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International Conference on
EDUCATING FOR SUSTAINABILITY ACTION

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Selected Paper Abstracts

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1. Gender mainstreaming, Author- Gelito Inácio Franco Sululu

Commonwealth Youth Climate Change Network, Mozambique

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Mozambique is a poor country and the target of major tropical cyclones such as Gombe, Idai, Eloise, Kenneth, Shallane, Freddy, Alvaro, Filipo, Gormane, and cyclone Olga. Putting biodiversity in danger of extinction and putting the Mozambican Population in a humanitarian crisis. We have already restored more than two hundred hectares devastated by major tropical cyclones (recovery of lowlands for agricultural production and environmental management), creation and formalization of natural resource management committees,creation of community agendas for the sustainable use of land and other natural resources, mapping and micro-zoning of community lands and creation of agro - livestock associations (inclusion of children/youth/women in the creation of self-employment through agricultural production and job creation through the green economy). Our main objective is to expand our activities to other communities most affected by and vulnerable to climate change, namely Chia, Mbueca, Chicoa and Mala in Mozambique. Our activities are being developed in the village of Ngoo, in the Partial Reserve of Lake Niassa, Mozambique. Based on this climate event, we will be able to gain technological and scientific experience in the areas of conservation, restoration, agriculture, social/gender inclusion in the sustainable use of land and other natural resources, climate change mitigation and obtaining cooperation partners. Every rainy season Mozambique is battered by major tropical cyclones. In this coming rainy season, we don't want human losses, the loss of millions of hectares of degraded lands, the loss of biodiversity and the loss of public and private infrastructure. Of course, we are going to step up our awareness-raising/lectures on climate change mitigation and biodiversity protection. All these communities are located within the Partial Reserve of Lake Niassa, Mozambique.

2. Introduction and Implementation of Local Curriculum in Primary Education: Experience from Nepal, Author-Prof Umesh K Mandal, PhD [1]

Authors-Prof Umesh K Mandal, PhD[1] and Ms Kabita Kumari[2]

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A centralized curriculum system has been practiced for a long time in Nepal. Being a diversified country in topography, climate, language culture religion etc, dropout, repetition and promotion rates of students were recorded as high in 2015. After democracy, the slogan of 'Education for All' was raised from the grassroots. The National Education Commission (1992) of Nepal highlighted the importance of incorporating local need-based learning and recommended it for educational reform (NEC, 1992). For the first time in Nepal, the Primary Education Curriculum (1992) emphasized and incorporated the provision of the local curriculum (CDC, 1992). The concept of the local curriculum was conceptualized and brought into practice after the implementation of the Primary Education Curriculum in 1992 to achieve socio-geographic diversity and inclusion and promote local knowledge and culture. It has been focused on making the curriculum relevant to the local context and build interest in local resources. The new primary school curriculum of 2003 and its revised form of 2005 has made the provision of 20 per cent weightage for the study of local contents in social studies, creative and expressive arts, and physical education. It also made the provision of 100 per cent weightage for an additional subject for a local need-based study that may include the mother language or local subject (CDC, 2005; CDC, 2010). A school-based curriculum, alternatively called a localized curriculum, is developed, planned, designed, implemented, and evaluated as a structured program for student learning within an educational institution. The curricula cover areas including culture, geography, environment, agriculture, sports, moral science, history, occupations, business and disaster management.

Green Schools Nepal revolutionizes education by integrating sustainability into the curriculum, empowering students to become environmental leaders. In practice, Green Schools Nepal transforms traditional classrooms into vibrant hubs of sustainability. Students engage in hands-on activities also recommended by UNESCO like: tending to school gardens, managing recycling programs, and installing solar panels. Rasuwa, Chitwan and Bhaktapur districts were the first to take initiative to develop local curricula and implement in 400 schools in Chitwan. Due to a lack of a specific plan for human resource management and monitoring and evaluation mechanism with the Ministry of Education and its concerned institutions, implementation in every local school has not been fully satisfactory.

Keywords: Local curriculum, primary, dropout, diversity, centralized

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3. The United States National Park Service: from Education to Agency, Author- Shauna Potocky,

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The US National Park Service education program has established initiatives focused on climate change, equity and creating opportunities for direct student agency. This work focuses on going beyond learning about climate change and its local to global impacts to creating hands-on experiential opportunities for student agency that address both climate impacts and equity at the park and community level. One of the best ways to educate and address climate anxiety for students is to empower them with knowledge, skills and most importantly, transformative experiences that allow them to have a voice, lead, and put their learning into direct action. Through experiential learning, direct life experience and hands-on action students gain the deepest level of understanding, and develop vital skills while helping ease anxiety by seeing firsthand that adults in key roles are doing the work, and that students can gain knowledge and skills to address, mitigate, or solve challenges by doing just that.

