

Pretesting Household Questionnaires for SIP Impact Evaluation Study in Gujarat

From 21st to 24th March 2022, Yashodha Yashodha, Post-doctoral Fellow, IWMI, traveled to Ahmedabad, Gujarat, to pre-test the household questionnaires for an impact evaluation study of various feeders under the Suryashakti Kisan Yojana (SKY) in Gujarat.

Her travel itinerary comprised of the following locations:

- Ahmedabad: Briefed revised questionnaires to field manager (21st March)
- Surendranagar (Ahmedabad): Visited PGVCL's VIR SKY feeder (22nd March)
- Rajpipla (Surat): Visited DGVCL's NAVAPARA SKY feeder (23rd March)
- Surat: Visited DGVCL's KANSAD SKY feeder (24th March)

The household questionnaires are of two types: 1) that for farmers (both enrolled and not) in the SKY feeder zone (treatment group); 2) that for farmers in neighboring feeders why SKY is not implemented (control group). The pre-test was done primarily for the "treatment" questionnaire, based on which the "control" questionnaire was subsequently revised.

Some key takeaways from the pre-tests

1) VIR feeder:

Spread across two villages - Dholi and Bhechada - this feeder has 53 farmers, with 38 enrolled in SKY and 15 not. The pre-test took place in Dholi.

The cropping calendar of the feeder is as follows:

- Cotton (7months),
- Wheat (3-4 months),
- Groundnut (4 months),
- Castor (8 months),
- Dhaniya (3-4 months),
- Shomp (6 months)

Drivers of scheme uptake

Income from agriculture is a crucial driver of adoption:

With a significant income of the farmers in this feeder coming from agriculture, they have invested their time in understanding the scheme and maintaining the panels well.

Social networks facilitate awareness about usage:

Farmers in the village have reported discussing among themselves issues like billing, income earning and its potential, and similar details related to the scheme.

Conjunctive use of water for cost-effectiveness:

By increasing the conjunctive use of surface water, farmers in this feeder have attempted to reduce the use of the SKY connection, ameliorate their outstanding loan amount, and earn positive income.

Constraints

- SIM non-recharged
- Delay in service provision by DISCOM/SOLAR agency
- Cleaning water jet with brushes of unsure quality
- Power theft issues

NAVAPARA SKY:

Newly solarized feeder since May 2019, it comprises 51 enrolled and 17 non-enrolled farmers. The area is water-rich, with the average tubewell depth being about 100-200 feet. The feeder saw the cultivation of diversified, high-value horticulture crops (banana, papaya, vegetables) and sugarcane.

Constraints:

- Panel damage – stone-pelting by troublemakers in the village
- Delay in repair services
- Energy monitoring is low – Not aware of SKY app
- Generally feels that farmers have increased energy use after SKY because they have more hours of energy.

KANSAD feeder:

Located near the Sachin industrial area in Surat, this feeder has 28 enrolled farmers and 15 non-enrolled farmers. Farmers, in general, are not dependent on agriculture as their main source of income here. With the SEZ encroaching, most of the land around this feeder, farmers predominantly earn rent income by transacting their lands with the industries. Besides, farming, if done, is done by employing hired labor to manage orchards of mango, sapota, and guava.

Constraints:

- *Lack of awareness and low maintenance* - Hired laborers are unaware of the SKY interventions, and neither are they equipped to ensure the maintenance of the panels.
- *Low monitoring and lack of awareness about maximizing solar energy generation* - Neither do farmers have the SKY app nor are they aware of its existence.
- Repeated cable theft and no / low replacement of stolen cables by solar agencies
- No networking among farmers regarding solar usage
- With business incomes way higher than earnings from SKY, farmers are not adequately interested in exploring the income-earning potentials of solar energy generation.
- Delay in reporting problems and infrequent attendance at meetings with solar agencies.

Some picture during the field visit



Fig 1: Panels got damaged by a mischief person in NAVAPARA feeder in DGVC



Figure 2: Pre-testing household questionnaire with a SKY enrolled farmer in the Dholi village of VIR feeder served by PGVCL utility



Figure 3: Discussion with Deputy Y. N Patel in Choryasi Taluk who was looking after Kansad feeder in DGVCL utility