



Green Skill for Waste to Wealth

Promising Practice

Implemented by: Government Industrial Training Institute Berhampur

Where: Berhampur, Odisha, India

Status: Started in 2018

Summary: The initiative 'Green Skill for Waste to Wealth' aims to integrate skill development and waste management practices to transform waste to wealth. It promotes green skills and environmental sustainability while creating employment and entrepreneurship opportunities.

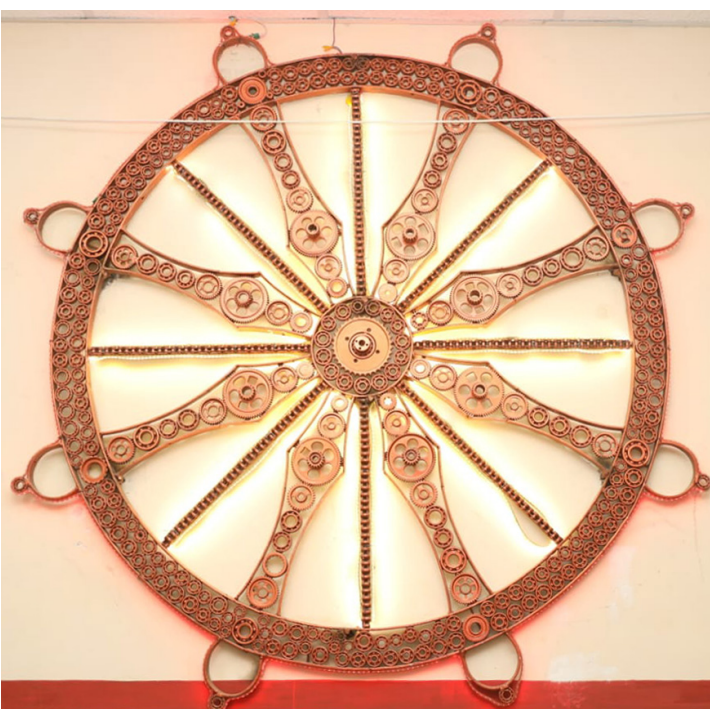
Overview

The Industrial Training Institute (ITI) Berhampur, established in 1957, is a leading institution for vocational training in India. Located in Berhampur, Odisha, it is the largest ITI in the state, offering a variety of long-term and short-term training programmes in 27 sectors to over 4,000 individuals. The institute aims to transform society through skilled professionals and envisions its students and teachers as leaders in sustainability. ITI Berhampur's graduates are highly sought after by employers, reflecting the quality of its training. The institute promotes a holistic learning environment and engages in various social initiatives for sustainability and maintaining a green ecosystem. The 'Educational Wonderland' established in the centre has been recognized in the Asia Book of Records as the largest open-air scrap sculpture park in Asia.

Description

Technical institutes like ITIs are vital for equipping India's youth with the skills needed to join the workforce. However, a significant gap often exists between the skills ITI students acquire and the demands of the industry. ITIs also generate substantial amounts of waste, including metal, iron, electronic components and other discarded spare parts, some of which pose a significant environmental threat. To address these issues, ITI Berhampur has implemented a unique initiative called 'Green Skill for Waste to Wealth'.

Through this initiative, ITI Berhampur converts scrap materials into valuable products like sculptures, which not only helps reduce waste, but also provides students with hands-on experience in waste management.



The award winning 'Konark Chakra' is made of gears and chains

There is a meticulously designed process to implement this integrated approach, which starts with skill assessments to ensure the curriculum aligns with trainees' needs. Assessments of scrap diversity help identify materials suitable for transformation. Further, tailored training modules equip trainees with upcycling techniques and provide them with tools and dedicated workspaces. The work and processes are continuously monitored, and feedback is provided to ensure ongoing improvement in skill and creativity. Finally, the showcasing of finished masterpieces to the public and industry opens doors to potential market opportunities.

Waste reduction and upcycling

Trainees from various trades like welding, painting, fitting and electrical are part of the project and expand the skills and perspectives applied. This multi-trade team approach enhances team spirit and communication while providing diverse skill development opportunities for students. Emphasizing the 'hearts-on, hands-on and minds-on' approach fosters student engagement and inspires them to create aesthetically pleasing art for market sale.

Responding to market demands and student skill development, the initiative diversifies its artistic endeavors through three size categories:

- **Small-scale skill wonders:** Requiring minimal scrap (1-5 kg), these intricate pieces captivate the eye and find homes in interior decor, fetching up to Rs.30, 000 (~USD 350) in international markets.
- **Medium-scale themed delights:** These larger creations (40-50 kg) grace offices and themed venues, commanding international prices of up to Rs.50, 000 (~USD 600).
- **Monumental public masterpieces:** Using up to 5 tons of scrap, these awe-inspiring giants adorn parks and city squares, reaching international valuations of around Rs.20, 000, 00 (~USD 20,000).