4. Exploring climate change education in formal and informal sectors in Mauritius, Author- Bholah R[1] Cyparsade, M[1]

Author: Associate Professor (Dr) Bholah Ravhee, Cyparsade, M[1] r.bholah@mie.ac.mu

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Climate change is significantly affecting the Republic of Mauritius, with rising sea levels, beach erosion, and more frequent extreme weather events, floods, and droughts. In response, national and international initiatives have shaped policies and strategies to address these challenges. A key focus has been on fostering climate change education (CCE) in both formal and non-formal education sectors. This study examines the evolution of CCE and innovative pedagogical approaches advancing sustainability in Mauritius over the past two decades. Using desktop research and interviews with key stakeholders, it was found that CCE is integrated into both sectors, with a stronger emphasis on climate change education for sustainable development (CCESD) in tertiary education. Innovative pedagogies have improved learner-educator interactions and enhanced understanding of CCE concepts. However, strengthening links between formal and non-formal education remains essential. Rethinking CCESD strategies is crucial to achieving SDGs 4 and 13.

Keywords: education sectors, climate change education, pedagogies

5. Innovation concept and tools: empowering young people for a sustainable future

Mohammed VI Foundation for Environmental Protection ,The Hassan II International Environmental Training Center

The Mohammed VI Foundation for Environmental Protection is passionately committed to an educational and awareness-raising mission. Its goal: to reach all generations, with particular attention to young people, and to use the tools and spaces that lend themselves to it, to combine learning and fun.

Thus, the Hassan II International Center for Environmental Training develops digital games platforms, and applications, innovates board games, and activity booklets and creates educational paths, ... real awareness-raising tools through play. These resources combine co-creation processes involving young people, sustainable designs integrating educational content, and interactive experiences offering fun and tangible learning, to engage young people and deepen their understanding of global environmental challenges such as pollution, climate change and biodiversity loss.

The development of this range of educational tools aims to inspire proactive learning, nurture a sense of responsibility and engage future generations towards sustainability.

Keywords: young, resources, interactive, educational paths, proactive.

6. Empowering the Next Generation: The African Youth Climate Hub's Role in Fostering Youth Leadership for Climate Action

Mohammed VI Foundation for Environmental Protection

This paper examines the African Youth Climate Hub (AYCH), an initiative dedicated to responding to and echoing the voices and actions of young Africans as leaders in Climate Change. AYCH offers innovative programs that engage youth in addressing climate change when it comes to mitigation, adaptation and loss and damage. AYCH provides platforms co-constructed by, with and around Youth for advocacy, collaboration, and the development of practical solutions. Through partnerships, mentorships, and knowledge-sharing, AYCH fosters a network of young leaders committed to creating resilient, sustainable communities. This initiative not only strengthens youth engagement in climate issues but also prepares a generation of informed change-makers ready to shape a sustainable future across Africa and beyond. For example, the incubation program of the African Youth Climate Hub has incubated 20 programs across two editions selected among hundreds of initiatives and a call for applications for the third edition is live as of November 2024.

7. Capacity Building from a Practical Perspective in Morocco

Mohammed VI Foundation for Environmental Protection

In response to the systemic risks posed by climate change, which threaten the resilience of organizations, markets, and economies, this research examines strategies to enhance stakeholders' capacities in climate finance and decarbonization in Morocco. The study highlights both the challenges and opportunities arising from the transition to a low-carbon economy. In collaboration with its partners, the Mohammed VI Foundation for Environmental Protection is implementing a national capacity-building program designed to equip a diverse range of stakeholders including academics, public and private sector representatives, civil society, and local authorities with the knowledge and skills necessary to address climate challenges. The program offers tailored training and technical support for these groups. Additionally, 24 climate project proposals have been developed across Morocco, focused on securing climate finance. The Hassan II International Center for Environmental Training is also developing a platform to host MOOCs on climate finance and the "Bilan Carbone Maroc" tool, promoting continuous learning and action.

Keywords: Capacity building – Climate finance - decarbonization – Climate action

8. Nurturing Young Moroccan Minds

Mohammed VI Foundation for Environmental Protection

For over 20 years, the Mohammed VI Foundation for Environmental Protection, chaired by HRH Princess Lalla Hasnaa, has been promoting Education for Sustainable Development (ESD) in Morocco through various activities including two flagship programs: Eco-Schools (ES) and Young Reporters for the Environment (YRE). Through ES in Morocco, 2.900.000 students in more than 4500 primary schools have actively engaged in concrete environmental projects, while teachers have leveraged localized pedagogical tools. At the secondary level, YRE has raised awareness among more than 40.000 students and 15.000 teachers, encouraging them to investigate and communicate on local environmental issues, thus developing their skills in environmental journalism and critical thinking. These complementary initiatives address key challenges in environmental education, facilitate local action, and strengthen pedagogical capacities, contributing to achieving the Sustainable Development Goals by 2030. The paper will present key learnings from these programs in order to accelerate further scaling up at the international level.

