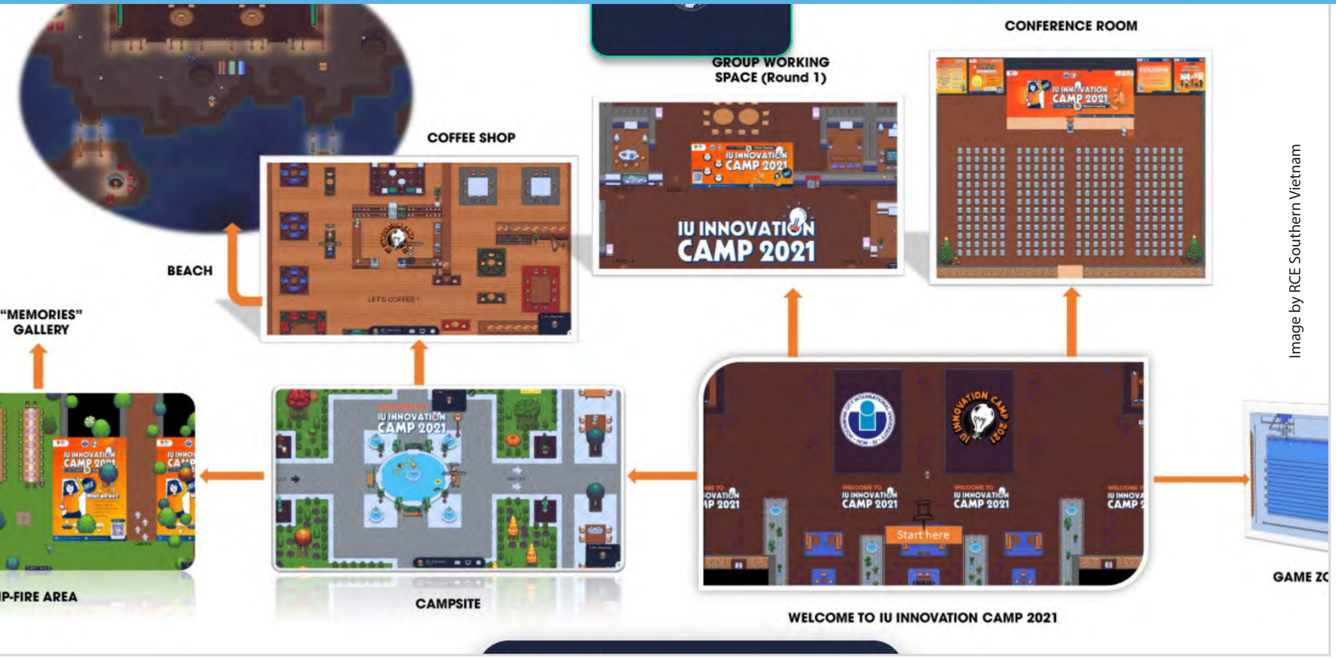


Image by RCE Southern Vietnam

In 2021, the IU Innovation Camp gathered participants in virtual interactive spaces within the Gather online platform.

IU Innovation Camp

RCE Southern Vietnam

4 QUALITY EDUCATION
11 SUSTAINABLE CITIES AND COMMUNITIES
16 PEACE, JUSTICE AND STRONG INSTITUTIONS
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE

Abstract

The IU Innovation Camp has been held for undergraduates for six years since 2019, focusing on addressing societal and environmental challenges under the SDGs. It aims to shape learners into proactive citizens and future leaders by nurturing research and entrepreneurial aspirations within the Fourth Industrial Revolution (4IR) in Viet Nam. The IU Innovation Camp 2021 marked Viet Nam's first virtual camping experience. The camp provided a platform for meaningful engagement and knowledge exchange among learners in Ho Chi Minh City. Activities such as CEO seminars, interactive sessions, skill-building workshops and a themed contest promoted creativity, problem-solving and collaboration. The online platform served as a catalyst for inspiration, learning and connection.

The IU Innovation Camp, both in general and specifically in the case of IU Innovation Camp 2021, had participants navigating self-discovery and innovation. Ultimately, camp participants have gained valuable lessons in creativity, perseverance and transformative ideas, contributing to solutions that address contemporary challenges.

Background

The IU Innovation Camp was created to address societal challenges in Viet Nam, particularly in Ho Chi Minh City. It aims to enhance education, foster entrepreneurship and promote active citizenship among youth. The rise of 4IR highlighted the need for equipping learners with the necessary skills to navigate rapid technological advancements. The COVID-19 pandemic further underscored the urgency of innovative engagement methods amid remote learning. Against this backdrop, the camp was conceptualized as a platform for bridging educational gaps, fostering community, collaboration and creativity. It focuses on addressing quality education, industry innovation and sustainable urban development, aligning with the SDGs. By doing so, the IU Innovation Camp sought to catalyse positive change at both the local and global levels.

Contents

The IU Innovation Camp empowers learners with skills to tackle real-world challenges through creativity, teamwork and problem-solving. The program includes CEO seminars on entrepreneurship, interactive design thinking workshops, and three main activities. The Entrepreneurial Journey workshop features entrepreneurs, alumni and experts, inspiring students to develop innovative solutions. Training sessions provide practical tools for problem-solving. The Fun and Healthy Daily Life Challenge fosters teamwork and creativity through virtual, interactive spaces in Gather, such as campfires, coffee corners and gyms—creating a dynamic online learning environment (compared to the regular annual camp activities which featured in-person activities).

The IU Innovation camp was done in-person for six years, until its first virtual run during the pandemic.

SOFT SKILL TRAINING

Photo by RCE Southern Vietnam

RCE Southern Vietnam

Region:
Asia-Pacific

Country:
Vietnam

SDG(s):
4 9
11 16

AOP for ESD:
Problem-Based and Real-World Issues; Community Engagement; Learner Participation; Collaboration; Empathy; Interdisciplinarity

Target audience(s):
University Students

ESD for 2030 Priority Action:

Language(s) of the project:
English, Vietnamese

Stakeholders:
Learners; Businesses, Entrepreneurs, Start-up Community

Duration of project:
October 2019 - Ongoing

Learning Aspects	Objectives	AOP for ESD	Example Activities
Collaboration	To forge collaboration among learners	Collaboration; Interdisciplinarity	Group work on entrepreneurial projects; research on possible solutions; prototyping
Responsibility for the society	To encourage learners to come up with innovative solutions for social and environmental problems	Problem-Based and Real-World Issues; Empathy	Remotely engaging persons with disabilities in project activities
Cultivating partnership	To connect learners with experts on topics of interests	Community Engagement	Mentorship opportunities with professors, community experts, influencers, CEOs on topics of interests

The Explosion competition, themed Fix It for Me, encourages teams to develop solutions for personal and societal challenges, using Maslow's Hierarchy of Needs (Maslow, 1943) as a guide. Teams pitch ideas, compete in judged rounds and present solutions. Through hands-on learning, collaboration and problem solving, the camp empowers learners to become active changemakers in their communities and beyond.

Policy Support and Implications

The Vietnamese government has implemented policies supporting innovation and entrepreneurship, particularly in Ho Chi Minh City. At the national level, Resolution No. 98/2023/QH15 grants a five-year corporate income tax exemption for creative start-ups and tax exemptions for individuals and organizations transferring capital in start-ups (Parliament of Viet Nam, 2023). Locally, Resolution No. 20/2023/NQ-HDND allocates 40 million – 400 million dong per innovation project (Ho Chi Min City People's Council, 2023). The innovation ecosystem of Ho Chi Minh City has grown significantly, with the Startup Hub nearing completion under the Department of Science and Technology (DST). Given the hierarchical structure in Viet Nam, influencing policy can be challenging. However, the IU Innovation Camp including the 2021 edition has engaged DST officials and provided insights into the entrepreneurial landscape beyond Ho Chi Minh City. Through this initiative, the project has contributed to fostering local innovation and entrepreneurial growth as well as aligning with broader policy objectives.

Scale-up Effort

RCE Southern Vietnam is making efforts to scale up the project in both qualitative and quantitative ways. The quality of the ideas and startup projects has been gradually enhanced, showcasing greater potential. The incubation process has become more focused on quality, with the involvement of highly skilled coaches and experts. In addition to engaging our undergraduate students, the project now expands to include high school students who possess the energy and potential to foster entrepreneurial mindsets and practices.

Evaluation

RCE Southern Vietnam has established several criteria to ensure learners' engagement and understanding of the concept during and after the project. These include expert-based feedback, which involves guidance and input from subject matter experts or instructors with extensive knowledge and experience in the field to deepen learners comprehension. Additionally, learner-based feedback is gathered directly from learners themselves through surveys, reflections or peer evaluations to understand their individual learning experiences. Knowledge-based feedback involves assessment through questions, exercises and quizzes to gauge comprehension and provide targeted feedback to reinforce the concept. Finally, tailored feedback is provided during project incubation—guiding learners in refining ideas, developing plans and applying the concept in a practical context.

PARTICIPANTS

227	Learners
15	Universities and colleges
13	Diverse activities
57	Innovative products
40	Ideas showcased

COURSES

- Work Online Effectively
- Teamwork
- Design Thinking

PROGRAMME SUPPORT

3 Major sponsors:

- Joint Stock Commercial Bank For Foreign Trade of Viet Nam (30.000.000 VND)
- VNU-HCM Innovation Entrepreneurship Izi.Company

RECOGNITION OF PARTICIPANTS

13 prizes awarded for exemplary ideas and output from participants

Figure 6. IU Innovation Camp, by the numbers (Source: RCE Southern Vietnam).

Results

The IU Innovation Camp in 2021, conducted virtually due to the pandemic, concluded with remarkable outcomes: 51 teams, comprising 227 learners from 15 universities and colleges in the city actively participated in 13 diverse activities. The camp yielded 57 innovative products, with over 40 ideas showcased (Figure 6). Notably, the event facilitated connections among participants through online platforms despite challenges posed by the pandemic. The lessons learned and connections forged during the camp had a lasting impact on the personal and academic growth of learners.

Actions to Take

The IU Innovation Camp 2021 adopted a virtual format while retaining its core structure. Social media was used for communication and participant recruitment. Training sessions and materials were developed to support student projects. Sponsorships were secured for financial backing. The camp used Gather. Town for interactive activities of the students, fostering collaboration and engagement. The Explosion competition was conducted via Zoom. Post-pandemic, the camp resumed in-person activities while maintaining its core format. Running for six years in Ho Chi Minh City, plans are underway to expand nationally and internationally.

More Information:

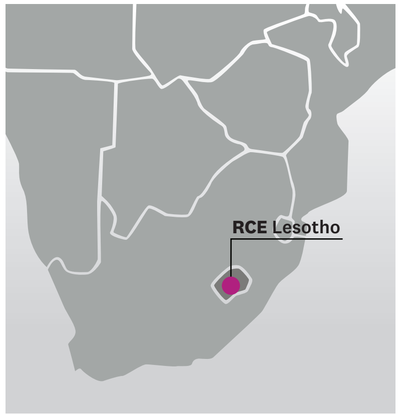
IU Innovation Camp

IU Innovation Camp (Facebook)

Photo by Hisart | Unsplash

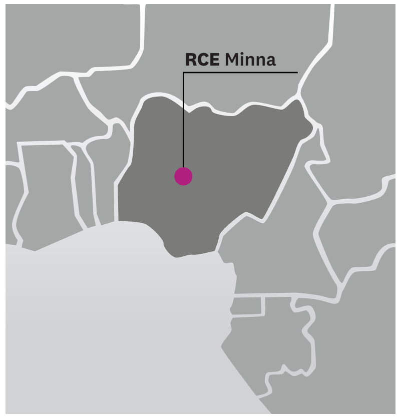
Chapter

Africa & Middle East



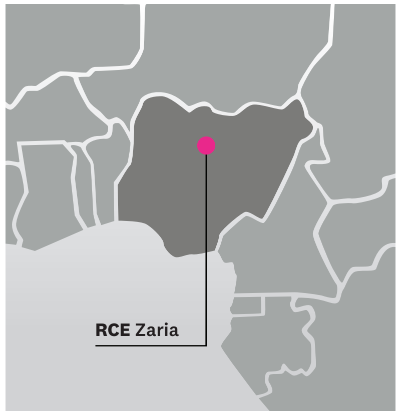
Tlokoeng Valley Biodiversity Conservation
RCE Lesotho........ 28

1 NO POVERTY
6 CLEAN WATER AND SANITATION
15 LIFE ON LAND



Green Fingers Project
RCE Minna........ 32

4 QUALITY EDUCATION
11 SUSTAINABLE CITIES AND COMMUNITIES
13 CLIMATE ACTION
14 LIFE BELOW WATER
15 LIFE ON LAND
16 PEACE, JUSTICE AND STRONG INSTITUTIONS



A Multi-Stakeholder Approach Towards the Preservation of Rimi (Kapok Tree)
RCE Zaria........ 36

2 ZERO HUNGER
6 CLEAN WATER AND SANITATION
12 RESPONSIBLE CONSUMPTION AND PRODUCTION
13 CLIMATE ACTION
15 LIFE ON LAND
17 PARTNERSHIPS FOR THE GOALS

RCE Lesotho

Region:
Africa & Middle East

Country:
Lesotho

SDG(s): 1 6 15

AOP for ESD:
Problem-Based and Real-World Issues; Community Engagement; Learner Participation; Collaboration; Empathy; Regional and Cultural Relevance; Interdisciplinarity

Target audience(s):
Youth, Students, Community Members

ESD for 2030 Priority Action:

Language(s) of the project:
English, Sesotho

Stakeholders:
Learners; Educators; Community Members

Duration of project:
July 2012 – July 2014

Photo by Leopa Khabisi

Lekhela camping site in the ecologically rich Tlokoeng Valley, habitat of several species of birds.

