Electric Pressure Cooker adoption in Socio-economic and Cultural Context of Nepal

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Integrated Research and Action for Development (IRADe), New Delhi, and Women Awareness Center, Nepal (WACN) team carried out this pilot study to examine the socio-economic and cultural acceptability and use pattern of electric pressure cooker (EPC) in the Nepal context. This study was supported by UK Aid and Loughborough University under Modern Energy Cooking Services (MECS) programme.

This pilot study was carried out in Kavrepalanchok district of Nepal, with two women communities- (i) Sahara Nari Chetna Skill Cooperative, an urban women community in Banepa municipality, and (ii) Sabal Nari Chetna Agriculture Cooperative, a rural women community in Timal rural municipality. A screening survey was carried out with 240 cooperative members, 120 in Banepa and 120 in Timal. Analysis of the screening survey was utilised for selecting 80 households (40 members from each cooperative) for distribution of EPC. The financial mechanism adopted under this study required participants to pay 15% of the EPC cost.

Cooking records were collected using a MECS cooking diary in four phases: (i) Phase 1 (Baseline), (ii) Phase 2 (Transition), (iii) phase 3 (Monitoring), and (iv) Phase 4 (Endline). The study recorded all the cooking practices of the participants in phase 1 (3 weeks), phase 2 (3 weeks), and phase 4 (3 weeks). During phase 3 only heating events carried out on EPC was collected for 6 weeks. EPC was distributed among the participants after the end of phase 1. On the day of EPC distribution, cooking training was organised for the participants where the team demonstrated cooking with EPC and related safety measures. After phase 2, a hands-on training session was organised to improve the participants' cooking skills with EPC.

Along with EPC, an appliance-level sub-meter with electrical wire and plugs, was distributed to capture the daily electricity consumption for EPC use. The consumption of firewood and LPG was measured weekly using weighing machines. Enumerators visited the households to help maintain the cooking diary and issues related to cooking with EPC. At the end of phase 4, an exit survey was organised to get the study feedback and areas for improvement.

Findings

(i) A significant and sustained change in the household's cooking fuels and stove/appliance use was observed after the introduction of EPC, captured through the number of heating events using different devices. Compared to phase 1, LPG stove and TFS share in total heating events declined significantly in phases 2 and 4, both in rural and urban locations. In rural location share of EPC in total heating events was reported to be 27.6% and 38.8%, in phases 2 and 4, respectively. In urban location, share of EPC in total heating events was reported to be 30.1% and 32.5%, in phases 2 and 4, respectively.

This highlights that as households become more familiar with EPC and its benefit, they will be more willing to adopt it. EPC uptake has reduced the use of LPG and the firewood. Phase 4 data reveal that rural households are carrying out more heating events on EPC than their urban counterparts.

(ii) Rice (28.7%), pulses (16.1%), and vegetables (11%) together account for nearly 56% of heating events (Phase 4). The phase 4 cooking diary data suggests that 93.5% events of cooking rice, 17% events of cooking vegetables, 34.7% events of cooking pulses were done on EPC. This data plus the fact the menu did not change significantly during the pilot indicates that the EPC was compatible with the local menu and cooking practices. Another important change for e-cooking was noticed for water heating. In phase 1, only 37% of water heating was done using an electric kettle, which increased to 64.7% in phase 4. The convenience and benefits of EPC may have encouraged people to use it more for heating purposes. Therefore, it seems e-cooking could be a viable and promising cooking solution in Nepal's socio-economic and cultural context.

(iii) The cooking diary data reveals that most dishes are cooked/heated between 6.00 am to 9.00 am (breakfast and lunch) and 5.00 pm to 8.00 pm (dinner). In the exit interview, respondents from rural and urban locations highlighted that grid electricity reliability is good, and power-cut was reported only 2-3 times a month for 10-20 minutes. However, if a power cut occurred while cooking, households often switched from the EPC to other stoves. The quality of electricity supply voltage stability is also an issue as low voltages sometimes made it challenging to cook in the EPC.

Recommendations

Electricity as cooking energy is still in its infancy in Nepal; recently, electric cooking has gained policymakers' attention, as evident in recent policy documents. Given that Nepal has vast potential for hydroelectricity generation, it would be beneficial to promote e-cooking in Nepal. However, promoting e-cooking requires a constant commitment by policymakers, civil society, and development partners. This study believes that governments, financial institutions, donors, and the private sector could accelerate the uptake of electric cooking in Nepal with the appropriate support and coordination.

An assessment of the electricity supply status to support e-cooking appliances will have a long-term implication for the adoption of e-cooking. There is a need to develop an innovative financing solution, especially for poor households, to acquire e-cooking devices by solving the issue of high upfront costs. Expanding distribution and retailer store networks would build the supporting ecosystem for adopting e-cooking. Targeted strategies for promoting e-cooking and campaigns for consumer awareness and adoption of e-cooking appliances will have positive implications. Technological innovation should also be directed towards making e-cooking devices more user-friendly and affordable.