Keywords: Education for Sustainable Development, Sustainable Development Goals, environmental projects, pedagogical tools, and environmental journalism.

9. Integrating Sustainable Development Goals into National Curricula through the Global Schools Program – A Case Study in Morocco

Mohammed VI Foundation for Environmental Protection

The United Nations 2030 Agenda for Sustainable Development Goals **(SDGs)** promotes an equitable and sustainable future, with a key place for education, particularly in Objective 4.7. Although the SDGs constitute a global framework, the integration of education for sustainable development **(ESD)** into education systems remains limited. To address this gap, the Global Schools program, launched in 2019 at the initiative of the UN SDSN in support of UNESCO's Global Action Program on Education for ESD, aims to integrate the SDGs into curricula, with pilot projects in Morocco, Turkey and Ghana. In Morocco, researchers analyzed textbooks (K12) and educational policies to assess the level of ESD integration. This led to the development, facilitated by the Mohammed VI Foundation for Environmental Protection and the Ministry of National Education, Preschool and Sports, of twelve lesson plans, designed both formally and thematically, and tested in 12 pilot schools, involving 419 primary and secondary students.

Keywords: SDGs, ESD, Agenda 2030, Target 4.7

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10. Transforming Higher Education for Sustainability: AGUYEN's Approach to Greening African University Campuses

Mohammed VI Foundation for Environmental Protection

This paper examines the African Green Universities and Youth Education Network's (AGUYEN) mission-driven strategy to embed sustainability across African universities by greening institutional campuses and empowering future leaders. Through sustainable curriculum reform, teacher capacity building, and community engagement, AGUYEN promotes youth leadership to address climate change, biodiversity conservation, and pollution mitigation. The network's initiatives emphasize practical tools and partnerships for ecological resilience, transforming campuses into active models of environmental stewardship. This interdisciplinary approach enhances climate education and cultivates a generation equipped to tackle environmental challenges, reinforcing universities as hubs of sustainability innovation across Africa and globally.

11. Greening Higher Education: Harnessing the Potential of Multi-stakeholder Partnerships to accelerate Education for Sustainable Development (ESD) and the SDGs- Experiences from the University of Nottingham, Author- Subarna Sivapalan

Associate Dean of Research and Knowledge Exchange, Faculty of Arts and Social Sciences, University of Nottingham, Malaysia

The author shares the experiences in leading and participating in ESD-related stakeholder initiatives within local and international contexts that have shown that the key to creating impactful outcomes lies within successful stakeholder partnerships and engagement. Universities, being an integral part of local communities, and university leaders, academics and students being key stakeholders of the nation's development efforts, have a crucial role to play in realizing these outcomes. Multistakeholder partnerships are vital for accelerating impactful outcomes to meet these goals. With just a few years left to realize the targets of the United Nations Sustainable Development Goals (SDGs), more systemic thought and action needs to be put into ways in which stakeholders of the higher education sector, in collaboration with related members from academia, community, industry and NGOs can work together to sustainably mobilize these targets.

This paper explores the potential of multi-stakeholder partnerships to accelerate action for ESD and the SDGs. It highlights the University of Nottingham Malaysia's sustainability education initiatives, detailing efforts in greening education and curriculum development. Additionally, key outcomes from ongoing partnerships and projects led by the UNESCO Chair in International Education and Development and the School of Education will be shared, demonstrating contributions to SDGs 4, 11, 13, and 17 within and beyond the institution. Special emphasis is placed on the broader implications for both institutional and external stakeholders. The paper also introduces a call for cross-border collaboration between Malaysia and India, emphasizing the role of regional partnerships in strengthening ESD and SDG implementation within higher education institutions in both countries.

12. Integrating Sustainability into Curriculum Design: A Framework for Educators, Author- Rashmi Misra

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As the world grapples with increasingly complex sustainability challenges, educators have a critical role to play in preparing students for a sustainable future. This paper presents a comprehensive framework for integrating sustainability into curriculum design, highlighting the importance of sustainability-focused education in addressing global challenges. The framework includes a theory of change, logic model, and impact indicators, providing educators with a comprehensive approach to integrating sustainability into their teaching practices. The paper also discusses the challenges and opportunities associated with integrating sustainability into curriculum design and provides a call to action for educators to prioritize sustainability in their teaching practices. The paper also outlines the key competencies required for sustainability-focused education, and a set of rubrics to assess sustainability competencies.

By providing a framework for integrating sustainability into curriculum design, this paper aims to support educators in embedding education strategies to accelerate actions and empower students to become active contributors to a sustainable future.

