

**IMPACT SHEET:** Evolving a Women-centred Model of Extension of Improved Cook Stoves for Sustained Adoption at Scale

## Clean Cook Stoves for Forest-dependent Women



*Promoting sustainable adoption of Improved Cookstoves (ICS) as a clean cooking energy solution among forest dependent households*



## CHALLENGE

Cooking accounts for around 80% of the total household energy consumption in rural India. Biomass is the predominant cooking fuel, with firewood contributing to around 75% of cooking energy needs in rural areas. Fuel wood is the main forest produce used as energy source by Forest Dependent Households (FDHs) and, in the past few years, its use has notably increased. The skyrocketing demand for firewood, the shrinking of forest cover and limited access to forests due to the enactment of the Forest Rights Act (FRA) 2006, have brought FDHs to a severe firewood shortage. With a commitment towards achieving SDG 12, the Government of India has been pushing to provide clean cooking fuel to every household, prioritising Liquefied Petroleum Gas (LPG) as a cooking solution under Pradhan Mantri Ujjawala Yojana (PMUY). In 2019, this has turned the country into the world's largest LPG consumer. Nevertheless, challenges persist in India's most rural and disadvantaged areas where refilling charges are still high and lack of infrastructure makes it difficult for FHDs to adopt LPG.

## PROJECT BACKGROUND

The EU SWITCH-Asia funded project "Women-centred ICS" was implemented in the states of Odisha and Chhattisgarh, India to evolve a women centric adoption approach towards Improved Cook Stoves (ICS). The main aim was to address the demand for cleaner cooking energy access, following the principles of accessibility, affordability and availability in a context where majority of the population is made up of poor people (45% in Chattisgarh and 36% in Odisha) and tribal communities (31% in Chattisgarh and 23% in Odisha). These communities are largely forest dependent.

From 2016-2019, CARE India and CARE France have worked directly with 10,000 women from FDHs, 200 women collectives known as Sustainable Household Energy (SHE) Schools and 200 men from FDHs in 107 villages of 3 districts – Jashpur in Chhattisgarh, Kandhamal and Kalahandi in Odisha. The project has engaged and influenced around 100 ICS Value Chain (VC) actors for strengthening the VC and making it inclusive through the participation of women entrepreneurs. It has also facilitated the adoption of 4,300 ICSs in targeted areas and has been instrumental in awareness raising on Household Air Pollution (HAP) through door-door to campaigns and learning sessions conducted at the SHE Schools. A training curriculum on sustainable cooking practices while preserving environmental and forest resources has also been developed.

## PROJECT OBJECTIVES

The overall objective of Women-centred ICS was to promote the adoption of ICS as a clean cooking energy solution among Forest Dependent Households (FDHs) as opposed to wood based Traditional Cook Stoves (TCS).

The specific objectives sought to:

- Build the capacities of 10,000 women from FDHs to adopt ICS as a clean cooking energy option;
- Develop an enabling and supportive environment for women and their households to make the transition to clean cooking energy;
- Promote the adoption of ICS at scale.

## TARGET GROUPS

- **Women from forest dependent households** who are responsible for preparing food at household level.
- **Men from forest dependent households** whose authority and economic power is critical in decision-making.
- **ICS manufactures, distributors and entrepreneurs** who must address local needs while building a commercially viable business.

## PROJECT ACTIVITIES

### **Institutionalising women centric change delivery model.**

The project has facilitated the transition from polluting traditional cook stoves (TCS) to improved cook stoves (ICS) and was instrumental in creating a community level women-centric platform of Sustainable Household Energy (SHE) Schools. SHE School is a collective of 20 to 30 women led by a SHE Champion, and comprising mostly of local Self-help group (SHG) members committed to develop a women-centric ICS extension model. The project has operated with 200 SHE-Schools in Odisha and Chhattisgarh. The knowledge of both women and men has been strengthened on clean and efficient cooking technologies and fuels, while taking into account their existing cooking practices, available forest resources, and local cultural practices. The sessions also accelerated the process of gender-neutral decision making at the household level.

## Enabling adoption of ICS.

SHE-Schools shortlisted the most economically viable ICS options to test. Cooking tests have been standardised (following the SHE-School curriculum) and women have been educated on the benefits of using ICS models. Qualitative and quantitative data was also collected and will be used to inform the choice of the most suitable ICS models to adopt at the household level. The project also created a pool of micro entrepreneurs who worked closely with SHE-Champions to bring in the business acumen of ICS as product. Frequent Buyer-Seller-Meets were organised for ICS entrepreneurs and manufacturers to demonstrate their innovative products along with their financing models and engage directly with the community.

