

Impact Assessment: Heater of Hope Project (2024-25)

The Heater of Hope program, **supported by BNP Paribas and implemented by Wildlife Conservation Trust (WCT)**, operates by **providing rural and tribal households in Bhramapuri forest division with an energy-efficient water heating solution called the Bummb at subsidized rates.**

This program was designed with a focus on reducing the dependency on firewood, improving health outcomes, and alleviating human-wildlife conflict.

Benefits of Bummb Water Heater:

1) Fuel Efficiency

2) Can use alternate fuels to firewood

3) Has sufficient capacity for families

4) Cost and subsidy alignment to encourage purchase

Assessment Year:

2021-22 and 2022-23

Beneficiary Size:

2987 Households



Assessment Methodology:

CRISIL adopted a Mixed-Methods approach consisting of,

- **Quantitative surveys** with beneficiaries.
- **Qualitative discussions** with stakeholders such as beneficiaries, panchayat and forest officials.

The study is further aligned as per the Organization for Economic Cooperation and Development Assistance Committee (OECD DAC) guidelines of Relevance, Coherence, Efficiency, Effectiveness, Impact and Sustainability.

Relevance
Is the intervention doing the right thing?

Coherence
How well does the intervention fit with country policies?

Effectiveness
Is the intervention achieving its objectives?

Evaluation under the OECD-DAC Framework

Efficiency
How well are resources being used?

Impact
What difference does the intervention make?

Sustainability
Will the benefits of the intervention continue?

Key Findings

- ✓ **Universal Adoption:** 100% of beneficiaries use Bummb for water heating needs.
- ✓ **High Satisfaction:** 99.6% satisfied with Bummb's design, praising its practicality, safety, and seamless integration into daily routines. However, they did have some design additions.
- ✓ **Time Efficiency:** 71% now heat water in under 30 minutes compared to 30 minutes to 1 hour with traditional chulha. The respondents have also experienced reduction in week forest visits (4-6 hours per trip) to collect 10-20 kg of firewood.
- ✓ **Reduced Firewood Usage:** Monthly firewood consumption decreased from 47 kg to 24 kg. This is a 49% decrease in wood consumption per family in a month conserving 137.4 hectares of forest annually.
- ✓ **Cost and subsidy awareness:** All respondents agreed that they got the heater in a good price (Rs. 1800 on average), and none were aware of the subsidy provided.
- ✓ **All-Weather Functionality:** 95% reported Bummb functions effectively even during monsoons, addressing prior hot water shortages due to wet woods.
- ✓ **Safety from Wildlife:** 93% stated fewer encounters with wild animals during firewood collection.
- ✓ **Health Benefits:** 90% reduced chulha use significantly, improving breathing (98%) and eye issues (95%), with fewer doctor visits (98%). Women, most affected by prior challenges, experienced significant relief.

"Before the program, villagers were entirely dependent on the forest for fuel, primarily firewood. On average, they visited the forest five days a month, but during the winter, this increased to 15 days. This led to excessive tree cutting, wildlife conflicts and seasonal hardships in winter.

When Bummb was introduced, I was uncertain whether it would be accepted. The people had been using firewood for generations. However, consistent demonstrations on how heaters work, along with their affordability encouraged adoption. Now, many villagers have reduced their visits to the forests. However, to further decrease firewood dependency, integrating other renewable energy sources, such as solar power could be essential."

- Nitesh Kumar Dilip Shahar, a Forest Guard with seven years of experience in Alesure.

Way Forward

- 1) **Product Design Improvements:** Address rusting issues, develop larger variants of the Bummb heater with higher capacities (e.g., 40 liters) to cater to larger families, add a stand for firewood, add a stand for tea making or rice cooking, and introduce an extra tap at the bottom.
- 2) **Promoting Alternative Fuels:** Increase awareness and demonstrations on using alternative energy sources such as cow dung, twigs, and dry leaves in the Bummb heater, as majority of people are still reliant on firewood.