Keywords: Sustainability, curriculum design, education framework for sustainability

13.Bridging Wisdom and Climate Action: The Role of Indigenous Older People in Global Environmental Policy and Resilience Strategies, Author- Hari Krishna Nibanupudi[1]

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As the global climate crisis escalates, the need to incorporate diverse knowledge systems into environmental adaptation and mitigation techniques has become increasingly apparent. Indigenous elders, with their unique reservoir of ecological knowledge cultivated over decades of experiential learning and cultural heritage, offer a perspective that is often overlooked. This study delves into the essential role of indigenous communities in the Arctic, Sahel area, and Amazon basin in formulating climate resilience measures. These elders hold profound insights into sustainable land utilisation, biodiversity preservation, and disaster risk mitigation, providing essential viewpoints that can enhance scientific methodologies and enlighten us all.

Despite their significant contributions, the voices of indigenous elders are often marginalized in national and global climate policy frameworks that are dominated by technocratic viewpoints. This research, however, underscores the transformative potential of elder-led environmental stewardship. Through case studies of the Inuit in the Arctic, Fulani pastoralists in the Sahel, and the Asháninka in the Amazon, we demonstrate how their expertise can significantly improve climate adaptation, intergenerational discourse, and community-oriented resilience planning.

We strongly advocate for the immediate incorporation of indigenous elders in climate governance and policy formulation. Their wisdom should be utilized through culturally aware communication channels, which are crucial for facilitating intergenerational knowledge transfer and promoting inclusive collaboration. The report promotes policy reforms that formalize the involvement of older Indigenous individuals in decision-making processes, highlighting their position as guardians of traditional ecological knowledge. Incorporating local perspectives into global environmental initiatives is not only just but also essential for tackling the complex challenges of climate change.

Keywords: Indigenous Elders, Climate Resilience, Traditional Ecological Knowledge, Intergenerational Discourse, Environmental Policy, Arctic, Sahel, Amazon

14. Professional Development in Climate Science and Energy Education: Insights from the CREATE Project in India, Author- [1]Divya Chandrasenan;

Authors- [1]Divya Chandrasenan,[2]Grace Matthew Marcus; [1]Shaji Erath; [3]Asha J V; [1]Reshma Kuleenan;[4]Susan Elizabeth Powers & [4]Jan Elizabeth DeWaters

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Integrating climate science and energy education into already overloaded curricula presents a significant challenge. UNESCO advocates for a transdisciplinary approach, embedding these topics into existing subjects to avoid overwhelming students while promoting essential knowledge, skills, and competencies to address climate change and renewable energy. For effective integration, teachers need the right attitudes, motivation, and skills, supported by professional development programs that build confidence in incorporating these subjects. Collaboration with organizations focused on ecological sustainability in education is key. The urgency of the situation and the variety of stakeholders who need to understand climate change - range from scientists and engineers, educators, policymakers, corporate leaders, and local resource management decision-makers, to individual consumers. Though there is an urgent need to prepare an innovative scientific and technical workforce that can advance our knowledge of human-climate interactions, substantial challenges exist in trying to achieve the broad goals of developing a climate-literate society and a creative climate workforce. This paper outlines the approach taken by the CREATE project, a tri-country initiative funded by SPARC (Scheme for Promotion of Academic and Research Collaboration), which is developing climate and energy education modules for professional development of educators in India to facilitate this integration.

15. Nudging Behavioural Interventions for urban ecosystem restoration: A smart city multi-stakeholder engagement framework, Author- Dr Aasha Sharma

Faculty Marketing, Symbiosis Institute of Operations Management, Nasik

The idea of "smart cities" has become popular recently in urban planning. Modern technologies are used in "smart cities" to optimize public services, transportation, infrastructure, energy management, and other areas of urban life. The paper addresses the void of community involvement in ambitious infrastructural projects like smart cities, which also might address the sustenance of projects in the long run. The intent is to take education, awareness and engagement beyond Schools and Universities to multi-stakeholders representing various roles. Using existing technology of smart cities, behavioural interventions and nudges are proposed to encourage multi-stakeholder engagement in biodiversity restoration in cities. It is an attempt to utilize the technologically aided governance of smart cities, and CSR efforts of the corporate and community involvement in a customized ecosystem restoration action plan based on a traditional 'Devrai', (Indian sacred groves / Micro Forest Concept) practice of biodiversity conservation. The Paper proposes a collaborative Multi-stakeholder engagement Nudge framework to enhance the restoration of urban ecosystems integrating it with the smart cities mission.

Keywords**:** Micro forest; Nudge; Smart cities Mission; Biodiversity conservation; CSR; Ecosystem Restoration; Community engagement.