Tlokoeng Valley Biodiversity Conservation

RCE Lesotho

1 NO POVERTY 6 CLEAN WATER AND SANITATION 15 LIFE ON LAND

Abstract

The Tlokoeng Valley Biodiversity Conservation Programme aimed to conserve biodiversity and wetlands while promoting ecotourism. This initiative not only safeguarded biodiversity but also alleviated poverty in the surrounding communities. The programme was led by youth in Tlokoeng Valley in collaboration with the RCE Lesotho research team. Learners from the National University of Lesotho also occasionally participated in the programme as academic visitors during their field trips. Supported by the United Nations Development Programme – Small Grants Programme from its inception in 2012, the programme facilitated important biodiversity activities through education, research, awareness-building, networking and the production of locally relevant training materials. Key outcomes included the identification of breeding sites for the rare bird species endemic to Southern Africa (southern bald ibis and three owl species), efforts to conserve several vital wetlands, a deeper appreciation of intricate food web interconnections among valley species and a more conscious application of the Botho/Ubuntu philosophy to conserve the valley's ecological assets. The programme attracted university students, lecturers, researchers, tourists and relevant government departments for study, collaboration and support.

Background

The Tlokoeng Valley, known for its wetland ecosystems, is home to the southern bald ibis (Geronticus calvus), a species with significant ecological and cultural importance in Lesotho, South Africa and parts of Swaziland. The Tlokoeng Valley Biodiversity Conservation Programme recognized the ecological richness of the area and embarked on efforts to protect the ecosystem (Figure 7). The programme was motivated by the extinction risk of the southern bald ibis, the degradation of the wetlands of the valley and the limited local awareness of the need to care for its ecosystem. While primarily aimed at addressing environmental challenges, the programme also promoted ecotourism which brought economic benefit to the surrounding communities. The programme was implemented by RCE Lesotho (also known as the Environmental and Sustainability Education Network of Lesotho), in partnership with the National University of Lesotho and the University of the Orange Free State in South Africa, and in collaboration with the Ministry of Tourism, Environment and Culture.

Contents

The programme aimed to educate learners about local issues, including biodiversity conservation and poverty, and how these issues can be addressed. In their regular field trips to the Tlokoeng Valley, university students worked in collaboration with community youth – which made them appreciate the significance of putting communities at the center of biodiversity conservation activities. They also gained sustainability knowledge through activities such as bird watching, water monitoring, teaching communities about scientific concepts of ecological systems, and action-oriented nature conservation, drawing from Indigenous Knowledge Systems such as the Botho/Ubuntu philosophy and the local language. The students developed environmental awareness through community-centred outreach activities that used educational materials in the local language, critical to the sustainability of community

The Southern Bald Ibis (*Geronticus calvus*) resting at its nesting site at Thaba-Khubelu cliff.

Photo by Johan Van Niekerk

development initiatives. In addition to promoting ecological conservation, the students drew on Indigenous Knowledge, the Ubuntu philosophy which emphasizes interconnectedness, holism and the ethical dimension of conservation. Placing the community at the centre of conservation further highlighted the disconnect between the local language of the community and the Anglocentric formal education system where science and sustainability are taught in English. The local translation of scientific texts on sustainability is crucial for community-centred sustainable development efforts and should be integrated with AOP at all levels of education. These community-centered AOP approaches promote epistemic justice, diversity and cultural development—essential elements for sustainable development of communities in post-colonial contexts such as Lesotho. Engaging communities in the fieldwork enabled learners to work together in various areas of focus, including biodiversity and bird conservation, water quality monitoring and ecotourism. The programme activities enabled collaboration between the students and other local youth networks and associations. The sharing of ideas from diverse perspectives not only engaged the learners but also fostered openness to the ideas of others, leading towards a common understanding and a vision of a sustainable future.

Policy Support and Implications

Section 4.10 of The National Environment Policy of 1998 states the importance of information on biodiversity and its sustainable use in public awareness and conservation programmes (Government of Lesotho, 1998). The policy further states in one of its strategies to "coordinate the measures to implement the Convention on Biodiversity" which entered into force on December 1993 and has three main objectives: (1) the conservation of biological diversity; (2) the sustainable use of the components of biological diversity; and (3) the fair and equitable sharing of the benefits arising out of the utilization of genetic resources.

Learning Aspects	Objectives	AOP for ESD	Example Activities
Familiarity with local sustainability issues/ environmental consciousness	To raise awareness about and help in solving issues prevalent in local communities such as bird extinction, wetland degradation and poverty	Problem-Based and Real-World Issues; Community Engagement; Learner Participation	Information sharing with community on bird conservation, water quality monitoring and ecotourism activities
Integration of scientific ecological thinking in community conservation language and activities	To highlight the importance of translating ecological concepts for inclusion in community conservation discourse	Problem-Based and Real-World Issues; Regional and Cultural Relevance	Field observation of rodent remains in owl droppings, to gain understanding of ecological food webs in the valley
Appreciation for the importance of culturally relevant learning and epistemic diversity.	To develop and use learning materials in the local language, drawing on the Botho/Ubuntu philosophy and enriching community conservation discourse	Empathy; Regional and Cultural Relevance	Use of Botho/Ubuntu-based booklets and pamphlets in the local language to educate locals of ecosystem conservation
Teamwork and networking	To collaborate on addressing issues from diverse perspectives and disciplines, mobilizing resources and knowledge sharing	Collaboration; Interdisciplinarity	Nature trail walks of students and local youth networks, to observe birds and engage in learning conversation

Scale-up Effort

There is a proposal to upscale the programme in collaboration with the Ministry of Natural Resources through the ongoing ReNOKA (We are a river) project, a national programme and citizen movement for the restoration of the land and water in Lesotho and the Orange-Senqu basin.

Evaluation

A variety of assessment strategies were employed to ensure the development of competencies associated with the programme objectives. These assessments include the application of knowledge in real-life situations rather than mere recall of information. Tasks also involve problem-based group projects and individualized assignments. Future assessments aim to engage students in activities that develop higher-order cognitive abilities related to sustainability, such as analysis, synthesis and creativity, which involves the ability to come up with innovative sustainable solutions to community environmental issues.

Results

As the result of the Tlokoeng Valley Biodiversity Conservation Programme, the Tlokoeng Valley Community Association (TKCT) has been established, which contributed to establishing the Etela Thaba Khubelu (Thaba-Khubelu Conservation & Tours), thus continuing to provide ecotourism services and sustaining the programme activities. Initial enviro-information sheets (educational materials) have been developed to educate the community and schools about the biodiversity and geological formations of the Tlokoeng Valley. In addition, a number of publications on sustainability have been produced under the programme and are being used by university students.

Actions to Take

Plans are ongoing to strengthen regional collaboration on monitoring the state of streams in the valley and beyond, led by youth in Tlokoeng.

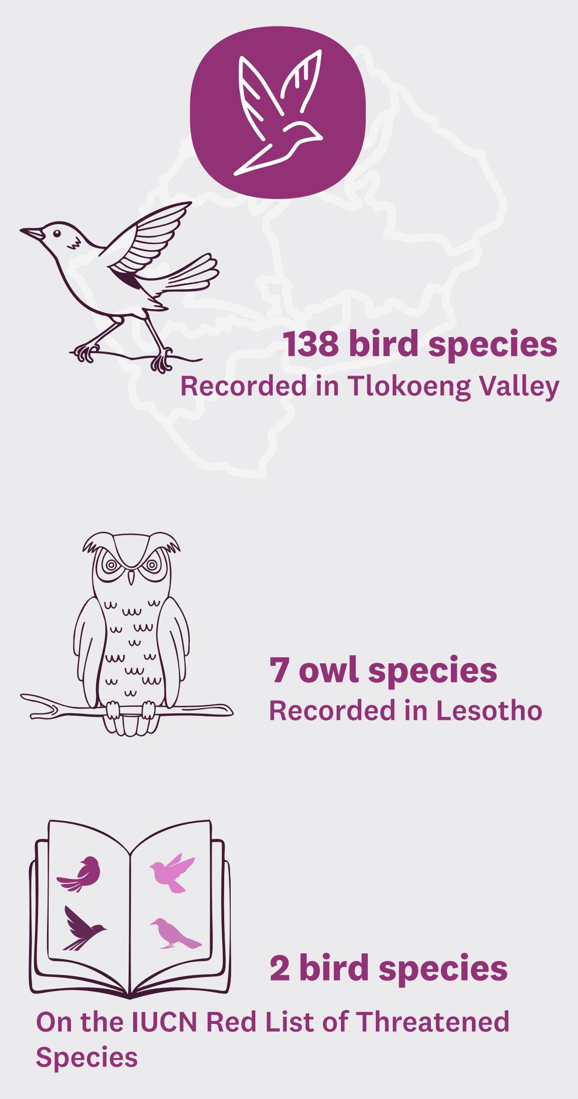

138 bird species
Recorded in Tlokoeng Valley
7 owl species
Recorded in Lesotho
2 bird species
On the IUCN Red List of Threatened Species

Figure 7. Birdlife in Lesotho (Source: RCE Lesotho, 2024).

Photo by RCE Minna

Participants learn about planting trees through a painting activity.

Green Fingers Project

RCE Minna

Abstract

The Green Fingers Project (GFP) (Figure 8) aimed to develop environmental consciousness among young learners, with the ultimate goal of promoting urban sustainability in Minna City, the capital of Niger State, and beyond. The project was conceived in response to the observed decrease in commitment of the local government and residents to environmental protection and the alarming rate of environmental degradation in the city. Young learners aged 5–10 years participated in project activities which included hands-on training in tree planting, understanding the effects of environmental degradation, and learning how they can positively contribute to the environmental sustainability of their communities. The project has successfully trained 17 young learners on the importance of tree planting and relevant SDGs. By the end of the project, the learners demonstrated a positive shift in attitudes towards the environment. Lessons drawn include the potential of using learners as agents for promoting environmental awareness and behavioural change among adults.

Background

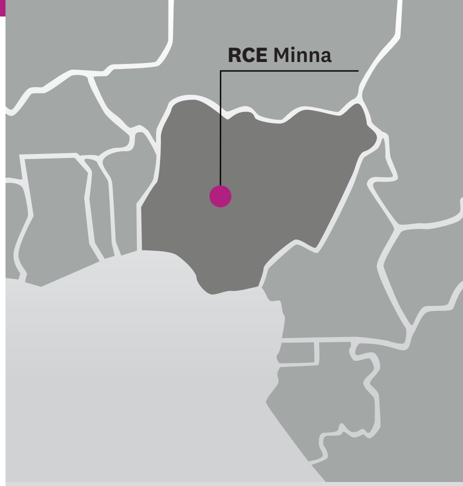
The city of Minna was one of the planned settlements in Northern Nigeria during the colonial period where it served as the colonial headquarters of what once was Niger Province. It was also a railway junction town where the Baro and Lagos lines met and linked other parts of Northern Nigeria. In 1910, Minna underwent deliberate urban planning, with the town divided into wards following a gridiron pattern. This plan was carried out with trees lining the narrow roads and the surrounding public institution buildings. Immediately after independence in 1960 and up to the 1980s—a period marked by low environmental awareness and a limited number of professional urban planners and environmentalists—there was nonetheless a strong sense of discipline and adherence to rules and regulations. As a result, Minna became an orderly and environment-friendly city, reflecting a strong local and cultural commitment to nature and sustainability. Over time, however, this consciousness has diminished, leading to increasing environmental degradation that now threatens the ecology of the city and the well-being of its inhabitants. This decline could be attributed to factors such as population growth, rising consumerism, lack of respect for rules and corruption. In response to this situation and ensuring that future generations are not deprived of a healthy environment, RCE Minna conceived the idea of the Green Fingers Project and launched it in May 2019. The aim of the project is to educate learners aged 5-10 years on the importance of tree planting, the meaning and impact of climate change awareness and the significance of the SDGs. By targeting these early years of life, the project sought to instill lifelong commitments to protecting the environment, which could improve the natural environment of the city and the well-being of future generations.

Contents

RCE Minna initiated the GFP to empower learners and inspire them to take action in safeguarding the environment and becoming champions of environmental sustainability. The GFP teaches environmental stewardship to young learners, emphasizing the vital role of trees in maintaining ecological balance and enhancing the quality of life.

Demonstration of tree planting to learners.

