

GeoChronicle Panorama is an open-access, annual publication with one issue in each year containing Student-teacher relevant articles on Earth System Science (Earth, Climate and Environment). It is published under the aegis of the **CEHESH TRUST OF INDIA**, Keonjhar-758 001, Odisha, India. The publication encompasses articles on Earth, climate, and Environmental Sciences focusing the societal needs and relevance viz. mineral deposits and their modern techniques of mineral exploration, groundwater, remote sensing, GIS, stratigraphy, petrology, sedimentology, economic geology, industrial application of earth materials, sustainable mining and beneficiation and advances in earth sciences; climate change and its impacts and solution mechanisms; pollution and global warming, Environmental catastrophe and remedial measures, etc. The publication is continuing with the enthusiastic participation and contribution of the Earth System Science Community.

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Protect Climate, Earth and Environment

CEHESH TRUST OF INDIA

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(CEHESH – Climate, Earth, Health, Environmental Sciences and HUMANITY)

CEHESH TRUST OF INDIA, a Non-Government Organization was established on 17th December 2021. It was registered on 29th April 2022 in Keonjhar, Odisha. **CEHESH stands for Climate, Earth, Health, Environmental Sciences and Humanity**. This Trust was formed by a small group of dedicated geo- scientists, Climate and Environment friendly community with the following aims and objectives.

- a. Dissemination of Earth System Science (Climate, Earth and Environmental Science) knowledge through offline and online teaching to +3 Degree and postgraduate students on **free of cost**.
- b. Publication of a biannual journal with the title “**JOURNAL OF GEOINTERFACE**” and an annual Student-teacher relevant publication “**GeoChronicle Panorama**” comprising Earth, Climate, planetary and Environmental Sciences.
- c. Conduct of National and International Seminar/symposium/workshop in the field of the Earth System Science (Earth, climate and Environmental Sciences).
- d. Introduction of “**GEO EXCELLENCE AWARD**”, “**YOUTH AWARD FOR ACADEMIC DISTINCTION**”, “**NATIONAL AWARD FOR ENVIRONMENT PROTECTION**” and “**CEHESH TRUST OF INDIA AWARDS**” from our country and abroad to those distinguished teaching/industrial/intellectual communities who have substantial contributions in the field of the Earth System Science on behalf of this TRUST.
- e. Establishment of a library related to these sciences.
- f. To organize and assist in the Field Training Programmes of students of Geology depts. of different colleges and universities.
- g. To organize special programmes in different schools and colleges to aware students on climate change, earth and environmental sciences, water and energy conservation along with action plans. In addition, awareness shall be developed through seminars and essay competitions on moral and ethical science, cultural and spiritual heritage of India and burning social problems of our country.
- h. To assist students for their placement in different earth science related organizations.
- i. Conduct of systematic plantation programmes with proper nourishment in different areas. In addition to it, a special drive to throw fruit bearing seeds of Mango, Jamun, Jack fruit etc. on barren lands and mounds (at 2-3inch depth if it is possible) has been taken up in western Odisha in the fruit season.
- j. To take up welfare activities in rural areas related to the provisions of **safe drinking water, health and sanitation**. **We were successful in establishing one safe drinking water project in an area dominated by tribal and underprivileged people of Keonjhar district where drinking water was highly unsafe, mostly muddy with dominance of iron content**. The people were suffering from various types of stomach diseases prior to our drinking water project. The location of the second project has also been detected and surveyed. It will be materialized subject to the availability of fund.
- k. Conduct of Health Checkup camps and “Yogic Exercises for Health Care” programmes in different schools and colleges.

The Earth, Climate and Environment friendly community of our country and abroad are cordially invited to join this noble mission and to shoulder the responsibility of the execution of certain objectives and action plans of this registered Trust.

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LET US SAVE OUR MOTHER EARTH'S ENVIRONMENT TO GET OURSELVES SAVED.