16. Availability, Access, and Conservation of Water in Schools in India: A Case Study of Swachh Bharat Mission Program, Author- Prof. Kavita Sharma[1]

Authors- Prof. Kavita Sharma[1], Dr. Mirinchonme Mahongnao[2] and Ms. Shristi Gupta[3]

Department of Elementary Education (DEE), NCERT[1], Consultant, DEE, NCERT[2], Senior Research Associate, DEE, NCERT[3]

Health and education are closely linked, as children thrive and learn best in a healthy environment. Water, sanitation, and hygiene (WASH) play a crucial role in creating a safe and conducive learning environment for children in schools. India has committed to the United Nations Sustainable Development Goal (SDG 6) through the massive Swachh Bharat Mission or Swachh Bharat Abhiyan launched in 2014, aiming to provide sanitation and hygiene facilities to all by 2030. Given the program's significance at national and global levels, it is essential to evaluate it comprehensively to replicate its successes and address its shortcomings. This mixed-method study focuses on assessing the status of the Swachh Bharat Swachh Vidyalaya (SBSV) program with regard to the water component in various schools across different states and union territories of India. The findings will facilitate knowledge-sharing among states/UTs, allowing them to adopt effective strategies for improvement. Furthermore, these insights can serve as a model for other countries striving to achieve global sanitation goals.

Keywords: Sanitation and Hygiene, Swachh Bharat Abhiyan (SBA), Swachh Bharat: Swachh Vidyalaya (SBSV), Sustainable Development Goals, Clean India Mission

17.Shared Landscapes: A Multifaceted Approach for Snake Conservation and Snakebite Mitigation in India, Author- Gnaneswar Chandrasekharuni*

Authors- Gnaneswar Chandrasekharuni and Romulus Whitaker

Madras Crocodile Bank Trust, Chennai, India, snakebite@madrascrocodilebank.org

The Madras Crocodile Bank Trust (MCBT) tackles snakebite envenoming and human-snake conflict through a holistic outreach program combining environmental education, preventive health measures, and policy advocacy. Using regionally adapted awareness films, interactive workshops, and the SERPENT digital platform, MCBT engages communities in 14 snakebite-prone states. Programs are tailored for diverse groups, including snake rescuers, schoolchildren, farmers, and healthcare workers, emphasizing snakes' ecological importance and promoting coexistence. Creative tools, such as a Tamil snakebite prevention song, make learning engaging for young audiences, while social media campaigns further amplify awareness. By focusing on simple, accessible, and culturally relevant messaging, MCBT's initiatives effectively dispel myths, reduce snakebite incidents, and foster positive attitudes toward snakes.

This multifaceted approach highlights the power of education and community engagement in addressing public health and conservation challenges. MCBT's model serves as a scalable solution for building tolerance and safety in human-wildlife interactions.

Keywords
snakebite awareness, environmental education, human-wildlife coexistence, preventive health education, community engagement, snake conservation

18. Whole-school Approach to Eco-social Innovation and Action in Secondary Schools in India and South Asia, Author- Kunali Sanghvi

Doctoral Candidate, Walden University

The purpose of this qualitative study is to explore how secondary schools in India and South Asia create a system of learning networks and communities using a whole-school approach to facilitate eco-social innovation and action by students to solve sustainable development problems and counter their feelings of eco-anxiety. The proposed study aims to explore how secondary school leaders and teachers facilitate learning experiences and build community partnerships to facilitate eco-social innovation and action by students to solve sustainable development problems such as climate change. While the whole-school approach has been applied and researched in other countries in Europe and Australia, there is a need to research how it is implemented in the Indian and South Asian context.

Keywords: sustainable development, education for sustainable development, climate change, eco-social innovation, social action, secondary schools

19. The Impact of Climate Change on Students Holistic Development: Vulnerabilities, Hindrances and Challenges in Northern India, Author- Mohammad Asif

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Climate Change-driven extremes have catastrophic consequences on students' education, learning and holistic development. In Northern India, we are witnessing extreme cold and long foggy winter spells in December and January which gives rise to respiratory health issues while extreme heat, humid and dry weather starting from March till September along with uncertain monsoon rainfall have resulted in various other infectious ailments.

Climate Change has health impacts on students and is causing diseases, stress, anxiety, fear and unpredictability These adverse extremes negatively influence students' cognitive, social, financial and physical well-being resulting in increasing pressure on their families too. We are witnessing disruption in schooling resulting in learning loss, changes in curriculum, increasing dropouts, absenteeism and other long-term educational impacts. All these factors influence student's cognitive and holistic development.

In this article, the author tries to examine the climate change factors responsible for impacting students' learning potential, disruption in educational environments, health concerns and overall long-term consequences on their academic performance.

Keywords – Climate Change, Educational Impact, Cognitive Performance, Environmental Disruption, Health Concerns, Holistic Development.

