

Expanding Access to Basic Services in Kanbargi Village

Integrated Energy Centres

Integrated energy centres (IECs) are renewable energy-powered businesses that provide a range of basic services and activities in underserved rural and urban communities. IECs positively impact the quality of life of local community members and create livelihood opportunities for local entrepreneurs and residents. Services and activities are prioritized based on community preferences and can include:

- Energy Services – Rentable lanterns/batteries for lighting, mobile phone charging, purified drinking water, community televisions
- Education Services – Computers, projectors, DVD players, student study lanterns, literacy programs
- Health Services – Charging points for ECG/EEG/ultrasound devices, refrigeration for vaccines and medicines
- Information Services – internet services, audio-visual awareness programs on health and sanitation
- Livelihoods Services – Training programs (computers, sewing machines), daycare

IECs can be standalone structures or can be co-located with community spaces such as petty shops, education facilities, and health centers. Community entrepreneurs, sometimes in partnership with local groups, own and operate IECs.

Financial Support

Provides initial funding



S3IDF & Partners

Plans, develops and supports the IEC



S3IDF



Partner 1



Partner 2



Integrated Energy Centre

Renewable energy-powered businesses that provide a range of basic services and activities in underserved communities



Operator/ Entrepreneur

Manages the centre; preferably from the community



Community Members

Pay and use IEC services, allowing the IEC to cover operating and maintenance costs and improve community access to basic services



Community Needs & Challenges

Kanbargi is an informal settlement on government land in Belgaum, Karnataka, India. The community is comprised of about 200 migrant and poor households with a total population of about 1,500. Income levels range from 5,000 to 8,000 rupees per month. Most of the residents are unskilled daily laborers, plant sellers, street vendors, rag pickers and waste collectors. Many of the families have been living on the land for over a decade. Their homes are single room shelters constructed from casuarinas poles, tarpaulin sheets, and waste wood.

Kanbargi has no formal access to basic amenities or services, contributing to interrelated health, education, energy, water, and sanitation issues. Families typically spend 300 - 350 rupees each month on black market kerosene and a minimum of 50 rupees to charge their phones per month. Families spend additional money on water. Although using kerosene offers only dim illumination and poses health threats, it is the only affordable source of energy. The reliance on kerosene and the use of scavenged firewood from around the city for cooking fuel has caused multiple fires in the community, injuring a number of women and young children.

Their main issues apart from energy include a lack of identification documents, nonexistent water and sanitation facilities, and education. Kanbargi residents use open areas as toilets and build secluded areas for bathing. No basic drainage or sewage facilities are present. Children below the age of 15 often take care of younger siblings, cook, and guard their homes during the day. They cannot afford to attend a school nearby. Many residents have also been forced to ignore serious health issues due their inability to pay for services.



Bringing Services to Kanbargi

An initial needs assessment of Kanbargi identified three services as the top community priorities. In partnership with Selco Foundation, Mahesh Foundation and local community members, S3IDF supported the creation of an IEC to catalyze positive change in the community starting with energy access, education and health. During Phase I (first year) the IEC offered pay-per-use lighting services and mobile charging, literacy classes and daycare, and a free health clinic.

The IEC is co-owned and co-operated by Shivappa, a member of the Kanbargi community who plays a critical role in solving community issues, and by the Mahesh Foundation. The entrepreneur focuses on the lighting and mobile charging services and the Mahesh Foundation runs a community health clinic and literacy programs. S3IDF provides hands-on business training to Shivappa and also facilitated financing from a local financial institution so Shivappa could begin to establish a credit history that he used to secure additional financing to grow his IEC. The IEC building uses passive design techniques and incorporates locally available materials. The roof is a reco sheet made from recycled tetrapacks.

During the initial phase, the IEC had 60 solar-charged battery packs (and four back-ups) with 3W LED bulbs and mobile charging capabilities. Shivappa rented out (and continues to do so) the battery packs in the evenings and collected them the following day for recharging via a solar array. The price per evening was 5 rupees, which was 50% less than what residents pay for kerosene. Shivappa also offered mobile charging separately during the day to residents.

The literacy program aimed to increase overall literacy and cater to out-of-school children. The program was designed to gradually expand to reach all of the children in Kanbargi. Classes continue to be held everyday with children divided by level and age to facilitate learning. Daycare services also run everyday.

The health clinic, initiated through this project, remains open every Tuesday, Thursday, and Saturday evening and uses a designated space in the IEC to consult, store basic supplies, and conduct awareness programs. Volunteer doctors' and nurses' schedules are coordinated through the Mahesh Foundation's existing partnerships.

Phase II plans for IEC expansion included a Goonj collection center (up-cycling center for old clothes) and a livelihood center that helps community members develop vocational skills. A community TV program was also integrated into education, health, and livelihood programming in the second phase.

Impacts

During Phase I the IEC initially focused on providing energy services to 60 households and grew to serve an estimated 180 households during the second year in Phase II, reaching about 300 people initially and later reaching an estimated 900 people.

Based on community surveys of time allocation and needs as well as post-implementation impact assessments of IECs in other urban communities, the Kanbargi IEC enabled a significant change in the quality of light and living after sunset, an improvement in air quality, and an increase in productive domestic and educational hours. Similar lighting arrangements have also frequently been cited as having positive benefits in reducing the appearance of rodents in their homes and have shown to positively influence the cleanliness and organization of home interiors. Door-to-door surveys were periodically conducted to assess impacts and to gauge IEC services and value to residents.

The literacy program met a target enrollment of 250 children in its literacy programs during Phase I with an expansion that reached the remaining 150 school aged children during Phase II. The impact of the programs were assessed through regular in-class verbal reading and comprehension exercises. Students that were identified as in need of additional support repeated lessons during subsequent class sessions.

Further, the health services reached 35 – 65 patients per week.



S3IDF is an international nonprofit organization that builds inclusive market systems to benefit poor and disadvantaged communities. We support entrepreneurs to run businesses that generate income while also providing their communities with basic services and employment opportunities.

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