Photo by: RCE Minna



Region:
Africa & Middle East

Country:
Nigeria

SDG(s):
4 11 13 14 15 16

AOP for ESD:
Problem-Based and Real-World Issues; Learner Participation; Regional and Cultural Relevance

Target audience(s):
Young Learners (aged 5–10)

ESD for 2030 Priority Action:

Language(s) of the project:
English

Stakeholders:
Learners

Duration of project:
May 2019 – Ongoing

Learning Aspects	Objectives	AOP for ESD	Example Activities
Tree planting	To introduce tree planting to learners	Problem-Based and Real-World Issues; Learner Participation; Regional and Cultural Relevance	Hands-on tree planting programme institutionalized as a yearly event for learners during the vacation period
Benefits of trees	To teach the benefits of trees and foster interest in tree-planting	Interdisciplinarity	Field visit; Tree planting demonstration; Using art and videos in classroom sessions; Singing of the Green Fingers Anthem
Climate change	To introduce the basic concepts of climate change	Problem-Based and Real-World Issues; Learner Participation	Video screening; Examples from communities of participants

The project curriculum covers the causes and impacts of climate change, delivered in age-appropriate language and pedagogy, which helps learners understand how human activities contribute to environmental degradation and what actions they can do prevent or reverse it. It focuses on capacity-building and hands-on training in environmental sustainability and related issues and covers topics on health, water, sanitation, environmental awareness, ecological protection, the SDGs and tree planting — particularly multipurpose trees with nutritional and medicinal benefits. Tree planting, especially of fruit trees, offers multiple benefits by conserving fragile ecosystems and contributing to the health and well-being of the population. Learners are taught the basics of tree planting and are encouraged to start their own gardens, reinforcing their understanding through practical experience. Through engaging, learner-centred lessons and hands-on activities, the practice of planting trees is being instilled among younger generations, fostering a long-term commitment to environmental stewardship.

Policy Support and Implications

The GFP has fostered an enabling environment for ESD in Nigeria by providing the necessary support and policy framework to educate learners on environmental conservation, climate change and sustainable development. Central to this is the National Policy on Environment (NPE), which integrates environmental education into the curriculum across various levels of schooling. Through this policy, learners gain knowledge about climate change, SDGs and environmental conservation — outcomes that align closely with the intended project outcomes of the GFP. Complementing the NPE is the National Environmental Education Strategy, which focuses on integrating environmental education into both formal and informal education systems. It supports initiatives aimed at transforming attitudes towards the environment and encourages active learner participation in activities such as tree planting.

Scale-up Effort

The GFP has partnered with local schools and other educational institutions to integrate tree planting and climate change education into their curricula. It has supported the formation of environmental clubs and competitions to actively engage learners, while also providing teachers with educational materials and resources to enhance the learning process. In addition, the GFP has leveraged social media and digital platforms by producing engaging content on tree planting, climate change and the SDGs. This online advocacy has made an estimated 10,000 people familiar with the GFP. The project has also been shared with other RCEs across the globe through RCE regional and international conferences.

Photo by RCE Minna

Green Fingers project participants join in planting trees.

Evaluation

As part of the evaluation process, learners were provided with seedlings of their choice to plant and nurture, enabling the project team to observe the extent to which participants applied the knowledge and skills gained. This hands-on activity served both as a learning opportunity and an informal means of assessing the understanding of environmental stewardship. Feedback from parents and teachers, collected through informal consultations during in-person gatherings and via online platforms such as social media and email, was overwhelmingly positive. It also offered RCE Minna valuable insights into areas for further improvement.

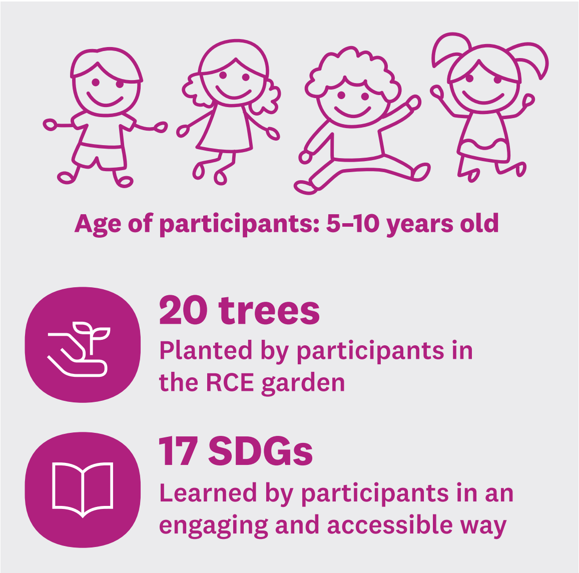

Age of participants: 5–10 years old
20 trees
Planted by participants in the RCE garden
17 SDGs
Learned by participants in an engaging and accessible way

Figure 8. Green Fingers Project by the numbers (Source: RCE Minna, 2024).

Results

Through the GFP, learners developed foundational understanding of the importance of tree planting and the value of growing and maintaining at least one tree at home. They also acquired basic knowledge of climate change and the SDGs, which would help foster positive attitudinal change towards the environment. Some learners have also started reading about environmental topics on their own, beyond the scope of the GFP, showing increased interest and initiative.

Actions to Take

RCE Minna has institutionalized the GFP to be an annual event during the summer break of pupils around August to September.

More Information:

- Greenfingers: Introduction to Climate Change for Kids
- RCE Minna

Region:
Africa & Middle East

Country:
Nigeria

SDG(s):
2 6
12 13
15 17

AOP for ESD:
Problem-Based and Real-World Issues; Community Engagement; Learner Participation; Collaboration; Regional and Cultural Relevance; Interdisciplinarity

Target audience(s):
Community Members, Indigenous Leaders

ESD for 2030 Priority Action:

Language(s) of the project:
English, Hausa

Stakeholders:
Learners; Community Members

Duration of project:
August 2017 - Ongoing

Photo by Murkthar Suleiman

Amidst the road widening in Zaria, a *rimi* (kapok tree) has been preserved by the local community.

A Multi-Stakeholder Approach Towards the Preservation of Rimi (Kapok Tree)

RCE Zaria

2 ZERO HUNGER · 6 CLEAN WATER AND SANITATION · 12 RESPONSIBLE CONSUMPTION AND PRODUCTION · 13 CLIMATE ACTION · 15 LIFE ON LAND · 17 PARTNERSHIPS FOR THE GOALS

Abstract

The kapok tree, once abundant in the Zaria region and reflected in the names of several local settlements, has witnessed a steady decline due to unregulated cutting and the absence of replanting efforts. This trend poses serious implications for the achievement of SDG 13 (climate action) and SDG 15 (life on land). In response, the project seeks to document existing kapok tree locations through the creation of a data bank and to develop community-based strategies for their replacement and preservation. Objectives include analyzing changes in kapok tree populations from 1976 to 2017, setting up an online platform to support community-based observation, raising awareness about the impact of vegetation in the local ecosystem, engaging traditional rulers and young people in conservation activities, and drafting a policy guide for sustainable environmental use. The project has resulted in developing a quantitative monitoring mechanism for vegetation loss, as well as strategies for youth participation and species conservation.

Background

The kapok tree, known locally as *rimi*, holds significant cultural, ecological and economic value in the Zaria region. This unique tree is a defining feature of the landscape, with its importance reflected in the names of settlements, including Rimin Kwakwa and Rimin Danza. In addition to its symbolic relevance, the kapok tree provides practical benefits, such as fiber for mattresses, shades and windbreakers. In recent years, however, the kapok tree has faced increasing threats due to indiscriminate felling, compounded by the absence of replanting initiatives. This activity poses a direct threat to the attainment of SDGs, particularly SDG 13 (climate action) and SDG 15 (life on land), which emphasize the need to combat climate change and protect terrestrial ecosystems.

Contents

Recognizing the urgent need to address this issue, RCE Zaria developed the project in collaboration with the Centre for Spatial Information Science ABU Zaria and Ahmadu Bello University. The project started establishing a comprehensive data bank documenting the existence and locations of kapok trees across the region. A strategy for replacing lost trees was developed in collaboration with community stakeholders.The project also aimed to teach learners about the need to preserve historical tree species — particularly the kapok tree — and the broader regional and cultural importance of plant biodiversity. Furthermore, the project provided students with practical skills and immersive learning opportunities on environmental stewardship and sustainable practices.

Policy Support and Implications

At the national level, the project aligns with the National Policy on the Environment of Nigeria (National Environmental Standards and Regulations Enforcement Agency, 2016), while at the regional and local levels, it aligns with the Kaduna State Environmental Protection Policy. Both policies underscore the importance of sustainable forest management, conservation and education on the protection and sustainable use of trees. RCE Zaria has benefitted from the tree planting and management policy of

Learning Aspects	Objectives	AOP for ESD	Example Activities
Community mapping and profiling of kapok trees	To identify, map and profile existing kapok trees within the Zaria region	Problem-Based and Real-world Issues; Community Engagement; Learner Participation; Empathy	Information and knowledge sharing among students and stakeholders
Engaging traditional leaders on kapok tree preservation policies	To reintroduce the earlier policy on banning the cutting of kapok trees	Problem-Based and Real-World Issues; Community Engagement; Collaboration	Dialogue with traditional leaders
Awareness about environment sustainability	To increase awareness about environmental sustainability among the youth and local communities	Community Engagement; Learner Participation; Collaboration	Social media awareness campaign

Ahmadu Bello University (host of RCE Zaria secretariat), which is implemented both within the university campus and in surrounding communities in the Zaria region. Inspired by the national policy, the university policy seeks to raise public awareness and encourage participation in annual tree-planting activities, preserve indigenous tree species and promote environmental stewardship. In parallel, efforts are ongoing to engage the Zazzau Emirate Council, as the custodian of cultural traditions, in reactivating an ancient law that protects kapok trees within the emirate.

Scale-up Effort

Kapok trees hold special significance as symbols of identity in Northern Nigeria, particularly in the north-western region. Several of these trees have already been documented in areas such as Katsina, Zamfara and Sokoto. While the rate of cutting kapok trees in the region is currently low, proactive efforts are being made to ensure the protection of the remaining trees. Aside from local tree owners who have collaborated in protecting documented kapok trees, the backing from Indigenous communities for the protection of the tree species has been increasing. The emirate council has likewise played an active role in supporting the initiative.

A five-year old *rimi* (kapok tree) planted by a local farmer.

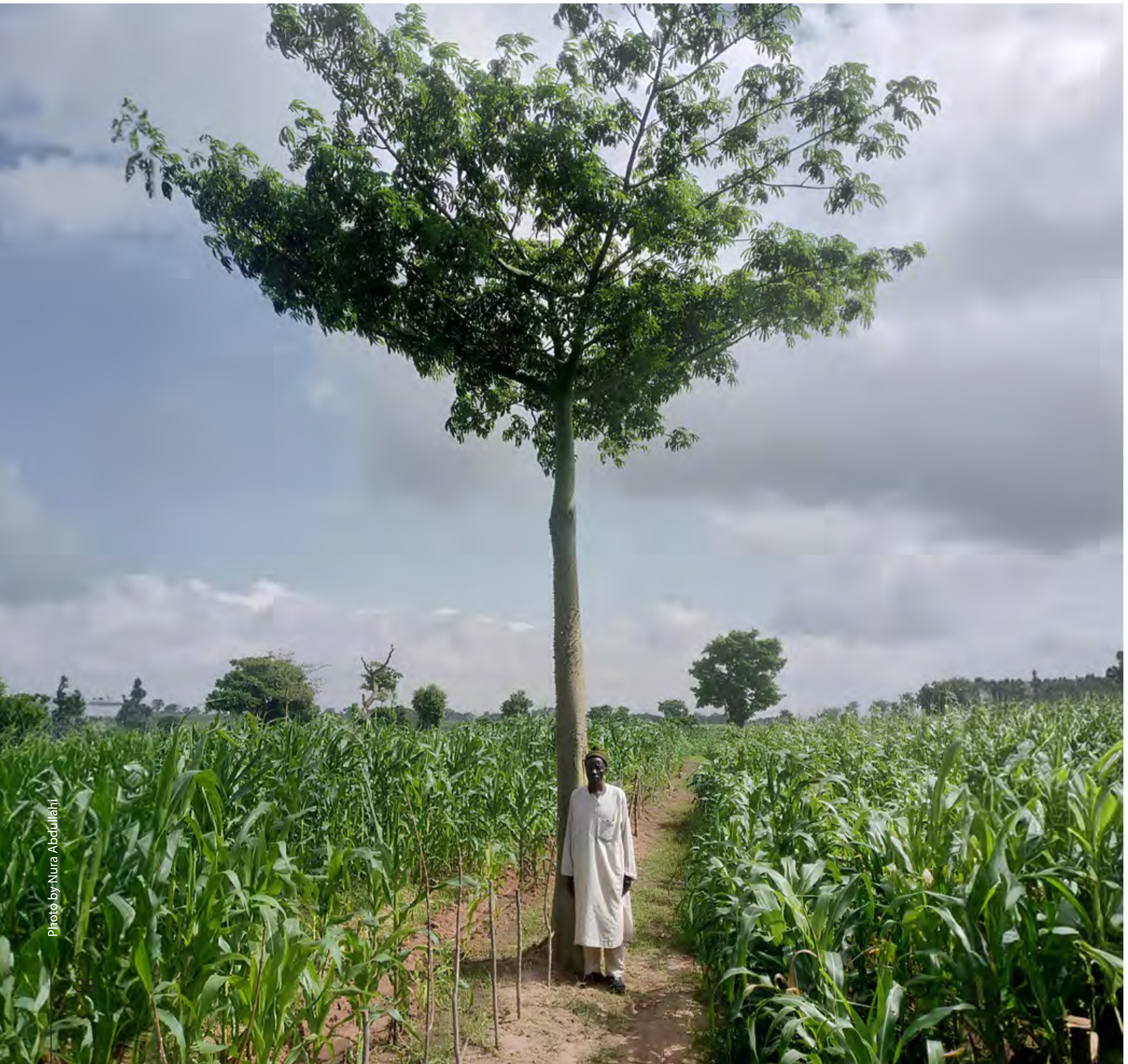
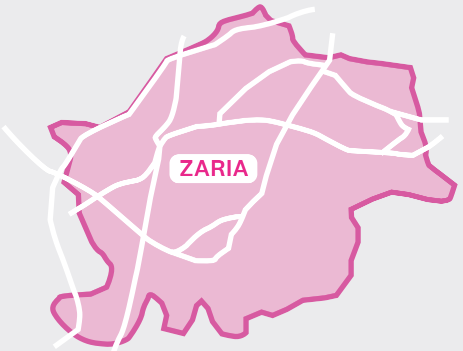


Photo by: Nura Abdullahi



Two out of the four districts that make up the Zaria Urban Area have been covered.