20.Global Conferences as Catalysts for Advancing Sustainability in Education: Bridging Gaps through Collaboration, Dialogue, and Innovation, Author- Ms. Palakdeep Kaur

Authors- Ms. Palakdeep Kaur[1], Dr. Bhagyashree Kesherwani [2*], Mr. Shrawan Kumar[3],

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Conferences play a crucial role in advancing sustainability in education by providing platforms for diverse stakeholders to collaborate, discuss, and develop strategies. These gatherings foster environmental awareness, promote curriculum reform, and encourage collaborative partnerships. This paper examines the influence of major conferences, such as the United Nations Climate Change Conferences (COPs), the World Environmental Education Congress (WEEC), ICLEI World Congress, Sustainability LIVE London Global Summit, the Centre for Environmental Education (CEE) and the International Conference on Sustainable Education (ICSE), on shaping global and regional approaches to education for sustainable development. The paper highlights the significant role of global conferences in shaping policy, designing curricula, and fostering regional collaborations. It addresses challenges such as scalability, inclusivity, and the effective implementation of outcomes from these conferences. The paper also analyzes the never-say-stop approach displayed during the COVID period, which highlights the impact of digital platforms in expanding access to conferences. While challenges remain in terms of inclusivity and outcome implementation, conferences serve as vital catalysts for driving greening education globally by promoting dialogue, fostering innovation, and connecting diverse actors within the ESD landscape.

Keywords: Sustainability, Education, Conference, Collaboration, Innovation, Development

21. Agency and Transformative Education in a Landscape of Change: Advocacy, Citizenship and Participatory Action in the Work of *SETU*, Kashipur, Uttarakhand, Author- Saurabh Popli[1]

Authors- Saurabh Popli[1] and Pankaj Bhalla[2]

Associate Professor at the School of Planning and Architecture Bhopal[1]

Architect and part of the Management of Little Scholars School and SETU, Kashipur[2]

Kashipur is a typical mid-sized town in the sub-Himalayan district of Udham Singh Nagar in Uttarakhand and is experiencing high rates of industrial and urban growth. Intensive cashcrop farming and a variety of horticultural produce support high levels of consumption. The persistence, and confluence of these factors over the past decades, can be said to have resulted in a number of observed biodiversity changes at the landscape scale such as the rapid loss of moisture, nutrients and soil fertility, lowering of the ground water table, increased incidence of chemical pollution in surface streams, and large-scale conversion of old growth forests rich in biodiversity and productive farm-land to urban and industrial uses. In addition, climate change poses increased and disproportionate risks to the region.

SETU-a local environmental initiative by experts conducts annual mentoring programs, empowering future citizens (ages 12-16) as agents of change in related themes, through multifarious activities over several years.

Keywords: trans-disciplinary, transformative education, citizen science, advocacy, change, community leadership

22.Green Classroom Practices: A Case Study to Foster Environmental Awareness among Primary School Teachers, Author- Shikha Bharati Razdan[1]

Research scholar, Chitkara University, Punjab, India[1]

Environmental degradation has become a serious issue on this planet. The deterioration of the earth has accelerated mainly due to human activities. Natural resources are being exploited by each one of us without even realizing the consequences. It has become crucial to raise environmental awareness among the people, especially children, who are the future of our planet. The basic gap lies in the awareness and the knowledge of the young generation, which need to be addressed by educators. A case study was conducted with 10 primary school teachers of Pinjore, District Panchkula, Haryana, India. The study aimed to foster environmental awareness among primary school educators by conducting an environmental awareness workshop in the school premises. A questionnaire based on environmental issues was filled out online by 10 teachers. It was found that these kinds of workshops help broaden the concepts of teachers by improving their knowledge, skills, and expertise on major environmental issues. They were able to understand ways of integrating environment-related topics with formal education. It was found that these workshops benefit primary educators as they develop environmental consciousness among students that ultimately fosters sustainable living in their early childhood years. Hence, such environmental awareness workshops should be made compulsory for educators to sensitize children towards environmental issues.

Keywords: Environmental Awareness, Primary Educators, Sustainable Living, Environmental Education

23.From Awareness to Action: Eco Pedagogy for a Climate Resilient Future, Author- Soumi Duttagupta[1]

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In an ecologically fragile world fraught with climate crisis, today's education must empower future generations to address the complex ecological challenges which are intricately interconnected with the economy, social structures and politics. Environmental education holds the key but also has immense untapped potential to be more impactful. Rooted in critical pedagogy, eco-pedagogy has the potential to bridge the gap.

This paper explores how eco-pedagogy fosters behavioural transformation essential for addressing the complex climate challenges with emphasis on self-awareness, community consciousness, and sustainable practices. Regenesys's pilot programs, like 'The Change Maker Program' and 'Critters in the Leaf Litter' and teacher's support initiative, 'Nature the mentor serve as preliminary explorations engaging students across age groups in nature-based learning and community-focused environmental practices.= These programs provide early insights into how eco-pedagogy can foster behavioural change, within the broader research framework on eco-pedagogy.

