Aide à l'Enfance de l'Inde et du Népal

Climate Smart Village Project

Case Study on Improved Cook Stove

Traditional cook stove, locally known as *Chulha*, is commonly used for cooking and heating food by the rural poor households in India. A cook stove is heated by burning solid fuels such as wood, charcoal, animal dung or crop residues. Solid fuel smoke contains thousands of substances which are hazardous to human health such as carbon monoxide, nitrous oxide, sulphur oxide, a range of volatile organic compounds and polycyclic aromatic compounds. Women are the primary users of the traditional cook stoves and they spend most of their time in cooking for the family.

Health Impact on Women and Children

Green House Gases (GHG) are released into the atmosphere when solid fuels are burnt for cooking or heating in the traditional cook stove. The increase in GHG composition in the air is one of the reasons for climate change and a study states that these gases contribute to 2% of the world's GHG emissions and the second leading environmental cause of death in the world. As many as 40 lakh deaths globally are caused due to inhalation of harmful gases and about 25% of the deaths occur in India. Women suffer with many respiratory problems because she sits near the stove for hours together and inhales the harmful gases released. The children are also at the greatest exposure of health risks since they mostly stay with the mother when cooking takes place.

Improved Cook Stove

APMAS, under the project, *Climate Smart Village*, which is being funded by AEIN, Luxembourg, has undertaken a survey on the usage of traditional cook stoves. It was found that many women still use traditional stoves for cooking and heating water in spite of LPG (liquid petroleum gas) being promoted by the government through subsidy schemes and programmes. The outcome of the survey along with the improved cook stove as an option to reduce the health and environmental hazards was discussed with the communities in the project villages. After series of consultations especially with the women, "Improved Cook Stove", was introduced in the project operational areas.

The Improved Cook Stove is designed to reduce the fuel consumption per meal and to control or reduce the smoke coming from the *Chulhas* in the house. It is a viable

replacement for the traditional cook stove and reduces the smoke up to 70% thereby reducing the release of toxic gases into the atmosphere and preventing health issues associated with it.

Advantages of Improved cook stove

- More nutritious
- Less field loss
- less affected by weather damage
- Less fuel wood consumption
- Less time for collection of fuel wood
- Easy to carry from one place to another place
- Concentrated flame
- Affordable

The Climate Smart Village Project team after a market survey approached *"Greenway Grameen Infra Pvt. Ltd."*, a Bengaluru based company and requested for a live demonstration to the households in the CSVP villages. The interesting households were mobilized for the live demonstration. An Executive from *Greenway* has come with the improved cook stove and given a live demonstration explaining how the stove works and its advantages.

After the demonstration, a meeting for the Village Organization (VO) of women self-help groups was conducted and prepared a list of interested households willing to buy improved cook stove.

The improved cook stove costs around Rs.2200 and many poor families in the project villages expressed their inability to afford the entire cost. Therefore, the project team has conducted a village level meeting to discuss the maximum rate for the families to afford the stove and it was decided that the household shall bear 50% of the cost i.e. Rs.1100/- and the balance 50% is to be covered from the project. Around 60 households came forward to purchase the improved cook stoves from *Greenway*.

Laxmi Devi belongs to Tholetivaripally village in Nallamada mandal. She availed the improved cook stove and started using the stove since December 2019. She says, "it emits some smoke in the beginning but overall the smoke has reduced to more than 50% as compared to the traditional cook stove. It is very easy to use and handle. Whenever it rains or when my LPG cylinder is empty, I use it inside my house. The cooking time has also reduced because the stove burns the fuel wood very effectively to emit bigger flame, even if small sticks are placed inside. My eyes used to burn while cooking in the Chulha earlier but now cooking has become effortless and pleasant."

The purpose of introducing improved cooking stoves is to reduce the pressure placed on local forests by reducing the amount of wood the stoves consume, and to reduce the negative health impacts associated with exposure to toxic smoke from traditional stoves. Adoption and proper use of cleaner stoves and fuel is the ultimate goal and is only possible through behavior change at the level of the individual and the community. The Climate Smart Village aims to reach out to 200 households and hopes that the rest of the families using traditional cook stoves would get motivated to switch over to improved cook stoves. The project is also looking into the amount of reduction in the usage of wood and thus it contribution towards the health of children, women and the environment.