

Institutional partnership in improved cooking stove dissemination: Experiences from West Bengal, India

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Introduction

In India, rural households mostly use biomass for their cooking and heating needs. The biomass is burnt in traditional cooking stoves resulting in high fuel consumption and significant levels of indoor air pollution causing poor health of women and children. Biomass collection is linked with drudgery for women and children. To reduce the firewood consumption, the Ministry of Non-Conventional Energy Sources (MNES) launched the National Programme on Improved *Chulha* (NPIC) in 1983, to disseminate improved mud stoves, equipped with chimneys, and portable metallic stoves. Later on, the West Bengal Renewable Energy Development Agency (WBREDA), and the Khadi and Village Industries Commission (KVIC), Government of India, also began stove dissemination under NPIC in the state.

Overview of NPIC in West Bengal

West Bengal recorded one of the highest improved cooking stove penetrations under NPIC. Nearly four million stoves were disseminated in the state by the end of March 2003 – 38% of the total improved cooking stove potential in the state and well above the national average of 29% [MNES 2004]. Table 1 describes the breakdown of the improved cooking stove programme in the state.

Institutional partnership: Experience from West Bengal

The main feature of the programme in West Bengal is implementation entirely through a vast network of NGOs. West Bengal enlisted about 150 NGOs for stove dissemination throughout the state. In West Bengal, a combination of ‘top down’ and ‘bottom up’

Table 1 Improved cookstove dissemination in West Bengal

Items	SWD	WBREDA	KVIC
Year of initiation of IC dissemination	1983	1993	1988
Districts covered	18	17	10
Total ICs installed (by 2000)	849 847	237 809	1 006 079

Source: TERI 2001

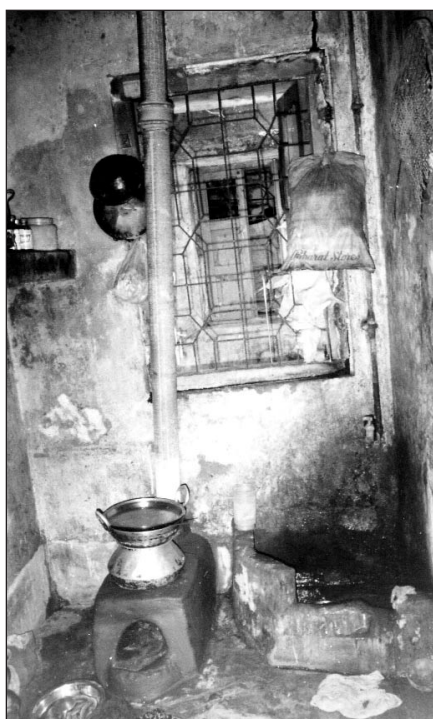


Figure 1 Sohini Seva one-pot mud stove

implementation was adopted, with the installation target being based on the capacity and demand from the respective NGOs (Figure 2). The Ram Krishna Mission Lokasiksha Parishad (RKMLP) NGO adopted a unique cluster approach for IC dissemination. To coordinate, implement and monitor dissemination activities, cluster organisations were formed comprising a number of village youth clubs. Forty such cluster organisations and 1500 youth clubs, spread over 4000 villages in 12 districts of the state, were involved [Chakrabarty 1999]. KVIC encouraged its NGOs to adopt a cluster approach to facilitate effective monitoring, stipulating coverage of 100% of

households in at least one village of every target block for creating model ‘smokeless’ villages.

The success of the programme highlighted the crucial role played by village level institutions, involving village level institutions such as village *panchayat* members, school-teachers, youth clubs, women’s groups etc. for motivating, monitoring, and evaluation of improved cooking stoves. (A *panchayat* is a rural local self-government or village council comprising of five democratically elected members.) In some districts, the programme was linked with the state sponsored rural sanitation programmes and the *Indira Awas Yojana* (a rural housing scheme, named after the former Prime Minister of India, Late Indira Gandhi) – to affect both health and sanitation benefits.

A network of trained stove builders called Self Employed Workers (SEW) working under respective NGO projects carried out the stove installation. The NGOs concentrated more on covering the maximum number of households in a village than encompassing a larger number of villages. The NGOs installed very large numbers of stoves through good marketing, a semi-commercial approach and providing work to stove builders – mostly youth and women.