36
Trees preserved

47
Community champions

Figure 9. Preservation of Rimi, by the numbers (Source: RCE Zaria).

Evaluation

The project adopted AOP from the outset and employed interactive teaching methods and peer teaching. Learning was assessed through observation of learner participation in kapok tree preservation efforts and monitoring the reduction in the number of trees being cut down through the existing databank.

Results

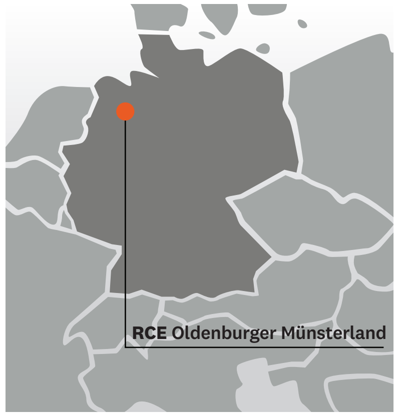
RCE Zaria has implemented several strategies towards the preservation of kapok trees, considering that most of these trees grow on privately owned land. The land tenure system in Northern Nigeria predominantly places land ownership in the hands of individuals, with certification granted by the State Government. As a result, many of the identified trees are privately owned — and some landowners derive income from cutting them. Despite this challenge, RCE Zaria has been instrumental in garnering support from the tree owners to encourage preservation of existing trees and the planting of new ones. Ultimately, by addressing the threats to kapok tree populations and promoting sustainable environmental practices, the project contributes to the broader goals of ecosystem conservation, climate resilience and community empowerment within the RCE Zaria region (Figure 9).

Actions to Take

To further strengthen efforts towards kapok tree preservation, two key actions are essential. First, comprehensive community education and awareness campaigns should be implemented to highlight the ecological and cultural significance of the tree species. Second, stricter regulations and enforcement mechanisms should be established to curb illegal logging and tree felling, accompanied by penalties for non-compliance.

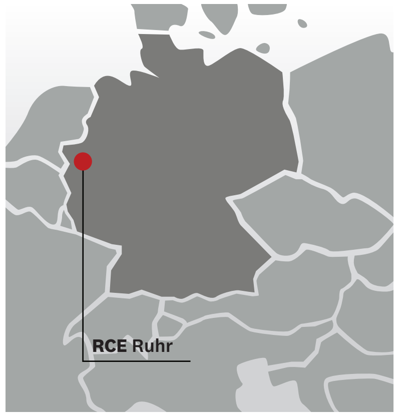
Photo by Daniel Sessler | Unsplash

Chapter
Europe



Schutzengelprojekt (Guardian Angel-Project) — Traffic Safety and Civic Engagement
RCE Oldenburger Münsterland 42

3 GOOD HEALTH AND WELL-BEING
4 QUALITY EDUCATION
5 GENDER EQUALITY
11 SUSTAINABLE CITIES AND COMMUNITIES



Sevengardens
RCE Ruhr 46

2 ZERO HUNGER
4 QUALITY EDUCATION
5 GENDER EQUALITY
8 DECENT WORK AND ECONOMIC GROWTH
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
10 REDUCED INEQUALITIES
11 SUSTAINABLE CITIES AND COMMUNITIES
12 RESPONSIBLE CONSUMPTION AND PRODUCTION
15 LIFE ON LAND
17 PARTNERSHIPS FOR THE GOALS

MEINE FREUNDE? MAG ICH AM LIEBSTEN LEBEND...
RISKIER NICHTS.
#WEDERLAPPENNOCHLEBEN
SCHUTZENGELPROJEKT.DE

Photo by Schutzengelprojek

A *Schutzengelprojekt* campaign material against dangerous driving (English translation: "My friends? I like them most when they are alive...")

Schutzengelprojekt (Guardian Angel Project) — Traffic Safety and Civic Engagement

RCE Oldenburger Münsterland

3 GOOD HEALTH AND WELL-BEING
4 QUALITY EDUCATION
5 GENDER EQUALITY
11 SUSTAINABLE CITIES AND COMMUNITIES

Abstract

The *Schutzengelprojekt* (Guardian Angel Project) engages youth aged 16 to 24 in the Cloppenburg and Vechta Districts to address the alarming trend of increasing traffic accidents within this age group. Recognizing the significant influence of peers during adolescence, the project promotes road safety and responsible behaviour before driving and while on the road. By fostering a culture of mutual support and responsibility, the initiative aims to reduce serious accidents through peer learning and positive behavioural reinforcement. The project offers training courses covering road safety, personality development, communication skills and life-saving skills, with practical tips and exercises. Participants earn membership credits based on course attendance, with incentives such as ID cards and discounts from partner establishments — serving as extrinsic motivators for sustained engagement. Through proactive engagement and collective action, the Guardian Angel Project aims to empower young people to prioritize safety and moral courage on the road, ultimately contributing to safer communities and fewer casualties among the youth.

Background

Youth aged 16 to 24 are particularly vulnerable to serious traffic accidents (Figure 10), with data from the Federal Statistical Office showing a higher incidence of injuries and fatalities compared to other age groups. In 2020, 15.3 per cent of road accident fatalities among young people occurred during late-night and early-morning hours on weekends — commonly referred to as "disco accidents" (Statistiches Bundesamt, 2021). Contributing factors include limited driving skills, overconfidence, seeking attention, peer pressure and risky behaviour such as speeding and substance abuse. During this phase of life, friends and peers significantly influence behaviour while parental influence tends to diminish, especially when young people drive without the presence and supervision of parents or guardians. As such, promoting road safety within their social circles and encouraging moral courage are critical to preventing traffic accidents.

Contents

The Guardian Angel Project aims to raise awareness and motivate young people to uphold road safety and moral responsibility. The project receives funding from the district administration of Cloppenburg and Vechta, and is supported by the police inspectorate covering the districts. Young people aged 16 to 24 are encouraged to look out for one another and promote safe behaviour on the road to prevent dangerous situations, thereby reducing serious accidents within this age group. Given the strong influence of peers during adolescence and early adulthood, the project

Alcohol test devices provided by the police for the *Schutzengelprojekt*.

DER EINZIGE, DER AUF DEM FAHRERSITZ STRAMM SITZEN SOLLTE.
RISKIER NICHTS
#WEDERLAPPENNOC
BEREIT
Dräger
Alcotest 3000

Photo by Schutzengelprojek

RCE Oldenburger Münsterland

Region:
Europe

Country:
Germany

SDG(s):
3 4
11 5

AOP for ESD:
Problem-Based and Real-world Issues; Community Engagement; Learner Participation; Regional and Cultural Relevance

Target audience(s):
Youth (16–24 years old)

ESD for 2030 Priority Action:

Language(s) of the project:
German

Stakeholders:
Learners; Educators; Community Members; Districts of Cloppenburg and Vechta; Police Department of Cloppenburg and Vechta

Duration of project:
October 2007 – Ongoing

leverages peer learning as an effective tool to promote positive behavioural change. The project offers training courses on road safety, personal development and life-saving skills — covering topics on first aid, car safety and self-assertion — and offered as part of school seminars or project weekend activities. Learners earn membership credits based on course attendance, which count toward their Guardian Angel membership. An ID card valid for one year is issued upon online registration and renewed through continued participation. Discounts from local businesses incentivize engagement, making the effort to obtain one or two qualifications more attractive for the youth. The first learning aspect focuses on informing young people about the project. Volunteer educators are recruited and receive orientation, and then conduct information sessions with young people. The volunteer educators also help promote the project through outreach activities at youth-oriented events (e.g. information booths in job fairs). The second learning aspect focuses on big-picture thinking through the Be Cool training. Role playing is part of the training, which makes young people emphatize with victims of road accidents — highlighting the importance of civil and moral courage. Training exercises, videos and discussions on conflict resolution, communication, body language, awareness of self and others are used to recreate road-related crisis situations and appropriate responses. The third learning aspect focuses on transforming the mindsets of young people. Issues of marginalization, exclusion and discriminatory attitudes are addressed in the included project lessons, all of which are relevant in everyday interactions on the road. Through argumentation training, the project teaches participants to communicate respectfully, stand up for others, uphold human rights and practise tolerance in response to racial discrimination, prejudice and unequal treatment.

Learning Aspects	Objectives	AOP for ESD	Example Activities
Communicating the project content to young people	To impart knowledge on road safety to young people	Learners Participation; Collaboration	Information sessions at youth-oriented events
Big-picture thinking	To develop an understanding of how things are connected	Problem-Based and Real-World Issues; Regional and Cultural Relevance	Be Cool training - enhance the ability to respond effectively to road-related crisis situations
Transforming mindsets	To develop the foundation for learners to communicate respectfully	Empathy	Argumentation training against racism and discrimination

Policy Support and Implications

The project operates within the framework of structural youth protection to prevent violence, addiction and accidents, and to develop civil and moral courage (Das Schutzengelprojekt, 2010).

Evaluation

Data on the number of accidents and the involvement of young people is collected regularly. The training courses are evaluated in close cooperation with the youth welfare office and the training centres involved.

Results

There has been evidence of positive impact, despite the evaluation challenges typical of prevention-oriented projects. One indicator is the consistently high number of young people participating in the project. An estimated 12,000 young people sign up yearly for the project in the Cloppenburg and Vechta districts, with at least one third of this number completing the training and serving as Guardian Angels through the end of the year. Likewise, the number of accidents has declined by 30 per cent in the first seven years of the project and has remained stable since. In a 2009 project evaluation, 723 out of 1,000 participants stated that the Guardian Angel Project had a positive influence on them and have become more willing to advocate for responsible driving with their friends. 40.5 per cent have already volunteered as Guardian Angels, having prevented drunk driving and overspeeding and encouraged responsible driving (Das Schutzengelprojekt, 2010). An estimated 24,000 project participants who have served as Guardian Angels would translate to 4,966 road accidents prevented and 2,478 young people encouraged to drive more responsibly. While originally launched to help prevent serious accidents among young people, the Guardian Angel project has expanded to help reduce risky behaviour and instil moral and civil courage among them.

