Banwarilal Bhalotia College, Asansol
Academic Year: 2023-2024
Best Practice 1
Title of the Practice:
Surya-Saksham Mahavidyalaya: Harnessing Solar Power for a Carbon-Neutral Campus

Objectives of the Practice:

1. To achieve a **net-zero carbon footprint** by shifting to renewable energy sources.
2. To **integrate sustainability into the institution's core infrastructure**, covering teaching-learning facilities, research and development, digital pedagogy, central library operations, laboratory activities, administrative functions, and overall campus infrastructure.
3. To **demonstrate leadership** in green energy adoption at the institutional level, moving beyond advocacy to practical implementation.
4. To transform **digital pedagogy into a green smart pedagogical practice** by integrating energy-efficient infrastructure with academic advancements.
5. To serve as a **model institution** for sustainable development, influencing other colleges and local communities to adopt renewable energy solutions.

The Context:

Banwarilal Bhalotia College, situated in Asansol, a rapidly developing urban and industrial center, faced challenges in balancing its energy demands with environmental sustainability. The increasing reliance on **digital education tools, smart classrooms, and research laboratories** necessitated a substantial energy supply. Conventional electricity usage contributed significantly to carbon emissions and posed financial constraints. Recognizing these challenges, the institution adopted a **solar energy model** to create a sustainable and energy-efficient academic ecosystem.

The Practice:

1. **Solar Energy Installation:**
    - A **solar panel system generating 85 kilowatts of energy** was installed, capable of powering the entire campus.

- The infrastructure now supports all **teaching-learning activities, research laboratories, digital pedagogy, central library operations, administrative operations, and campus infrastructure**.
- The initiative aligns with India's commitment to sustainable energy under the National Solar Mission.

2. **Green Smart Pedagogical Transformation:**
   - Digital pedagogy was enhanced through **low-energy-consuming smart classrooms**, LED-based projectors, and energy-efficient digital devices.
   - Library operations, regular **e-consensus conferences on sustainable development and digital repositories**, were aligned with green energy use.
3. **Research and Development Integration:**
   - The renewable energy shift facilitated **interdisciplinary research** in the Honours Department of Environmental Science and Commerce.
   - Faculty and students conducted **energy audits** to measure sustainability impact.
4. **Community Outreach and Awareness:**
   - Public awareness campaigns, including workshops and demonstrations, educated local communities and industries on the benefits of solar energy.
   - Plans are underway to **connect surplus solar power to the national grid** to benefit underserved regions.

Evidence of Success:

- **100% renewable energy transition** for academic and administrative operations.
- **Significant reduction in energy costs**, allowing funds to be reallocated for academic and research advancements.
- **Lowered institutional carbon emissions**, contributing to environmental sustainability.
- **Recognition from local and academic bodies**, positioning B.B. College as a leader in green energy adoption.

Problems Encountered and Resources Required:

Challenges Faced:

- **Initial installation costs** required strategic funding and sponsorships.
- **Technical expertise** was needed to integrate solar power with existing infrastructure.

- **Maintenance and efficiency monitoring** required dedicated personnel and regular audits.

Resources Required:

- **Financial assistance** from government grants, corporate CSR programs, and renewable energy funds outreach programs with solar energy.
- **Technical support** from solar energy experts and engineers.
- **Faculty and student involvement** in research, monitoring, and advocacy.

Conclusion and Future Prospects:

Banwarilal Bhalotia College has successfully **moved beyond theoretical advocacy for sustainable development (through the e-ConSus Conference and other platforms)** and **implemented tangible green energy solutions**. The transformation of digital pedagogy into a green smart pedagogical practice ensures that the institution's educational advancements are in harmony with environmental responsibility.

Moving forward, the college aims to:

- **Expand solar energy capacity** and explore hybrid energy models.
- **Enhance collaborations** with governmental and industrial bodies for sustainable initiatives.
- **Strengthen community engagement** through renewable energy awareness programs.
- **Establish a center for green energy research**, encouraging students to innovate in the field of sustainability.

Through **Surya-Saksham Mahavidyalaya**, Banwarilal Bhalotia College continues to set a benchmark in **sustainable education and institutional responsibility**, serving as a guiding light for the future of green academia.