## PROJECT ACHIEVEMENTS

- 4,300 households have adopted ICS as of December 2019;
- Capacity development programmes have been conducted in 200 Schools;
- Training curriculum for SHE-Champions, SHE Schools and members, and entrepreneurs has been developed and implemented;
- 400 Self-help Groups or estimated 4,000 people, majority of which are women, are engaged in the project;
- 10 (5 out of which are women) ICS entrepreneurs have been promoted;
- 10 (5 out of which are women) ICS technicians have been trained and certified by the Government of India.

## LESSONS LEARNED

Cooking practices are driven by the community's socio-economic, cultural, environmental and food habits. During its inception phase, the project faced numerous challenges, especially in its attempt to shift people's paradigms, beliefs and behaviours. FDHs gradually started to accept ICS when they were exposed to risks associated with traditional cooking stoves, in particular those related to negative health, environmental and economic impacts. Cooking is usually deemed as a no cost (except the food cost) driven activity in the FDHs. Opportunity cost and drudgery are not calculated in terms of money or are not aligned as a cause of financial loss over frequent or periodic health expenses. Economic factors and high cost of the technology represent a major element influencing ICS adoption since many of the households do not often indulge in cash economy. Challenges also depended on the change of seasons (monsoons) and fluctuating availability of fuel. To overcome these challenges, the project designed the SHE school curriculum, involved local entrepreneurs

and financial institutions as value chain actors to develop customised financial packages for the adoption of ICS, and established an affordable ICS Pay-As-You-Go (PAYG) model.

Through the project we have understood the challenges faced by women in targeted communities and their demand and access needs for clean cooking energy. Our findings:

- The women centered adoption model is most effective when women lead the process of testing and understand the direct positive impact and influence that ICS may have on their life and HH;
- The SHE School strategy is effective in reaching out to women and FDHs and encouraging them to adopt ICS;
- Local entrepreneurship creates incentives and services for ICS adoption;
- Double port ICS is required for large HH since Indian cooking is staple based and even poorest HH have 2-3 dishes in meals;
- Forced drift models are strongly preferred by large HH. However, the price range is high and low income at HH level prevents entrepreneurs from offering a long credit period at the minimal profit margin they share with retailers and distributors. Also, the quality of batteries needs to be improved in order for them to last for a longer period of time.
- Forest and Panchayat Departments along with renewable energy departments need to support ICS as an interim alternative until the last mile connectivity of LPG is assured or cleaner cooking technology becomes more affordable, accessible and available to the community.





**Sagar Kumar Mahapatra**  
Project Manager, CARE India



Switching from traditional cook stoves to LPG requires a long jump on the development ladder; a jump that poor households are still not equipped to make. Accessible, affordable and available ICS could provide an interim solution until all Indian households can access clean cooking fuel.



## Long-term project sustainability

Through capacity building programmes conducted by this project, women collectives and SHE-Champions have strengthened their skills and gained increased knowledge to voice out their concerns and prepare their proposals in clean cooking energy policies and programme dialogues. Their credibility has also increased and both women collectives and ICS VC entrepreneurs are now able to plan their funding or access financial institutions and ICS credit products to continue their activities in a more sustainable way. Moreover, engaging both women and men in the project and educating the latter on clean cooking practices was an important factor to ensure the long-term sustainability of the action. Finally, the geographic target areas selected for this project fall under CARE India's enduring poverty and climate action programme. The engagement and collaboration with women's collectives and other value chain actors will continue to take place in the long-term, in line with CARE India's programme approach.

## Project contributions to Climate Change Mitigation and SDGs



By ensuring use of clean cooking technologies that offset use of traditional, polluting stoves and fuels, the project has contributed to the achievement of several SDG goals, in particular [SDG12](#) and climate mitigation. It has done so through a significant reduction of biofuel consumption among forest dependent households (FDH). Moreover, regular use of ICS at the FDHs have safeguarded the forest and collection of significant amounts of fuel wood for cooking has also been reduced.

It has also contributed to the achievement of [SDG3: Good Health and Well Being](#) by significantly reducing household air pollution (HAP); [SDG 5: Gender Equality](#) by targeting both women and men in the action and ensuring women would take part in decision-making processes; [SDG 7: Affordable and Clean Energy](#) – using agri-waste briquetting as fuel in the ICS, has opened a new avenue for clean cooking energy fuel source. Innovative financial models have largely contributed to the adoption of cleaner improved cook stoves. [SDG 8: Decent Work and Economic Growth](#) – creating a network of clean energy micro-entrepreneurs (ME). [SDG 9: Industry, Innovation and Infrastructure](#) – the project has drastically reduced forest dependency for firewood, one of the main sources of deforestation. Finally, less carbon emissions from ICS have contributed to reducing negative climate impacts, hence working towards the achievement of [SDG 13: Climate Action](#).