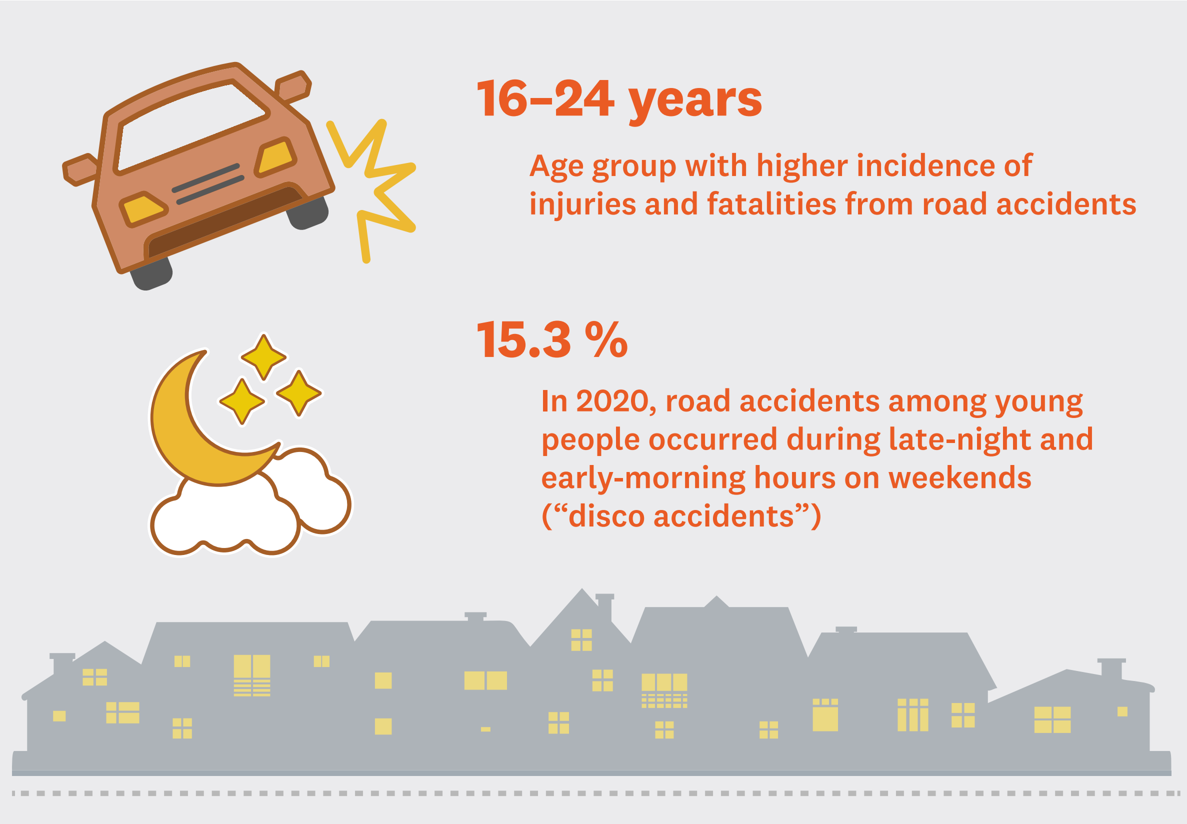

16–24 years
Age group with higher incidence of injuries and fatalities from road accidents
15.3 %
In 2020, road accidents among young people occurred during late-night and early-morning hours on weekends (“disco accidents”)

Figure 10. Road accidents among young people, by the numbers (Source: Statistiches Bundesamt, 2021).

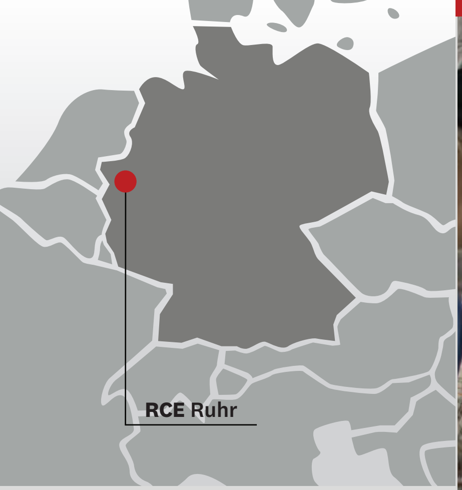
Actions to Take

Stable and long-term funding and support — which the Cloppenburg and Vechta districts and the police inspectorate have been providing — is essential to ensure the project’s success and sustainability.

More Information:

[RCE Oldenburger-Muensterland]

[Schutzengelprojekt]



Region:
Europe

Country:
Germany

SDG(s):
2 4
5 8
9 10
11 12
15 17

AOP for ESD:
Problem-Based and Real-World Issues; Community Engagement; Learner Participation; Collaboration; Empathy; Regional and Cultural Relevance; Interdisciplinarity

Target audience(s):
Learners (all levels)

ESD for 2030 Priority Action:

Language(s) of the project:
German

Stakeholders:
Learners; Educators; Community Members

Duration of project:
1998 - Ongoing

Photo by Sevengardens

Participants extract natural dyes from plants harvested from the project gardens.

Sevengardens

RCE Ruhr

Abstract

Sevengardens is a grassroots movement that addresses environmental challenges by reconnecting people with nature through traditional knowledge and hands-on learning. It fosters sustainability by engaging learners of all ages in organic gardening, natural dye-making and craftwork, allowing them to rediscover traditional knowledge that has been sidelined over time. Unlike conventional education, Sevengardens creates an open, participatory space beyond formal institutions. Gardens of dye-producing plants are established outside schools, open to all who wish to engage. Facilitators encourage discovery rather than provide direct answers, fostering safety, self-confidence and belonging. The initiative promotes inclusive, lifelong learning, integrating community participation and local economic empowerment. Over the past 25 years, Sevengardens has expanded to 42 countries, influencing education, industry and policy. The movement continues to evolve, demonstrating how knowledge-sharing and creativity can build sustainable futures across generations.

Background

The Sevengardens project was founded by a painter seeking to avoid the use of industrially-produced dyes, which adversely impacts the environment, erodes traditional dye-making practices, and widens the disconnect between people and the natural environment. Artificial dyes also reinforce a top-down education model aimed at producing skilled workers for standardized systems of mass production. However, such a model makes learning less inclusive and relevant to diverse groups of learners, particularly immigrants, minorities and rural populations. Often overlooked are opportunities for informal learning that take place within families and local communities. In many countries in the Global South, traditional knowledge and techniques remain available but are increasingly undervalued and at risk of being lost.

Contents

Photo by Sevengardens

Young learners extract and use natural dyes for their artwork.

Under the Sevengardens project, dye gardens — where natural dyes are extracted from plants — are established. The learning activities revolve around these gardens, from learning sessions on gardening, extracting natural dyes and painting using natural dyes (Figure 11). The dye gardens were located outside of schools by design to allow participation of both in-school and out-of-school learners. The first learning aspect of the project is hands-on learning which fosters the connection between learners and the environment. In natural dye-making training, facilitators allow discovery of learning. For instance, the facilitators would not inform learners outright that colours for cosmetics can be extracted from red cabbage. Instead, learners are encouraged to explore, experiment and share their own ideas on what colours plants can produce and how these colours can be used. The facilitators create an environment that empowers learners to shape the learning process themselves. They provide only a general idea that colours can be extracted from plants, but are available to offer additional guidance if needed. This level of support is usually sufficient for learners to proceed independently. The second learning aspect is on developing a sense of agency and pride. One example is the Girls Gardeners programme under Sevengardens, where unemployed young women receive training in gardening and natural dye-making. Learners were given the flexibility on how they would like the learning to unfold, with the option to include topics that interest them. Initially, they focused less on the main topic of natural dye-making and more on their preferred activity: dancing. Nonetheless, space was provided for learners to express themselves through dance during the training sessions, allowing their creativity to flourish and eventually leading to greater interest in natural dye-making. Over time, the learners became engaged with the main training topic and were able to learn and eventually produce organic dyes which were collected and sold for a profit, providing a source of income for learners who would otherwise have remained unemployed. The third learning aspect is building self-confidence among the learners

Learning Aspects	Objectives	AOP for ESD	Example Activities
Hands-on learning	To equip learners with practical skills	Community Engagement; Regional and Cultural Relevance	Hands-on gardening and natural dye-making
Developing a sense of agency and pride	To empower learners to take initiative and value their achievements	Problem-Based and Real-World Issues; Learner Participation	Flexible training approach with creative activities selected by learners
Building confidence in self and working with others	To develop self-confidence and encourage collaboration	Collaboration	Zen calligraphy

through creative and collaborative learning activities. In Zen calligraphy painting sessions, for example, learners start with basic painting brush strokes and eventually try out more advanced techniques, providing a creative outlet for self-expression and discovery. The project draws on the philosophy of seven generations, which holds that decisions made today should ensure a sustainable world for the next seven generations. By engaging learners of all ages in hands-on activities, Sevengardens aims to cultivate a deeper appreciation for the natural world and empower individuals to become community stewards. The project is also driven by a commitment to social inclusion and economic empowerment, particularly for marginalized communities. Through initiatives such as the Girls Gardeners programme, Sevengardens creates opportunities for meaningful participation and equitable access to resources. In doing so, the project not only provides practical skills training but also helps develop the social and emotional skills of learners.

Policy Support and Implications

In 2010, Sevengardens was identified by the German Commission for UNESCO as part of the National Action Plan on ESD.

Scale-up Effort

Sevengardens has become a global initiative, having expanded to 42 countries (Figure 12). It welcomes participation from people of all backgrounds. Project expansion works like a rolling and growing snowball, guided by the motto “Each one can teach one”. The project encourages participants to learn from one another and share knowledge, enabling the collective rediscovery of traditional and often forgotten practices. Sevengardens Dialogers — participants who help promote the project — are diverse, ranging from kindergarten students and vocational school students, to refugees returning to their homelands. The project activities provide a conducive space for generating new and creative ideas in ESD, protecting biodiversity, and promoting circular and sustainable economies at the community level.

Evaluation

The project uses an informal and hands-on approach to art that helped reduce learners’ fear of making mistakes. Individuals learn at their own pace, which is effective in building inclusive learning environments.

Results

Some of the young participants are now studying at universities, while others have gone on to work as technical specialists. Sevengardens has grown into a global initiative and now functions as an international network. It operates in a decentralized and largely autonomous manner, allowing for flexible, locally-adapted implementation. The implementation of Sevengardens has demonstrated positive outcomes in fostering learner engagement, creativity and confidence. Participants also responded particularly well to learning in a group setting, which values shared knowledge and mutual recognition of skills. This helped cultivate a sense of belonging and collaborative learning. The flexible learning approach encouraged participants to try new things and express themselves more freely. In painting sessions where participants used colours they made from local plants, they feel more motivated and proud of their work.

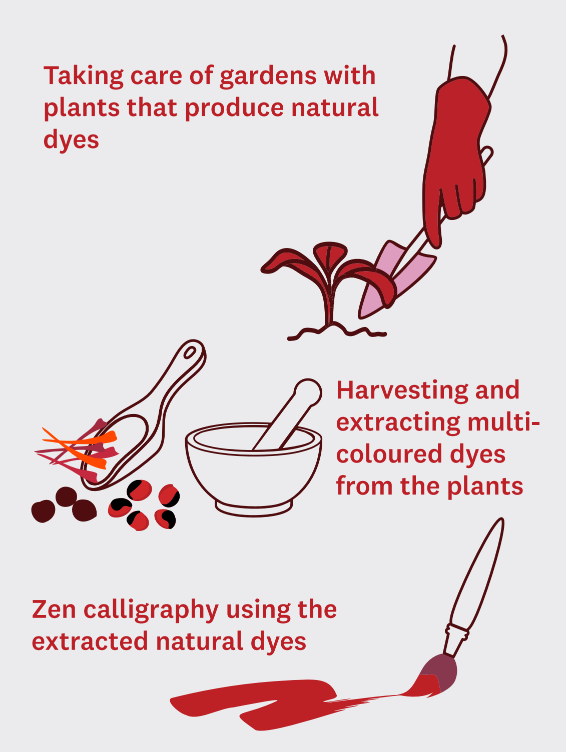

Taking care of gardens with plants that produce natural dyes
Harvesting and extracting multi-coloured dyes from the plants
Zen calligraphy using the extracted natural dyes

Figure 11. Sevengardens activities at a glance (Source: Sevengardens, 2024).

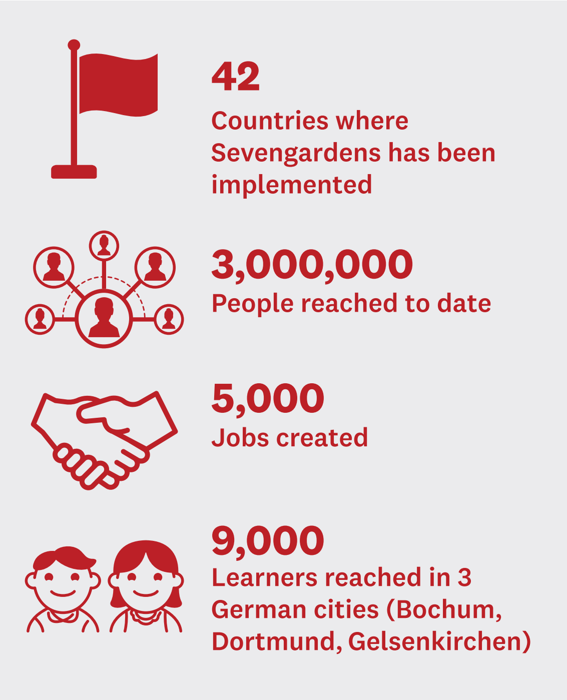

42
Countries where Sevengardens has been implemented
3,000,000
People reached to date
5,000
Jobs created
9,000
Learners reached in 3 German cities (Bochum, Dortmund, Gelsenkirchen)

Figure 12. Sevengardens, by the numbers (Source: RCE Ruhr, 2024).

While the one-stroke Zen calligraphy sessions provided space for creative expression, preparing the ink from plants they helped grow in the gardens deepened their connection with nature. Wider public recognition began when a collaboration was established with a primary school in Africa, drawing the attention of policymakers. The project has since received several awards from the German Commission for UNESCO which helped further raise its visibility. Although the initiative began without the need for external funding, its success and scalability eventually led to other organizations supporting it.