Keywords: Eco-Pedagogy, Climate Resilience, Behavioural Transformation, Nature-Based Learning, Sustainable Practices

24. Formalizing the Informal Sector and Their Contribution towards Sustainable Practices- A Case Study in New Town, Kolkata, Author- Srirupa Saha[1]

Authors- Srirupa Saha[1] *,   Adrija Sengupta[1]*, Kanailal Das[1], and Karabi Das[2]

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The informal economy, often unregulated yet vital, serves as a backbone for national growth. This study focuses on the challenges faced by informal workers in Newtown, Kolkata's Action Areas 1 and 2—predominantly male migrants from rural areas with low, unstable incomes. Land Surface Temperature (LST) maps reveal highs of 44°C in May, emphasizing the importance of the open-space market in mitigating urban heat. These markets reduce built-up density, promote ventilation, and minimize environmental stress. Data collected through surveys analysed using Likert scales highlights critical issues such as social insecurity, and earnings instability. Correlation and regression analysis have been performed to show the relationship between income and the number of products sold. Initiatives like Sonajhuri Haat by The Creative Bengal Foundation empower workers with financial support and opportunities to expand their crafts. By embracing sustainable practices—wooden carts and responsible waste management, these workers play a pivotal role in urban sustainability.

Keywords: Informal economy, Open-space markets, Land Surface Temperature (LST), Sustainability practices, Earnings instability

25. Exploring the Faunal Diversity of Baguran Jalpai: Conservation Imperatives in a Biodiversity Heritage Site, West Bengal, India, Author- [1]Tarak Samanta*

Authors- [1]Tarak Samanta*, [2]Anupam Khan, [2]Samik Jana, [3]Lina Chatterjee, [4]Abhik Rong, [3]Arjan Basu Roy and [1]Punarbasu Chaudhuri
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Baguran Jalpai, a 7.5 km coastal stretch in Purba Medinipur and a Biodiversity Heritage Site, is an ecologically sensitive zone rich in biodiversity. This study, conducted from June 2023 to March 2024, evaluated the region's health and identified ecologically sensitive and endangered species within its diverse habitats, including terrestrial, coastal, and marine areas. Survey methods included line transects, direct observation, call identification, and local insights. Observations recorded 133 bird species, 71 butterfly species, and 32 Odonata species, alongside 21 reptile species, 6 amphibians, and 15 mammals. Threatened species included the Near Threatened birds Eurasian Curlew and Curlew Sandpiper, the Endangered Great Knot and Vulnerable reptiles like the Indian Flapshell Turtle and Endangered Yellow Monitor Lizard. However, heavy anthropogenic exploitation like motor vehicles being allowed on the sea beach and plastic pollution due to tourism is significantly impacting this habitat, affecting critical species and their ecosystems. Encroachment, resource extraction, and pollution are exerting immense pressure on Baguran Jalpai's biodiversity, risking irreversible damage to this fragile ecosystem.

Keywords: Fauna, Baguran Jalpai, coast, diversity, conservation, Purba Medinipur

26. A Case Study on Taranga and Vadnagar Green Forest Developed by Heartfulness Institute and the role of mass media for community engagements, Author- Dr Shashikant Bhagat

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Taranga Hill forest is a part of the Aravali mountain system and experiences heavy biotic pressure. The forest once had diverse vegetation and faunal diversity but is now facing several issues like overgrazing, deforestation and human encroachment. To work towards bringing about a change in forest cover and wildlife habitat of the Taranga hill forest, Remote sensing, Geographical information system (GIS) and smart irrigation techniques were employed with the joint support of the Government of Gujarat and Heartfulness institute. More than 6 lac saplings have already been planted in the hill area by Heartfulness volunteers. The results show a significant change in land use in the major areas for example, the wetlands, dense forest and open forest areas have decreased whereas; agriculture, settlement and barren land have increased significantly in the last three years. Taranga may have a serious threat from urbanization, agricultural expansion and transport which can be a threat to the wildlife and biodiversity of the forest. The work also recommends a long-term exploration of habitat use by wildlife, threat analysis and biotic pressure on the forest on a seasonal basis so that long-term management and conservation strategies can be devised for this small but very important wildlife habitat of North Gujarat. Using government information support, mainstream and social media has gained momentum to mobilize local people in support of this green project.

Keywords: Taranga Hill, forest, green forest, green initiative, Heartfulness, Heartfulness Institute, mass media, social media, community engagements, global warming, forest education, environment education, wildlife habitat, volunteering, sustainability through spirituality, green education, dense forest, agriculture, water conservation.