*Focus to Excel. Dedicated to Selfless Service. Harness and Conserve Water and minerals for a Better Future.
Nurture Nature for Future. Shaping our Future Together.*

Dr. B. Mishra

On behalf of the CEHESH TRUST OF INDIA

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Preface

Welcome to the December 2023 issue of GeoChronicle Panorama, where we look deeply into the intricate tapestry of Earth sciences and its intersection with human existence. This edition encapsulates a diverse array of research papers and insights that shed light on key aspects of our planet's geological, environmental, and socio-economic dynamics. In this issue, we confront the critical challenges posed by Earth's processes, global warming, and climate change, emphasizing the urgent need for remedial measures.

The patron's message provides a comprehensive overview of the critical challenges posed by global warming, climate change, and Earth processes. It underscores the urgency of remedial measures, emphasizing the interconnectedness between environmental changes and their impact on biodiversity and human well-being. The discussion highlights proposed strategies, including transitioning to renewable energy sources and sustainable land-use practices, to address these challenges. Furthermore, it touches upon significant discoveries such as the massive phosphate deposits in Norway, reshaping global resource dynamics. The epilogue reflects on the intersection of geology with human life and geopolitics, advocating for a holistic approach to environmental stewardship and inviting contributions from diverse stakeholders for a sustainable future. Our exploration in this issue of GeoChronicle Panorama encompasses themes ranging from anthropogenic climate change to the implications of natural resource discovery, underlining the imperative of climate-friendly methodologies for our collective survival. The issue articulates the significance of addressing loss and damage related to climate change, particularly for vulnerable nations, looks into geoscience's influence on health, and advocates for equitable climate finance mechanisms to support adaptation efforts, through the following erudite reviews:

Girija Prasad Mohapatra's '*Konark Temple of Odisha: Some Geological Aspects of This Grand Heritage*' looks into the geological underpinnings of the iconic Konark Temple. This review unravels the mysteries surrounding its construction and enduring presence amidst coastal dynamics.

K. C. Sahu's '*The Human Face of Water*' draws parallels between the hydrological cycle and human existence, this study illuminates the profound interconnection between water and life, both physical and metaphysical.

Rupan Roy's '*Geomagnetic Field of Earth and Its Relation to the Liquid Outer Core*' explores the intricate dance of magnetism within the Earth's core, offering insights into the generation of the geomagnetic field and its role in shielding our planet from cosmic radiation.

Saptarshi Banerjee's '*Banded Iron Formations and Their Economic Prospects with Special Reference to India*' investigates the genesis and economic potential of banded iron formations, this review underscores their significance in India's mineral landscape and the quest for sustainable resource utilization.

Jitunandan Pradhan and Bhabani Shankar Sethi's '*Geographical Information System (GIS): New Age Soft Skill to Geoscience Education*' embraces GIS as a transformative tool in geoscience education, and the review elucidates its role in integrating diverse geospatial data and fostering interdisciplinary inquiry.

K. C. Sahu's '*Earth: The Grandeur of Planetary Environment*' reflects upon Earth's majestic evolution and the challenges of anthropocentric development. The review calls for a paradigm shift towards responsible stewardship of our planet.

R. Nagendra and A. Nallapa Reddy's '*Effects of Trace Elements on the Critical Functioning of Human Health*' looks into the geochemical nuances of trace elements, with the study illuminating their central role in geological processes, environmental monitoring, and human health.

B. Mishra and S. Mishra's '*An Overview of Happy Hormones: Implications to the Physical and Mental Health*' unveils the neurochemical underpinnings of happiness, this exploration underscores the profound impact of hormonal balance on holistic well-being.

As we conclude this issue, we recognize the implications of our collective actions on the Earth's future. Through collaboration and innovation, we strive to forge a path towards resilience and sustainability, guided by a shared commitment to safeguarding our planet for generations to come. We extend our gratitude to the contributors, readers, and stakeholders who enrich the discourse on Earth sciences and inspire meaningful action. Together, let us embark on a journey of discovery and stewardship, embracing the challenges and opportunities that lie ahead.

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