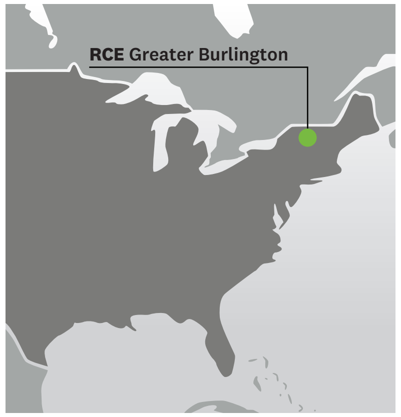
More Information:

- Colorboration: Making Learning Visible
- Farbenfroh Deutsch lernen mit sevengardens Bochum
- Sevengardens
- Sevengardens (Team Expo 2025)
- Sevengardens – Färbergärten
- Sevengardens – Färbergärten (YouTube)
- Sevengardens workshops
- Viral Visions - Sevengardens workshop in Warsaw (YouTube)

Photo by Brian Urso | Unsplash

Chapter

The Americas



Cultivating Pathways to Sustainability: Youth and Adults Creating Positive Change in Their Communities
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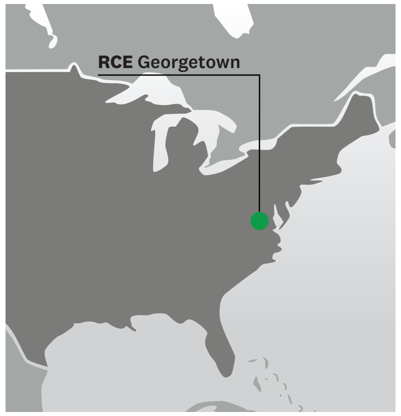
4 QUALITY EDUCATION · 11 SUSTAINABLE CITIES AND COMMUNITIES



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RCE Georgetown 56

2 ZERO HUNGER · 4 QUALITY EDUCATION · 12 RESPONSIBLE CONSUMPTION AND PRODUCTION · 15 LIFE ON LAND

Photo by RCE Greater Burlington

Youth-adult teams are established to work on community-based projects that address emerging local issues.

Cultivating Pathways to Sustainability: Youth and Adults Creating Positive Changes in Their Communities

RCE Greater Burlington

Abstract

Cultivating Pathways to Sustainability (CPS) is an education programme that bridges theory and practice in sustainability. Through youth-adult partnerships, experiential learning and community engagement, CPS empowers middle and high school learners to address local challenges and help advance the SDGs. The programme begins with a personal visioning and "quality of life" exercise to cultivate empathy, multi-perspective thinking and communication skills. Learners collaborate with community partners to co-design solutions, developing action research projects that reflect shared goals. Emphasizing dialogue and inclusive participation, CPS nurtures skills essential for sustainable living, such as reflection, collaboration and critical thinking. CPS has engaged over 1,000 youth and expanded internationally through online platforms.

Background

Young people face a world with serious problems such as climate change, pollution, inequality and risks to both mental and physical health. Even though these issues affect them in many ways, they are often left out of important decisions that shape their communities and futures. In many schools, there is less focus on helping students take action or solve real problems. Students have limited chances to talk about what they care about, work with others, or make a difference in their local area. This is especially true in rural places, where it can be hard to find hands-on learning experiences linked to everyday life. These challenges point to a need for education that is more practical, inclusive and connected to the real world. Education should support young people in building empathy, confidence and the skills they need to care for each other and create a better future.

Contents

CPS was developed by Vermont-based non-profit organizations Shelburne Farms and UP for Learning. It introduces a new approach to ESD by focusing on real-world, local challenges and encouraging active participation in sustainability efforts. CPS aims to bridge the gap between classroom knowledge and practical application by involving students and community members in hands-on, impactful sustainability projects. CPS covers a wide range of sustainability topics tailored to the needs of the local community. These include understanding sustainability principles, building youth-adult partnerships, practising youth participatory action research and exploring global issues such as climate change and equity. Learners are encouraged to consider multiple perspectives, show care and empathy, and

Learners reflect on what makes a healthy, happy and successful community through a "quality of life index" exercise.

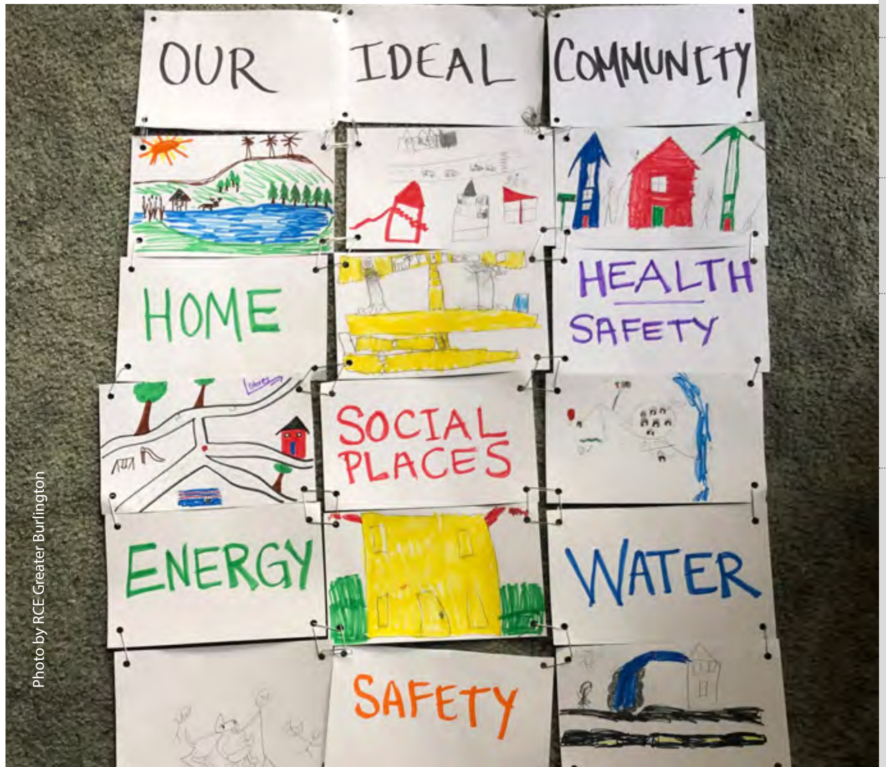

Photo by RCE Greater Burlington

RCE Greater Burlington

Region:
The Americas

Country:
United States of America

4 11 **SDG(s):**

AOP for ESD:
Problem-Based and Real-World Issues; Community Engagement; Learner Participation; Collaboration; Empathy; Regional and Cultural Relevance

Target audience(s):
Community, Secondary Education, Teacher Education, Youth (Informal)

ESD for 2030 Priority Action:

Language(s) of the project:
English

Stakeholders:
Learners; Educators; Community Members; Shelburne Farms, UP for Learning, Local Communities

Duration of project:
October 2023 – May 2024

Learning Aspects	Objectives	AOP for ESD	Example Activities
Mindset to embrace multiple perspectives	Foster an inclusive understanding of sustainability and youth-adult partnership	Problem-Based & Real-World Issues; Community Engagement; Learner Participation	Group discussions, case studies, role-playing exercises
Care and empathy	Cultivate empathy and stewardship for the community and the planet	Empathy	Community service projects, environmental field trips
Communication skills	Improve interpersonal and public speaking skills	Collaboration	Debates, presentations, community workshops

strengthen their communication skills. Through experiential learning and collaboration, they are supported in identifying local challenges and working together on solutions. The programme begins with a personal visioning exercise — a mindfulness activity where learners imagine and reflect on what makes a healthy, happy and successful community. Educators then support learners in working with a community partner to design a “quality of life” index that outlines shared community needs. Learners discover that while their individual visions may differ, many common themes emerge such as access to green spaces and care for nature and wildlife. Differences in what they envision are valued and celebrated, helping to build empathy and a shared sense of purpose. Through the programme, learners strengthen their communication skills as they move from individual reflection to group dialogue, prioritizing community goals using a clear and inclusive process. They are also encouraged to view these goals as interconnected, thus linking local ideas with global frameworks and raising awareness of the broader impact of their actions and thoughts. While learner groups may prioritize different SDGs, their collective efforts contribute to a broader global impact. They practise expressing ideas clearly, listening to others and engaging in constructive dialogue. The activity fosters understanding and respect for diverse viewpoints, thereby enhancing their ability to make well-informed, thoughtful decisions. Youth are then teamed up with adults and, working with community partners, they engage in participatory action research and community-based projects that address emerging local issues (Figure 13). These projects help develop skills in communication, collaboration and project management. Such a pedagogical approach demonstrates how ESD programmes can effectively combine individual reflection, collaborative learning and connecting to global sustainability goals.

Policy Support and Implications

In 2013, Vermont passed Act 77, a landmark legislation aimed at ensuring that learners have access to high-quality educational experiences that prepare them for life after graduation. This legislation introduced flexible pathways to graduation, emphasizing greater youth voice and leadership in their learning journey. The passage of this act, combined with the SDGs being adopted by UN Member States in 2015, inspired and instilled hope for fostering youth-adult partnerships that create projects addressing the SDGs at the local level.

Scale-up Effort

As an adaptive strategy during the COVID-19 pandemic, RCE Greater Burlington developed online opportunities to continuously engage youth in the project. This shift led RCE Greater Burlington to develop a fully online programme that enables diverse engagement, both within Vermont and from schools in distant locations. Through this initiative, RCE Greater Burlington was able to work with Kopila Valley School in Nepal and schools in other US states, including Georgia and Mississippi.

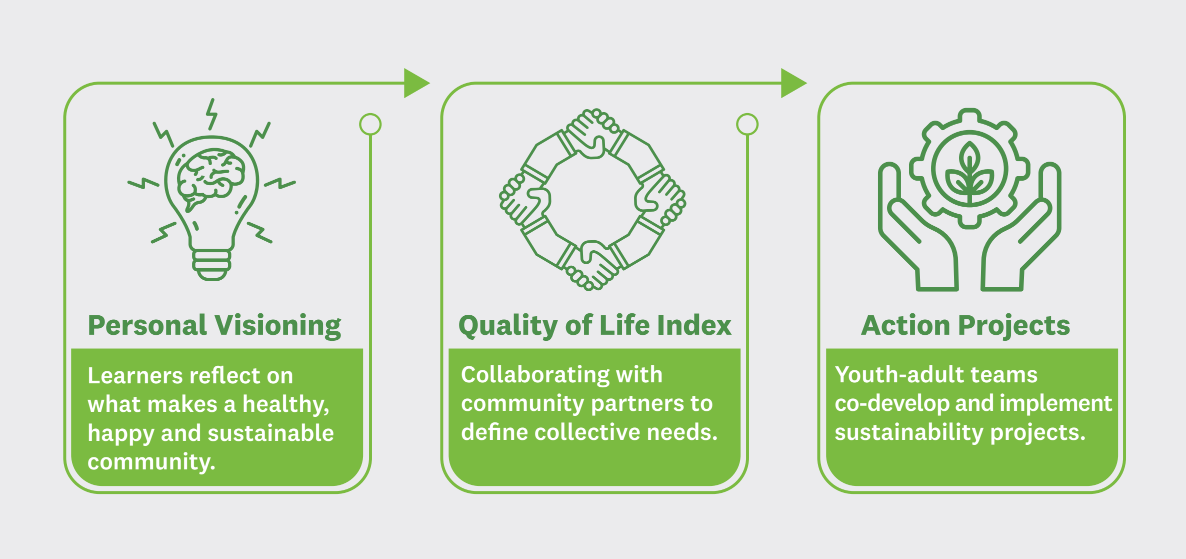
Personal Visioning
Learners reflect on what makes a healthy, happy and sustainable community.
Quality of Life Index
Collaborating with community partners to define collective needs.
Action Projects
Youth-adult teams co-develop and implement sustainability projects.

Figure 13. From reflection to action – the learning journey of CPS participants (Source: RCE Greater Burlington, 2024).

Evaluation

Evaluation methods include authentic project-based assessments, reflective essays, feedback from community partners, and surveys to gauge changes in attitudes and understanding among participants.

Results

Since 2015, CPS has engaged over 1,000 youth who are actively transforming their communities in alignment with the SDGs. Youth and adults are working together to create healthier and more just communities by building deep place-based relationships, collecting data and designing projects that address each community’s most pressing challenges. Youth have contributed to the well-being of their communities by designing sustainability courses, creating policies and protocols to make schools more equitable, and developing tangible projects such as solar-powered chicken coops and nature trails.

Actions to Take

To advance ESD, educational practitioners and policymakers should prioritize inclusive and participatory approaches. Effective measures include encouraging dialogue between youth and adults in collaborative decision-making processes and empowering learners to co-design and implement community projects. Experiential learning activities, such as community service projects, help cultivate empathy. By emphasizing inclusivity, partnership, experiential learning and aligning global goals with local context, learners are expected to become active agents of change in building sustainable communities and addressing sustainability challenges that are of high priority to both themselves and their community.

