

Study Visit to Jagdishpur, 17-18 February 2012

Staff from the Energy and Resources Institute (TERI) hosted SEI staff members for a study visit in Jagdishpur, located some 80 km from the city of Lucknow. TERI operates a testing area for cookstoves and off-grid lighting, including pilot study areas in several villages. The testing areas are also linked to the Surya project that is conducted in collaboration with the Scripps Institute (UCSD) for measurement of black carbon emissions. The highlights of the study visit and some information about stoves and cooking habits are summarised below.

Advanced stoves testing

A number of different stove designs are being tested at the site in terms of combustion properties, usability, start-up and other properties. They include both forced draft (generally with battery) and natural draft designs. A few advanced designs have stainless steel outer casings, while others use an insulating casing made of concrete or other materials (also makes it quite heavy and less portable).

Prepared biomass sources

It should be noted that forced draft stoves require prepared biomass, generally in the form of wood chips or wood pellets. Villagers that are not used to prepared forms of biomass may operate the stoves incorrectly by using fuelwood, dung, etc. and therefore some operational training is required.

Pilot testing in villages

A number of households received advanced stoves at rebated prices, and testing and monitoring is carried out at a number of locations. Air pollution monitors are placed at appropriate locations near the ceiling, and continuous measurements are taken.

Use of multiple stoves

Most households use more than one cookstove. Some have access to LPG stoves, although cost and availability of LPG may lead to fuel-switching or intermittent use. The standard chulha (concrete/clay) stove is still common in some households and can be used as a backup when other stoves are not available. Consequently some households have more than two stoves. The visited households seemed to like the advanced stoves they were using. Designs that allow front loading are preferred in some cases as this makes it easier to adjust the intensity somewhat while cooking.

Solar lanterns

A micro-grid using PV cells is used to charge portable solar lanterns, which are available for a small daily fee. Portability is valuable in comparison to electricity available only on site, since some persons may wish to use them at a shop for a few hours and then at home.

Cattle and biogas

Another option for some households is biogas, since cattle are kept in many areas. Where LPG is available (and often subsidised), it is more difficult for biogas to compete. The use of biogas also provides waste slurry that can be used as fertiliser.