27.Transforming Environmental Education: Cultivating Connection, Empathic Concern, and Action for a Planet in Crisis, Author- Pooja S Sahni

Authors- Pooja S Sahni [1],[2], Carine Gibert[3], Manya Sachdeva[4], Pulkit Khanna[4], Jyoti Kumar[2]
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This study analyzes responses from 778 middle and high school students to examine how effectively the current curriculum fosters nature empathy and environmental connectedness among young people, promoting meaningful climate action. While climate literacy initiatives have raised awareness, they have not always led to significant behavioural change or action.

Research suggests that environmental education should extend beyond awareness, encouraging a deeper, empathetic connection with nature. This study explores the relationship between environmental factors—like nature immersion through green spaces—and individual responses to ecological distress. Using class as an indicator of awareness, and factors like neighborhood/school greenness and frequency of outdoor visits as an immersion index, a model was tested to assess their impact on connectedness, environmental values, and beliefs as well as response to nature distress. Results from PLS-SEM analysis showed a strong positive relationship between nature immersion, connectedness, and response to environmental distress ($\beta = 0.45$, $p < 0.01$), while class education was not significant. Findings emphasize that experiential, nature-based learning through immersive outdoor education and community projects may support meaningful environmental engagement and motivate sustainable action rather than a climate science-based environmental education in classrooms.

Key words: Nature connectedness, Nature Empathy, Environmental Values and Beliefs, Environmental Action, PLS- Structural Equation Modeling, Environmental Education Curriculum

Theme: Climate Change Education, Greening Education and Youth Leadership

28.Integration of Climate Change Education in K-12 Curriculum: A Comparative Analysis of Teaching Methods and Student Learning Outcomes, Author- Baishali Niyogi

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This research paper examines the integration of climate change education in the K-12 curriculum, specifically focusing on the CBSE NCERT curriculum in India. The study compares various teaching methods and their impact on student learning outcomes related to climate change awareness and understanding. Through a comprehensive analysis of existing literature, curriculum content, and primary data collected from students and educators, this paper aims to identify effective strategies for incorporating climate change education into the K-12 curriculum. The findings suggest that interactive and experiential learning approaches, coupled with technology integration, yield the most significant improvements in student understanding and engagement with climate change issues. The paper concludes with recommendations for curriculum developers and educators to enhance climate change education in K-12 settings.

Keywords: Climate change education, K-12 curriculum, CBSE NCERT, teaching methods, student learning outcomes

29. Experiential Learning for Environmental Education: A Case Study on the School for Social Transformation by The Ignite Foundation [1,2]

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The School for Social Transformation, organized by The Ignite Foundation, is an experiential learning program designed for young Indians aged 18-28. With three learning phases—an 8-week online preparatory phase, a 9-day experiential learning journey, and a 6-month mentorship period—The Ignite Foundation has conducted five editions so far, hosted in Kerala, Rajasthan, and Himachal Pradesh.

In response to increasing environmental and climate challenges, the program incorporates environment and climate change as one of its themes. The 5th edition, hosted in Kerala, specifically focused on climate change.

This case study analyzes the program's objectives, methodologies, and outcomes, with a particular focus on its experiential learning approach. The program includes workshops on leadership and community engagement, environmental projects, and ongoing mentorship support. The sixth edition of the program, scheduled for December 2024, will specifically focus on climate change and environmental sustainability.

The study assesses the impact of the program on participants and their communities, examining project outcomes and the development of leadership skills related to environmental issues. It also evaluates the effectiveness of experiential learning in environmental education and explores the feasibility of applying similar models in other contexts. Insights from this case study offer a framework for advancing environmental education through practical, action-oriented strategies.

Keywords: Experiential Learning, Environmental Education, Climate Leadership

30.Reflections on the current status of climate education in India, Author-Jayanti Ray Mukherjee

Authors- Jayanti Ray-Mukherjee and Sunayana Ganguly

Co-founders Climate Educators Network

The current era is evidencing movements emerging worldwide reacting to a rapidly changing world due to climate change. The recent increases in temperature and the growing extremities and uncertainties of events across the globe have perplexed today's youths. This has called for varied approaches towards the understanding of climate as a system. Nonetheless, climate is a complex system and the complete understanding of climate necessitates a holistic understanding of science, society, policy, and justice. In this paper, we take a closer look at the current status of the climate curriculum in higher education by examining the existing course structures designed for climate-related topics.

We identified 12 broad clusters of varied fields of education that straddle from natural sciences including geo-and earth sciences to climate economics and justice that emphasize climate change-related topics. Interestingly, we also found that although these disciplines incorporate climate topics independently, currently there is a dearth of interdisciplinary vision and knowledge-sharing, posing a significant gap in the current climate education system in the country.

Globally, the traditional educational approaches have predominantly taken disciplinary pathways, where cross-disciplinarity thinking was only meagrely understood and appreciated. It is only recently that a need has been felt to transcend towards a holistic, transdisciplinary, experiential approach towards education. Our findings emphasize the urgent need to rethink the current climate-educational approaches and move towards innovative pedagogical strategies.