More Information:

- Shelburne Farms – Cultivating Pathways to Sustainability
- Shelburne Farms – Learning Locally
- UP for Learning Cultivating Pathways to Sustainability

RCE Georgetown

Region:
The Americas

Country:
United States of America

SDG(s):
1 4 7 8 9 10 11 13

AOP for ESD:
Problem-Based and Real-World Issues; Community Engagement; Collaboration; Empathy; Interdisciplinarity

Target audience(s):
Educators, Policy Makers, Students, Business, Government

ESD for 2030 Priority Action:

Language(s) of the project:
English

Stakeholders:
Learners; Coastal Carolina University; RE-volv; Santee Electric Cooperative; CCU Solar Ambassador Team; HTC Honors College and Sustainability and Coastal Resilience Majors; Department of Politics; The Village Group; Alder Energy; Dawson Lumber; Coastal Builders

Duration of project:
April 2021 – Ongoing

Photo by Pamela Martin

Students present at the Medical University of South Carolina on their solar energy feasibility study.

The Coastal Carolina University Solar Ambassadors

RCE Georgetown

1 NO POVERTY; 4 QUALITY EDUCATION; 7 AFFORDABLE AND CLEAN ENERGY; 8 DECENT WORK AND ECONOMIC GROWTH; 9 INDUSTRY, INNOVATION AND INFRASTRUCTURE; 10 REDUCED INEQUALITIES; 11 SUSTAINABLE CITIES AND COMMUNITIES; 13 CLIMATE ACTION

Abstract

At Coastal Carolina University (CCU), learners take a Solar Ambassador class where they learn about solar technology, business and policy by engaging with solar energy installers and industry leaders. They then share this knowledge with community non-profit organizations to reduce energy costs, provide clean energy and educate the public on the benefits of clean energy for all. Non-profits in turn become models for clean and affordable energy, with their reduced lease payments over 20 years feeding into a revolving fund for future non-profit projects. Following the passage of the Inflation Reduction Act (IRA), this learning environment expanded by partnering with the private sector. Students now train to conduct solar design and feasibility reports, helping non-profits apply IRA benefits while broadening access to clean, affordable energy.

Background

In the United States, solar energy adoption is largely incentivized by tax credits, available to private homeowners and businesses. However, before the IRA, non-profit organizations were excluded from these tax benefits, making solar installations unaffordable for many. Plantersville, a small rural town in Georgetown County, South Carolina, exemplifies these challenges: with a population of around 3,000, most residents are African American, many of Gullah Geechee heritage, and the town's media income falls far below the state average (Census Reporter, 2023). Despite facing economic and educational hurdles, Plantersville's cultural richness and environmental biodiversity present opportunities for innovation.

Contents

The CCU Solar Ambassador team collaborated with RE-volv, a non-profit solar seed fund, Alder Energy, and Santee Electric Cooperative in installing a solar energy system at The Plantersville Cultural Center that will offset 100 per cent of its power usage. RE-volv is assigned to train college students to become "solar ambassadors", equipping them with the needed skills to support community-serving organizations in installing solar panels. Supported by a solar seed fund, RE-volv covers the initial set-up cost and guarantees a minimum of 15 per cent reduction in their energy bills — not only does it enable communities access to clean and affordable energy, it also educates citizens and students about it. Three learning aspects are identified to be critical. First, a systems-level approach is essential to help learners understand the connections among the SDGs and actors at local and federal levels. The concept is easy to articulate but difficult to implement, especially for learners who have grown up studying subjects such as math, English and science in isolation without understanding how they are interconnected. The second learning aspect is content knowledge, wherein a solid understanding of sustainable development along with content, practical knowledge and skills in business such as on data analysis, governance, law, policy, chemistry, biology, finance and marketing, is essential. The final learning aspect — perhaps the most important one in an ESD course — is social and emotional connection which encompasses essential skills such as empathy, open communication, respect, collaboration and participation, and aligns with the UNESCO student learning objectives (UNESCO, 2017). It addresses the "why" i.e., why we are doing this, why we are here, why it is important both to you and to the whole world.

Solar Ambassadors-in training take a tour of a solar farm.

Photo by Pamela Martin

Learning Aspects	Objectives	AOP for ESD	Example Activities
Systems thinking	To enable learners to see the connections among and between goals, among and between scales of actors	Interdisciplinarity	Learn and analyze real world scenarios, working with external stakeholders
Content knowledge	To equip learners with technical skills on top of theoretical knowledge and philosophy on sustainable development	Problem-Based and Real-World Issues; Interdisciplinarity	Technical skills development, proposal development
Social and emotional connection	To let learners understand "why" they are engaging in ESD activities	Community Engagement; Empathy; Learner Participation	Group work, working with communities

Once learners internalize this, they are motivated to take action.

Policy Support and Implications

The Solar Ambassador Programme benefits from strong policy and institutional support. Public utility companies such as Santee Cooper and Santee Electric Cooperative provided policy support for organizing non-profit solar initiatives, and provided reduced solar rider fees and energy efficiency training. The South Carolina Office of Energy supported student training and policy evaluation. Lastly, the South Carolina Solar Council provided guidance on solar energy in these areas, as well as ratings policy investigation and analysis.

Scale-up Effort

The project has now been scaled up to the state and national levels, thanks to the expansion of solar incentive opportunities under the IRA, which allows non-profits to benefit from solar energy incentives. With this new policy, RCE Georgetown has expanded its solar energy training by partnering with ENrG Services, an energy company, the Medical University of South Carolina (MUSC) and Sonoco Packaging Corporation (Sonoco). Since the Plantersville solar project, RCE Georgetown has trained learners in solar energy design and feasibility reporting in collaboration with ENrG Services. Additionally, these learners worked with MUSC and Sonoco to examine the solar feasibility of over 15 MUSC facilities and 19 Sonoco facilities across South Carolina and the US. Additionally, this expansion of solar training from the non-profit sector to the private sector has led to including solar design and site feasibility in the learning outcomes.

Evaluation

Learners are trained and evaluated through both formal and informal assessments throughout the semester on the course content. Each learner produces a solar feasibility report on their respective site location and presents the report to the partner corporation or organization. This approach provides multiple avenues for learners to apply concepts, engage in evaluation and communicate their findings effectively.

Results

This project marks the third solar installation for the CCU Solar Ambassadors. They have installed about 24 kilowatts of solar energy capacity on two Veteran of Foreign Wars non-profit buildings. The team has planned a project for the Village Group, an educational and community non-profit, which will be implemented once their facility is constructed. Additionally, learners have collaborated with the City of Georgetown to develop a new solar ordinance on integrating solar energy into the city's zoning regulations. These programme activities advance SDG 7 targets by increasing renewable energy access, raising the community's share of clean energy and improving local energy efficiency.

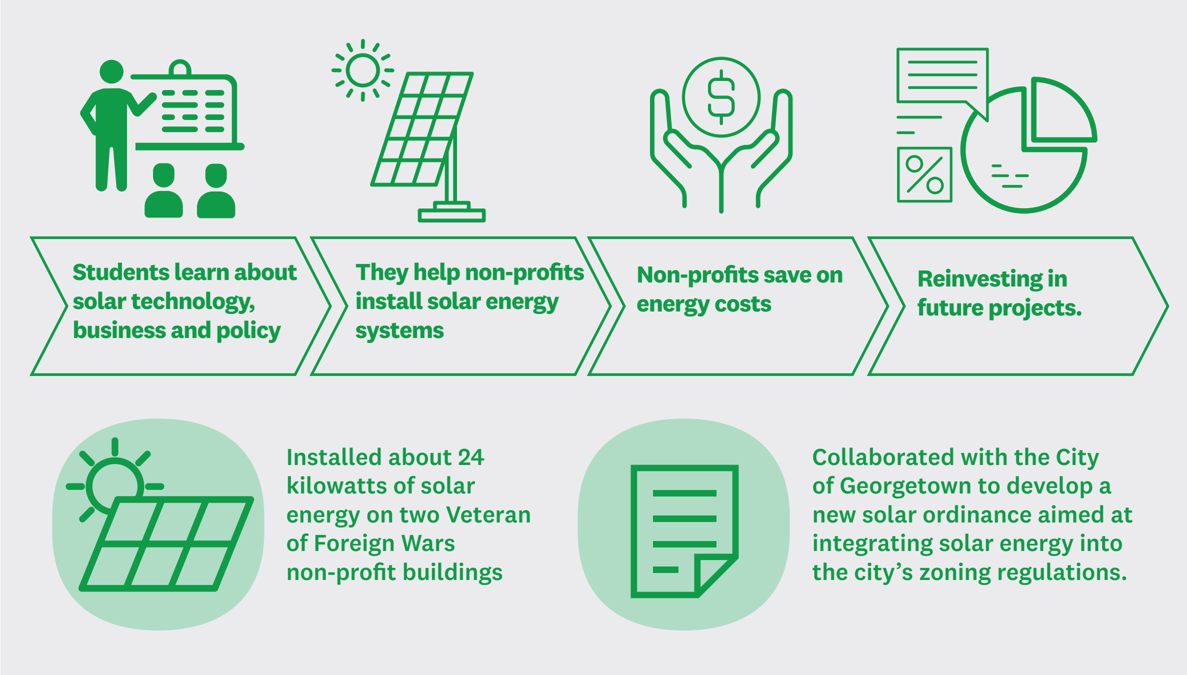
Students learn about solar technology, business and policy
They help non-profits install solar energy systems
Non-profits save on energy costs
Reinvesting in future projects.
Installed about 24 kilowatts of solar energy on two Veteran of Foreign Wars non-profit buildings
Collaborated with the City of Georgetown to develop a new solar ordinance aimed at integrating solar energy into the city's zoning regulations.

Figure 14. Changing the world, one roof at a time (Source: RCE Georgetown, 2024).

Actions to Take

In 2026, the learners plan to join a local utility company to conduct home energy efficiency audits in vulnerable communities, in collaboration with the South Carolina Energy Office. The team's first project, a solar installation at a homeless shelter, failed because they did not adequately educate the community about how the solar seed fund works and why clean energy is important for everyone. Since that experience, the team has developed clear explanations and data for community non-profits and has expanded its work to include the private sector. Students have learned that passion for promoting clean energy is not enough; it should be accompanied by knowledge on its environmental and economic benefits and the ability to communicate these effectively to community members and partners. To achieve this, educators had to retrain themselves, learning the language of private sector, such as profit margins and business operations, in order to collaborate effectively and contribute to sustainable development. By combining technical expertise with community engagement, the Solar Ambassadors are creating real, measurable change one roof at a time.

ⓘ More Information:

- Coastal Now – Solar Ambassadors Ribbon Cutting (YouTube)
- Coastal Solar Ambassadors (Facebook)
- Solar Ambassadors Help Murrels Inlet VFW (YouTube)

Next Steps

Dr. Nafissa Insebayeva
Research Consultant, UNU-IAS

We live in an age where information about sustainability is more prevalent than ever. Despite this abundance, however, practical implementation of sustainable practices leaves a lot to be desired. We have come to realize that knowledge about sustainability issues, while a necessary component for positive transformation, is not necessarily linked to action. Hence, the transition from awareness to meaningful behavioural change remains a challenging endeavour.

As we navigate this complex landscape, it is necessary to move beyond theoretical rhetoric on sustainability and critically re-evaluate traditional teaching methods. In search of a solution to address this disconnect, action-oriented pedagogy (AOP) emerged as a transformative approach that bridges the gap between theoretical knowledge and practical application (Sinakou et al., 2019).

Action-oriented education plays a significant role due to its potential to cultivate creative, critical thinking and independent problem-solving skills, necessary for tackling accelerating sustainability crises. Unlike traditional pedagogical methods, which focus on knowledge transmission, action-oriented teaching prioritizes learner agency, peer collaboration and practical application of acquired knowledge in real-world scenarios.

The featured case studies highlight the potential of AOP tools and practices in creating more resilient, adaptable and capable learners motivated to face global and local issues. The collected innovative teaching practices, implemented by RCEs around the world, put emphasis on learners as social agents and promote hands-on, practical activities. They also provide concrete examples of how action-oriented principles are applied in real-world educational settings, displaying how these approaches can be tailored to various cultural contexts and learners' needs.

The insights gained from these cases could be utilized to conduct further research on the impact of AOP teaching practices, which can inform policy decisions at various levels and drive educational innovation. There are a few key avenues for further inquiry that deserve particular attention:

1. Eco-anxiety and learner agency
Raising awareness about global environmental challenges is, without a doubt, a necessary and important step towards a sustainable future. As the number and magnitude of ecological crises rise, we continue to unpack their negative impacts on human health. Recently, we have witnessed increased effort to understand the effects of these challenges on mental health (Clayton & Manning, 2018). There is growing evidence that people do not have to be exposed to direct environmental consequences of climate change to experience its adverse mental health effects, including anxiety, despair, fear and panic (Doherty, 2015). The question is, then: how can we teach on sustainability issues in a way that could minimize these burdensome costs and would encourage purposeful action?