Frequent interaction between the users, stove builders, NGOs and the implementing agencies was encouraged, resulting in custom-made stoves at affordable prices by the NGOs. Though modification reduced the designed thermal efficiency to some extent, it facilitated higher

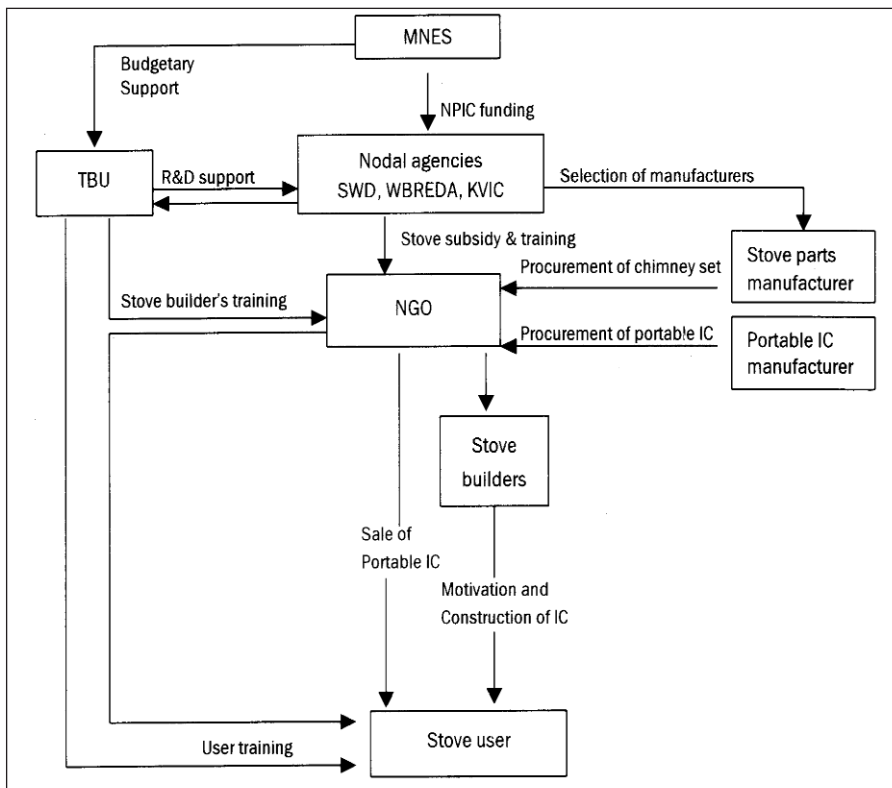


Figure 2 Institutional set up of NPIC in West Bengal

penetration and sustainability of the stoves.

Empowering women

Involvement of a large number of educated youths as stove builders helped to achieve success for the programme. Many NGOs tried to empower women by training them as stove builders and assigning stove-building activities. Notwithstanding the prevalent social customs, particularly those applicable to widows, stove building allowed many to become financially independent.

Stove pricing and functionality

NGOs were able to disseminate the programme by building stoves in user's kitchen and charging the requisite stove building fee from the users. The Technical Backup Unit (TBU) suggested a recommended price but, without formal fixed prices, NGOs from different districts fixed the price to match the local situation. The beneficiary contribution in West Bengal of around 60% of the recommended stove cost was one of the highest among the Indian states [Barnes and Kumar 2002]. In some areas with a

fuelwood deficit, or where wood is purchased, stove builders set a higher user contribution. The higher user contribution assisted limited commercialisation and marketing, helping stove builders to develop their market. Flexibility in pricing allowed stove manufacture with superior quality raw material for people with more money.

During 1995–2000, the percentage of households using the stoves varied from 75% [TBU 2000 to 90% average [TERI 2001]. The TERI figures may be higher because the survey was carried out in three districts with the best success rate, whereas the TBU feedback surveys covered the whole state. The ICs were the main stove in the surveyed household. The TERI study indicated that the primary benefit perceived by the users is cleanliness of the kitchen because of smoke removal through the chimney, followed by health benefits, timesaving and fuel wood savings (Figure 3). Though the users were unable to quantify the health benefits, most of them mentioned elimination of eye discomfort while cooking. Fuelwood savings featured lowest in rural areas, owing to easy access to supply of firewood and agriculture residues from the homesteads and fields.

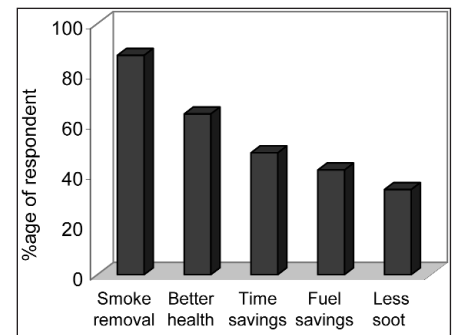


Fig 3 Perceived benefits of improved cook-stove (more than one benefit recorded per household)

Conclusion

The key to success in West Bengal is the institutional partnership and significant interaction between stove users, builders, promoters and designers. The NPIC in the state has shown that support of village institutions and innovative marketing efforts by the implementing agencies and NGOs can achieve the desired success and the users are also willing to pay for the product, if the design is tailored according to the user's requirements.

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