Best Practice 2
Title of the Practice:
Ahalya: Reviving the River and Reimagining Asansol's Urban Ecosystem

Objectives of the Practice:

1. To **restore and rejuvenate the local rivers** and surrounding ecosystems in Asansol.
2. To implement **effective urban flood control measures** that mitigate flood risks in the community.
3. To **foster community participation** and awareness in environmental conservation efforts.

4. To promote **sustainable development practices** and enhance the ecological resilience of the region.
5. To integrate **artistic and technological interventions** for ecological restoration and public engagement.

The Context:

Asansol, a significant industrial hub, has been experiencing **recurrent urban flooding and environmental degradation**, primarily due to the deteriorating condition of the Garui River and its tributaries. The **2021 flood** devastated local businesses, homes, and livelihoods, exposing the city's vulnerability. Additionally, **unchecked encroachments and pollution** have altered the river's course, turning it into a risk-laden drainage system rather than a thriving ecological corridor. Recognizing the urgent need for intervention, Banwarilal Bhalotia College initiated the **Ahalya River and Surrounding Ecosystem Rejuvenation and Urban Flood Control Project** to address these critical issues using a **hybrid methodology combining geo-tagged photo documentation, scientific assessment, and community-driven action**.

The Practice:

1. **Environmental Assessment and Research:**
    - A multidisciplinary team conducted **geo-tagged photo documentation and GPS tracking** of the affected tributaries.
    - Surveys were conducted to capture the **impact of the 2021 floods on local businesses and communities**.
2. **Integrated Watershed Management:**
    - Implementation of **rainwater harvesting systems** to manage stormwater runoff and reduce flood intensity.
    - Restoration of **green infrastructure**, such as urban wetlands and afforestation, to absorb excess water.
3. **Community Collaboration and Public Engagement:**
    - Stakeholder consultations with **local shop owners, business representatives, and vulnerable communities** to document their flood experiences and recovery needs.
    - Conducting **environmental awareness programs**, including workshops on water conservation and sustainable land-use planning.
4. **Artistic and Technological Interventions:**

- Integration of **ecological art**, such as river-inspired performances and public sculptures, to foster a cultural connection with water bodies.
- Exploration of **drone and satellite-based monitoring** for continuous assessment of river health.

Evidence of Success:

- **Increased public awareness and participation**, as demonstrated by community engagement in restoration efforts.
- **Documented improvements in drainage and water flow** due to strategic interventions.
- **Recognition from environmental organizations** for using a **multidisciplinary approach combining science, community action, and art** to promote sustainability.

Problems Encountered and Resources Required:

Challenges Faced:

- **Resistance from encroachers and local stakeholders** required sustained negotiations and awareness campaigns.
- **Funding constraints** necessitated external support from **government and non-government agencies and corporate CSR initiatives**.
- **Technical expertise in flood modelling and hydrological restoration** had to be sought from **external environmental scientists and urban planners**.

Resources Required:

- **Financial grants** for infrastructure development and ecological restoration.
- **Technical support** from hydrologists, environmentalists, and urban planners.
- **Student and faculty involvement** in research, monitoring, and advocacy.

Conclusion and Future Prospects:

Banwarilal Bhalotia College's **Ahalya project** is an exemplary initiative that moves beyond theoretical discussions on sustainability to **tangible, research-backed environmental action**. By merging **scientific analysis, community engagement, and artistic expression**, the project serves as a **model for urban ecosystem restoration**.

Future directions include:

- **Scaling up river restoration efforts** to other tributaries of Asansol.

Estd: 1944

Banwarilal Bhalotia College

Constituent college of the **KAZI NAZRUL UNIVERSITY**, Asansol
(GOVT. SPONSORED **U G & P G** College)
ASANSOL – 713303, WEST BENGAL
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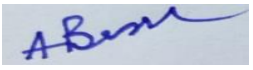
- **Collaborating with national and international environmental organizations** for knowledge exchange.
- **Developing a "Blue Archive" initiative**, preserving the oral histories and ecological narratives of the river.
- **Enhancing the use of technology**, such as AI-driven flood prediction models and real-time water quality monitoring systems.

Through **Ahalya**, Banwarilal Bhalotia College is redefining urban resilience and environmental justice, demonstrating how academia can play a transformative role in regional sustainability.

Yours sincerely,



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