Emerging research in the field of environmental psychology suggests a strong positive relationship between children's connectedness to nature and happiness (Barrera-Hernández et al., 2020). For instance, RCE Minna's project engages learners aged 5–10 in tree-planting

BOXED WATER IS BETTER.
BOXED WATER IS BETTER.

Photo by 6WrKKQcEnXk | unsplash

activities, which allows them to develop an appreciation for the environment, learn how to be active community members and acquire necessary skills for ecosystem conservation. Involving young learners in such outdoor, nature-based and community-led projects supports children's agency and participation in sustainability efforts (Bascopé, et al., 2019).

Indeed, one of the most exciting aspects of the AOP approach is its focus on meaningful engagement with the real world through collaborative problem-solving activities. It is important that learners are not only taught about global challenges but are equipped with skills to address them. Developing a personal sense of competence through acquiring action-oriented knowledge is essential for battling the feelings of worry, anxiety and ecological grief (Ojala et al., 2021). That is, AOP tools can be effectively utilized to foster public engagement and alleviate fear and apathy.

It is especially important to prepare young learners, who are at a higher risk of exposure to climate change consequences, to face these challenges. As pointed out by the RCE Oldenburger Münsterland, strengthening learner's self-confidence is an important learning outcome, and peer learning plays a crucial role in behaviour change. Building communities of like-minded individuals, and peers in particular, can motivate learners towards positive action and reduce the feeling of isolation by equipping them with a sense of purpose.

2. Integration with technology and equity consideration

Today's educational landscape is influenced by global digitalization trends. Unsurprisingly, we can also observe the evolution of action-oriented pedagogy, influenced by technological advancements. For instance, RCE Southern Vietnam's IU Innovation Camp utilizes digital technologies to connect youth and cultivate a sense of community among learners, promoting collective problem-solving and facilitating teamwork beyond physical classrooms. Moreover, RCE Greater Gombak's project leverages the Google Earth platform to document and monitor its community development initiatives in an interactive and accessible way. Although integrating the AOP approach into existing curricula is not without its challenges, the project promotes the concept of "Communiversity," demonstrating that universities are more than "learning places" and can serve as important pillars of community development.

As technologies continue to develop, new models and methods within action-oriented pedagogy will emerge. Virtual reality (VR), augmented reality (AR) and artificial intelligence (AI) can be utilized to enhance learning by allowing immersive experiences that mirror real-life scenarios.

However, we must not forget that while technology has the potential to revolutionize education in positive ways, it must also be approached with commitment to equity. Biases in technology reflect and perpetuate human, systemic and institutional biases, and can further reinforce and legitimize them. Overcoming tech biases requires addressing existing barriers that marginalized communities face in accessing technology and participating in technological innovation.

As we look towards the future, there is a pressing need for thoughtful analysis of the long-term impacts of digital tools and action-oriented education on learner outcomes. It is essential that we use tech to complement educational practices where it makes sense and do not over rely on it for all educational purposes and in all contexts.

3. Community empowerment and whole-of-society approach

Beyond teachings about environmental stewardship, practice-based approaches can be used by communities to preserve cultural heritage and transmit valuable traditional knowledge. For instance, RCE Zaria and RCE Lesotho draw on traditional practices and Indigenous Knowledge Systems, such as the Ubuntu philosophy, to teach action-oriented nature conservation. Empowerment also serves as a central pillar of RCE Ruhr's project, which offers a series of activities and community practices to foster a sense of belonging, confidence and cultural pride among learners of various ages. These projects emphasize the importance of developing teaching materials on sustainability in local languages. This involves translating existing texts, but also drawing on local knowledge and perspectives.

Indeed, identifying gaps in our current understanding of action-oriented education is crucial for ensuring that all learners benefit equally, regardless of their background. The complexity of learners' and educators' sociocultural realities needs to be thoughtfully examined. As pointed out by RCE Greater Burlington's project, different people and communities might have different priorities and needs when it comes to sustainability efforts. This is why it is important to teach empathy and care in a way that emphasizes constructive dialogue and a healthy and just environment for all.

What is clear from the presented case studies is that for AOP tools to achieve their full potential, cooperation between different sectors and across industries is critical. Designing locally relevant, culturally appropriate solutions requires equipping learners with systems thinking skills, as emphasized by RCE Georgetown, and highlighting how different sectors, industries and communities are intertwined. Moreover, as evident from RCE Okayama's cross-sectoral project, action-oriented practices can help build informed communities and contribute to the protection of the environment through a whole-community approach.

Call for further research and innovation

In summary, action-oriented pedagogy is a powerful shift in educational practice with a potential to foster global citizenship, social responsibility and lifelong learning. It can contribute to the creation of more engaging, practical and relevant learning experiences for everyone, provided we thoughtfully address key challenges and opportunities.

This publication offers a diverse range of pedagogical tools and insights to drive future innovation and inspire meaningful change. This diversity enriches our understanding of how action-oriented education can be adapted to diverse cultural, social and economic environments. RCEs offer valuable data and personal testimonials creating a repository of strategies, approaches and experiences that have been applied and tested in different contexts.

As educators and policymakers continue to explore and develop this approach further, it is imperative that a diverse range of stakeholders, such as educators, community members, institutions and policymakers, work together to support its implementation and sustainability.

List of Abbreviations

AI	Artificial intelligence
AOP	Action-Oriented Pedagogy
AOP-ESD	Action-Oriented Pedagogies for Education for Sustainable Development
AR	Augmented reality
CBD	Convention on Biodiversity
CCU	Coastal Carolina University
CLCs	Community Learning Centres
CPS	Cultivating Pathways to Sustainability
DST	Department of Science and Technology
ESD	Education for sustainable development
GFP	Green Fingers Project
IIUM	International Islamic University Malaysia (IIUM)
IRA	Inflation Reduction Act
MUSC	Medical University of South Carolina
NGOs	Non-governmental organizations
NPOs	Non-profit organizations
NPE	National Policy on Environment
RCE	Regional Centre of Expertise on Education for Sustainable Development
SDGs	Sustainable Development Goals
Sonoco	Sonoco Packaging Corporation
TKCT	Tlokoeng Valley Community Association
UN	United Nations
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNU	United Nations University
UNU-IAS	United Nations University Institute for the Advanced Study of Sustainability
VR	Virtual Reality

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From reflection to action — the learning journey of CPS participants (Source: RCE Greater Burlington, 2024).

Figure 14.
Changing the world, one roof at a time (Source: RCE Georgetown, 2024).

Action-Oriented Pedagogy Checklist

AOP Elements		Check Box	
		Yes	No
Problem-Based and Real-World Issues			
1	Do the learners get to identify a real-world problem/issue related to sustainable development?		
2	Is the problem/issue coming from the real needs of the community members?		
3	Do the learners have prior knowledge and skills to understand the issue and identify solutions? If not, what prerequisite lessons are required?		
Community Engagement			
4	Is the problem/issue consulted with the community members?		
5	Is the learning activity engaging the community members?		
6	Does the learning activity give special attention to underrepresented groups in the community? Is the programme inclusive?		
Learner Participation			
7	Do the learners participate in setting up the learning objectives?		
8	Do the learners participate in designing the learning process?		
9	Are there any mechanisms to ensure the ownership and responsibilities of learners for their learning outcomes?		
Collaboration			
10	Does the learning programme facilitate meaningful interaction and dialogue between learners and external stakeholders, such as community members or industry professionals?		
11	Does the learning activity involve collaborative projects where learners work with stakeholders from different academic backgrounds to solve sustainability problems?		
12	Does the learning activity leverage everyone's strengths to achieve common goals?		
Empathy			
13	Does the learning programme include a profiling activity or on-the-ground interaction to understand and share the feelings of the affected populations (or community members who face the sustainability issues or climate change impacts)?		
14	Are learners trained to use participatory methods, such as interviews or observations, to authentically understand the lived experiences of community members?		
15	Does learners' understanding of the affected populations reflected in the solutions?		
Regional and Cultural Relevance			
16	Do the entire learning process and activity acknowledge and respect the cultural values of the community?		
17	Do the learning activities provide learners with the opportunity to look into the Indigenous knowledge and culture of the community in solving sustainability issues?		
18	Do the learning activities leverage the cultural and linguistic strengths of the community? (e.g. providing the learning materials in local language)		
Interdisciplinarity			
19	Are the learning activities designed to integrate knowledge and methods from multiple disciplines to address sustainability challenges?		
20	Does the learning activity involve experts from different disciplines to provide interdisciplinary views on sustainability issues?		
21	Are the learners provided with opportunities to practice systems thinking to understand the interconnectedness of the sustainability issues?		

References

EDITORIAL

Dr. Jonghwi Park, Academic Programme Officer and Head of Innovation and Education, UNU-IAS

Farooq, M. (2023). Pedagogy for transformative learning: Case of sustainable agriculture and environment. *International Journal of Agriculture and Biology*, 15, p. 2080.

UNESCO. (2022). *Education for Sustainable Development: A Roadmap*.

United Nations. (1992). *Agenda 21: Programme of action for sustainable development*.

Varela-Losada, M., Vega-Marcote, P., Pérez-Rodríguez, U. & Álvarez-Lires, M. (2016). Going to action? A literature review on educational proposals in formal environmental education. *Environmental Education Research*, 22(3), pp. 390-421.

ASIA-PACIFIC

RCE Greater Gombak
Awang Marusin, A.A.M., Sintang, S. and Ibrahim, M.A. (2018). The Practice of Usrah in Teaching and Learning: Case Study at the International Islamic University Malaysia. *International Journal of Islamic Thought*, 14, pp. 21-26.

Malaysian Qualifications Agency. (2017). Malaysian Qualifications Framework (MQF), 2nd ed.

Sejahtera Centre for Sustainability and Humanity (n.d.). *SCSH 2163 & 3164 (Usrah In Action 1, Usrah in Action 2)*.

RCE Okayama
Fujieda, S., Hoshika, A., Hashimoto, E., Sasakura, S., Shimizu, T. & Okumura, M. (2010). Standing stock and mass balance of marine litter in the Seto Inland Sea. *Journal of Coastal Zone Studies*, 22(4), pp. 17–29.

Ministry of the Environment, Japan and Institute for Global Environmental Strategies. (2024a). *Towards Osaka Blue Ocean Vision - G20 Implementation Framework for Actions on Marine Plastic Litter*.

Ministry of the Environment, Japan and Institute for Global Environmental Strategies (2024b). *Towards Osaka Blue Ocean Vision - G20 Implementation Framework for Actions on Marine Plastic Litter*.

RCE Southern Vietnam
Ho Chi Minh City People's Council. (2023). *Resolution No. 20/2023/NQ-HDND: Regulating priority areas and criteria for supporting innovation projects and creative startups in Ho Chi Minh City*.

Maslow, A.H. (1943). A theory of human motivation. *Psychological Review*, 50(4), pp. 370-396.

Parliament of Viet Nam. (2023). *Resolution No. 98/2023/QH15: Piloting specific mechanisms and policies for the development of Ho Chi Minh City.*

AFRICA & MIDDLE EAST

RCE Lesotho
Government of Lesotho. (1998). *National Environment Policy for Lesotho*. Maseru: Government Printers.

RCE Zaria
National Environmental Standards and Regulations Enforcement Agency (NESREA). (2016). *National Policy on the Environment.*

EUROPE

RCE Oldenburger Münsterland
Das Schutzengelprojekt. (2010). *A project within the framework of structural youth protection for the prevention of violence, addiction, and accidents*.

Statistisches Bundesamt. (2021). *Unfälle von 18- bis 24-Jährigen*.

THE AMERICAS

RCE Greater Burlington
Shelburne Farms. (n.d.). *Cultivating Pathways to Sustainability*.

RCE Georgetown
Census Reporter. (2023). *Plantersville CCD, Georgetown County, SC*.

UNESCO. (2017). *Education for Sustainable Development Goals: Learning Objectives*.

NEXT STEPS

Barrera-Hernández, L.F., Sotelo-Castillo, M.A., Echeverría-Castro, S.B. & Tapia-Fonllem, C.O. (2020). Connectedness to nature: Its impact on sustainable behaviors and happiness in children. *Frontiers in Psychology,* 11, p. 276.

Bascopé, M., Perasso, P. & Reiss, K. (2019). Systematic review of education for sustainable development at an early stage: Cornerstones and pedagogical approaches for teacher professional development. *Sustainability,* 11(3), p. 719.

Clayton, S. & Manning, C. (2018). *Psychology and climate change: Human perception, impacts, and responses.* San Diego: Elsevier.

Doherty, T.J. (2015). Mental Health Impacts. *Climate change and public health,* pp. 195-214.

Ojala, M., Cunsolo, A., Ogunbode, C.A., & Middleston, J. (2021). Anxiety, worry, and grief in a time of environmental and climate crisis: A narrative review. *Annual Reviews*, 46, pp. 35-58.

Sinakou, E., Donche, V., Boeve-de Pauw, J. & Van Petegem, P. (2019). Designing powerful learning environments in education for sustainable development: A conceptual framework. *Sustainability*, 11(21), p. 5994.

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