# Impacts at a Glance

<b>Economic Impact</b>	<ul style="list-style-type: none"> <li>• The project promoted 10 clean cooking energy entrepreneurs and 10 ICS technicians. The project has also promoted Agri-waste briquetting as a potential source of firewood for business through Self Help Groups, thus creating opportunities for SHGs to promote ICS with easy availability of efficient and environment friendly fuel.</li> <li>• ICS is still not recognised as commercial product in India; thus, the supply chain is not deep routed. The project created spaces for ICS manufactures to showcase their innovations. Supporting local level micro entrepreneurs have strengthened the supply chain. The market penetration has significantly increased due the creation of a local ecosystem for ICS.</li> <li>• The project introduced 21 different types ICS to the local market. Facilitating hands on experience cooking through on-site testing has increased the adoption of ICS in Forest Dependent households.</li> </ul>
<b>Environmental Impact</b>	<ul style="list-style-type: none"> <li>• The project has drastically reduced forest dependency for firewood, one of the main sources of deforestation. Less carbon emissions from ICS have also contributed to reducing negative climate impacts.</li> </ul>
<b>Social Impact</b>	<ul style="list-style-type: none"> <li>• There was a significant reduction in household air pollution (HAP), benefitting the health of local households, mainly women and children. Interviews and testimonies from project participants indicate that after switching to ICS and decreasing HAP, there were considerable savings in the household's health expenses due to reduction in bronchial and other health issues caused by pollution.</li> <li>• In India, cooking is always considered a woman's domain. Drudgeries involved in cooking and stories of victimisation often remained untold. From the very start of the project, men from the communities were engaged, informed and influenced about the issue. Women were empowered through SHE-Schools to participate in household level decision-making processes. Through the project's approach, cooking is shifting from a "woman-centric" activity to a gender-neutral activity. Moreover, with the adoption of ICS and different cooking practices, women have more time to spend on leisure and economic activities.</li> </ul>
<b>Green Finance</b>	<ul style="list-style-type: none"> <li>• Multiple value chain actors meet-ups were initiated and banks and other micro-finance institutions were encouraged to disburse small loans to ICS adopters. SHG financing was instrumental to accelerate ICS adoption in certain pockets.</li> <li>• The Self-help groups at the village level in certain pockets have developed customized loan products to finance ICS. The local entrepreneurs also facilitated new Pay-As-You-Go models to encourage buyers.</li> </ul>
<b>Target Group Engagement</b>	<ul style="list-style-type: none"> <li>• ICS value chain comprise of ICS manufacturers, non-banking micro finance institutions, local educational institutes, CSOs, Government line departments, media, ICS testing institutions, community level institutions, among others.</li> <li>• Through their businesses, stakeholders were encouraged to raise awareness on the socio-economic and environmental benefits of adopting ICS.</li> </ul>
<b>Policy Development</b>	<ul style="list-style-type: none"> <li>• A Technical Core Group (TCG) including diverse agencies and institutions in India working on climate change mitigation and adaptation has been formed with the purpose to advocate for grassroots people's needs and realities and inform policy making. Several meetings and workshops were also organised. Unfortunately, it has been very difficult to influence the Government to ensure ICS testing and promotion as a cleaner cooking technology.</li> <li>• An independent study on understanding current policy gaps has been commissioned. A sample study in the project villages has been conducted. The latter suggests to take ICS as an interim cooking solution until LPG will be widely accepted.</li> </ul>
<b>Europe-Asia Cooperation</b>	<ul style="list-style-type: none"> <li>• The project was implemented by CARE India, with support from CARE France. CARE France has supported the MIS development, the KAP and carbon credit potential studies. One national level consultation/ workshop has been planned in India supported by CARE France, among other events.</li> </ul>



## FUNDING

EUR 2,000,000  
(EU Contribution: 80%)



## DURATION

January 2016 - December 2019



## PARTNERS

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CARE India and CARE France



## CONTACT

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CARE India

Shantamay Chatterjee / Sagar Kumar Mahapatra

CARE INDIA SOLUTIONS FOR SUSTAINABLE DEVELOPMENT (CISSD), 372, Sahid Nagar, Bhubaneswar, 751007, Odisha, India

**Telephone:** +91-7751092527

**Email:** shantamay@careindia.org and sagar@careindia.org

**Website:** <https://www.careindia.org>

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