

Solar Products made from Plastic Wastes

A Sustainable Innovation to Beat Plastic Pollution and Empower Communities

On World Environment Day 2025, under the powerful theme “Beat Plastic Pollution,” our team has found out an innovative grassroots solution designed to address two urgent challenges faced by rural communities:

- a) The growing burden of plastic waste
- b) Lack of affordable lighting for street vendors and students.

Our creation, “**Recycled Solar Products**” is not just a product; it’s a movement of sustainability, innovation, and empowerment. Tackling Two Problems with One Brilliant Idea. Like many parts of India, Jharkhand struggles with increasing plastic pollution which includes discarded PVC pipes, commonly found as construction waste, litter in our surroundings with no proper recycling mechanism. At the same time, many low-income street vendors and students from rural areas are forced to end their work or studies after sunset due to inaccessible or unaffordable electricity.

This dual crisis sparked a powerful idea in our team — to repurpose waste plastic into a low-cost, solar-powered products like Solar Vendor Light that could bring positive change into people’s lives while reducing environmental harm. And so, the Solar Vendor Light was born.

What makes our Solar Vendor Light stand out is its price and purpose. Unlike other solar lights in the market that cost over ₹2000 and often use new materials, our light is built entirely under ₹1000 using unused PVC pipes and affordable components, without compromising on quality or utility.

- A rechargeable lithium battery
- An energy-efficient LED
- A solar panel for off-grid charging
- A USB port to function as a power bank



This multifunctionality makes it more than a light it's a portable power solution that helps roadside vendors to sell vegetables and other materials. It also helps students to study during electricity cuts and stay connected without depending on the grid. What sets it apart is not just the price or design, but the social mindset behind it — transforming plastic waste into a life-changing device, while encouraging a circular economy that benefits both people and the planet.

This innovation is the direct result of the vocational training we received in solar technology and electrical repair. With hands-on skills and a deep awareness of our community's challenges, we designed a solution that was practical, low-cost, and sustainable. It proves how youth and women, when equipped with the right training and opportunities, can become changemakers. Through this project, we didn't just light up homes — we lit up hopes and aspirations.

Since its implementation, the Solar Vendor Light has already impacted the lives of many. We have manufactured 20 such products and distributed among Street vendors who are now able to extend their business hours, resulting in higher earnings. Students, especially girls in rural homes, can study even during power cuts. The USB port also allows them to charge their phones connecting them to opportunities and information. The feedback we've received from the community has been overwhelmingly positive — not just because of its utility, but because it brings a sense of dignity, independence, and empowerment. Currently we have preorder to manufacture 50 more of such Products

The true power of grassroots ideas lies in their ability to create ripple effects. **Our Innovation caught the attention of the United Nations in India, who featured our story on their official page.**

LINK:- https://www.linkedin.com/posts/united-nations-in-india_jharkhand-training-solar-activity-7241367483201298432-LZzt?utm_source=social_share_send&utm_medium=member_desktop_web&rcm=ACoAAfBgxVwBXXu0qQD41b3rNAKbll9k8ER5cTk



This recognition placed our local initiative on a national and global platform, showcasing how young women from Jharkhand are using innovation to solve real-world problems with limited resources but limitless creativity. The UN's support sends a powerful message that community-driven, low-cost, sustainable solutions are not just relevant; they are essential to building a better future.

Conclusion:

This Initiative is not just a device — it's a symbol of possibility. It proves that with creativity, skill, and compassion, even something as discarded as a plastic pipe can become a tool of empowerment. Our journey has shown that true impact doesn't need big factories or massive funding, it needs awareness, action, and heart. As we continue to refine and expand this project, we carry forward a mission: to beat plastic pollution, empower our communities, and remind the world that sometimes, the brightest light comes from the most unexpected places.

UTILIZATION OF OUR PRODUCTS







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