Utilizing scrap materials like iron bars from demolished buildings collected from the scrap yard of the campus demonstrates a commitment to waste reduction and upcycling. Combining 3D design thinking with 2D art drawn on the workshop floor fosters a creative and collaborative environment. Upcycling reduces pollution and waste generation. It promotes environmental sustainability and reduces the carbon footprint. The initiative enhances student skills by making them industry-ready and it contributes to the development of a skilled workforce.

Scrap Museum

The Scrap Museum serves as a source of inspiration, conveying the message that everything in this world has its use. Visitors leave not only impressed by the beauty of art created from upcycled materials, but also with a new perspective, recognizing the value

in previously discarded materials. The influence extends beyond the institute, reaching other institutions in Odisha.

Objectives

The waste to wealth initiative has a threefold objective:

- **Environmental:** To produce less waste through upcycling of scrap materials, thereby promoting sustainable practices.
- **Educational:** To develop students' interest in welding and improve their hands-on skills through practical application in artistic upcycling projects.
- **Financial:** To provide students with the opportunity to earn money while they learn, fostering self-sufficiency during their academic training.

Outcomes and impact

The "Waste to Wealth" initiative serves as a model for other technical institutions and communities. By promoting sustainable practices, fostering skill development and creating opportunities for personal and economic growth, this initiative has the potential to make a lasting impact on both the local community and the wider world. ITI Berhampur, with approximately 4,000 students enrolled, typically generates roughly 1,000 kg of scrap materials every month. This scrap has been creatively transformed into beautiful sculptures, demonstrating the initiative's effectiveness in reducing waste and transforming it into valuable products. The initiative has also attracted significant interest from the community. Approximately 1,000 visitors come to the institute premises daily to witness the Educational Wonderland and learn about sustainable practices. This significant interest by the public can further promote awareness and support for sustainable practices.

Challenges

Ensuring aesthetic appeal and improving student skills

Skill assessments were conducted, mentor programmes established and a modular training approach was adopted. Investments in professional welding training for students and collaborations with local artists helped improve the results. The integration of the skills of welder and painter trainees added a finishing touch to the upcycled creations and boosted their visual appeal and marketability to a broader audience. The collaboration led to mutual skill development: It provided the trainees with a valuable opportunity to practice their skills in real-world projects, enhancing their practical experience and potentially expanding their career prospects.



Giant sculpture 'Predator'

Ensuring sufficient scrap supply

Acquiring scrap materials involved building partnerships with local businesses and communities as well as acquiring experience in handling increased volumes of hazardous scrap, such as mobile phone batteries, but also exploring alternative materials. In an MoU with the municipality a partnership was formalized to guarantee sustainable material supply. This partnership guarantees a consistent flow of diverse scrap materials, ensuring the initiative's long-term viability and reducing reliance on unreliable individual scrap sourcing. The partnership further demonstrates the initiative's positive impact on waste management within the community. A waste collection centre was built to simplify scrap donation by the community, potentially attracting a wider range of materials and increasing material availability.

Creative problem solving

The key to overcoming emerging challenges and ensure the ongoing growth and impact of the 'Waste to Wealth' initiative is to remain adaptable, embrace creative problem-solving and leverage available resources.

Insights

Integrating sustainability principles into daily practices sets a positive example, promoting environmental awareness and responsibility.

Simulating an industrial environment within the institute can bridge the gap when physical proximity to industries is a constraint. This approach provides students with practical experience, boosting their marketability and preparedness for employment.

Encouraging teamwork in upcycling projects, such as fabricating sculptures, promotes collective ownership, responsibility and confidence, preparing students for collaborative work environments.

The 'Waste to Wealth' initiative goes beyond learning about waste management by fostering entrepreneurial spirit, creativity and artistic expression, offering additional career pathways.

By sharing these insights, ITI Berhampur encourages other TVET institutions to adopt the 'Waste to Wealth' model, contributing to a greener and more sustainable future.

Next steps

Scale up and expand

Training team leaders and trainers from other ITIs ensures knowledge transfer, paving the way for replicating the initiative across diverse contexts. Encouraging regional adaptations of the initiative can bring the initiative to different locations and thus maximize its impact.

Building a Network and Community

Establishing a digital platform for ITIs in the 'Waste to Wealth' programme can foster knowledge sharing and peer-to-peer learning. Hosting regional or national workshops and art competitions can strengthen the network to attract wider participation. Partnering with government agencies, environmental organizations and NGOs can secure funding and resources.

Sustainable Growth and Impact

Exploring sustainable market opportunities for selling finished products can generate income for student creators and support the project's financial sustainability. Tracking the initiative's environmental impact can demonstrate its positive contribution to sustainability goals. Encouraging ongoing research and development can maintain the initiative's relevance and impact.

Learn more

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To learn more about Industrial Training Institute Berhampur, visit:

<https://itiberhampur.in/>

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