



SELCO Foundation

Community Participation in Operations
& Management of Sustainable Energy
Solutions in Health Centres

Introduction



Accessing quality healthcare services with lack of affordable & adequate infrastructural facilities were major challenges in rural India after independence. To address this, the government of India under its Community Development Program, 1952, proclaimed to set up Primary Health Centres and Sub-Centres at village level for catering health needs of the rural population.

Primary Health Centres (PHCs) are the cornerstone of last mile healthcare delivery system in India that provides services to the vulnerable rural population. The main objective of setting up PHCs is to provide preventive, curative, promotional healthcare and family welfare services to the people. According to Indian Primary Health Standards (IPHS), there shall be one PHC to serve a population of 20,000-30,000 (depending upon whether the terrain is hilly or plain). Each PHC is staffed with a Medical Officer, staff nurse, laboratory technician, pharmacist, male and female health workers, ASHAs and other administrative staff. Each PHC is further supported by a network of Sub-Centres and each PHC shall covers 5-6 Sub-Centres (based on the terrain).

A Sub-Centre is the most peripheral healthcare unit at village level that provides health care services to a population of 3000 in hilly/tribal areas and 5000 in plain areas. It seeks to deliver services in relation to the areas of maternal and child health, family welfare, nutrition, immunization, control of diarrhoea and communicable diseases and is stocked with basic drugs for minor ailments. Sub-Centres are run by an Auxiliary Nurse Midwife (ANM) and a Male Health Worker (MHW).

Barriers & Solutions

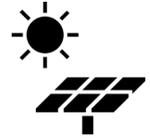


Lack of reliable energy access

According to the Rural Health Statistics (RHS)-2018, of the 158417 functional sub-centres and 25743 functional PHCs in the country, 24.7% and 3.2% are running without electricity, respectively. In other words, a grander of country's rural & tribal population is dependent on unelectrified health facilities for their basic healthcare needs. The negative impact of such energy gaps leads to subsequent increase of Out of Pocket Expenditure (OoP) as the average cost of treatment in a private hospital is four times higher than the average cost in a public hospital. Apart from high expenditure, it drains the poor of time and energy which could have been utilized in more productive manners. Therefore, the absence of uninterrupted and reliable energy access has made healthcare services nearly unavailable to the rural and vulnerable sections of the society.

Besides, though India has made significant improvement in combating high maternal and infant mortality so far, the said improvement rate is sub-optimal. The progress in institutional deliveries has not brought proportionate reduction in maternal and neonatal mortality. And the poor availability of reliable energy source in the health centres is accounted as one of the major reasons for the lack of quality service delivery in pre, during and post-delivery.

Solar & Solutions



Solar energy solutions in unelectrified & severely under electrified health centres enables effective service delivery in rural areas. Accessibility to reliable energy source ensures its uninterrupted functioning such as: operating medical equipment, maintaining adequate temperature, communication services and will help in retaining skilled health staff at village level. This will also make the quality and emergency healthcare services available at village level while bringing down the expenditure of the poor. Availability of basic healthcare services in PHCs/SCs also relieves the congestion of the patients from rural & tribal areas to the district hospital. Solar-powered medical equipment augments the maternal & Newborn care services and minimizes the wait period of the people at health centres. Sustainable energy interventions in health centres will reduce the dependency on conventional energy source/grid connection and thus ensures quality healthcare services reaching the last mile.

Lack of service and maintenance

After installation, regular maintenance of the solar products is essentially required for the sustenance of the systems. Lack of periodic maintenance hinders its effective functioning which ultimately affects the quality service delivery in health centres.

After sales service

The health centre's staffs and community members are trained on basic technicalities such as: Operations & Maintenance (O&M) of the systems. A team of concerned persons will be responsible for the day-to-day supervision and monitoring of the systems as well as solar powered equipment for its sustenance.

ARS & Solar Program

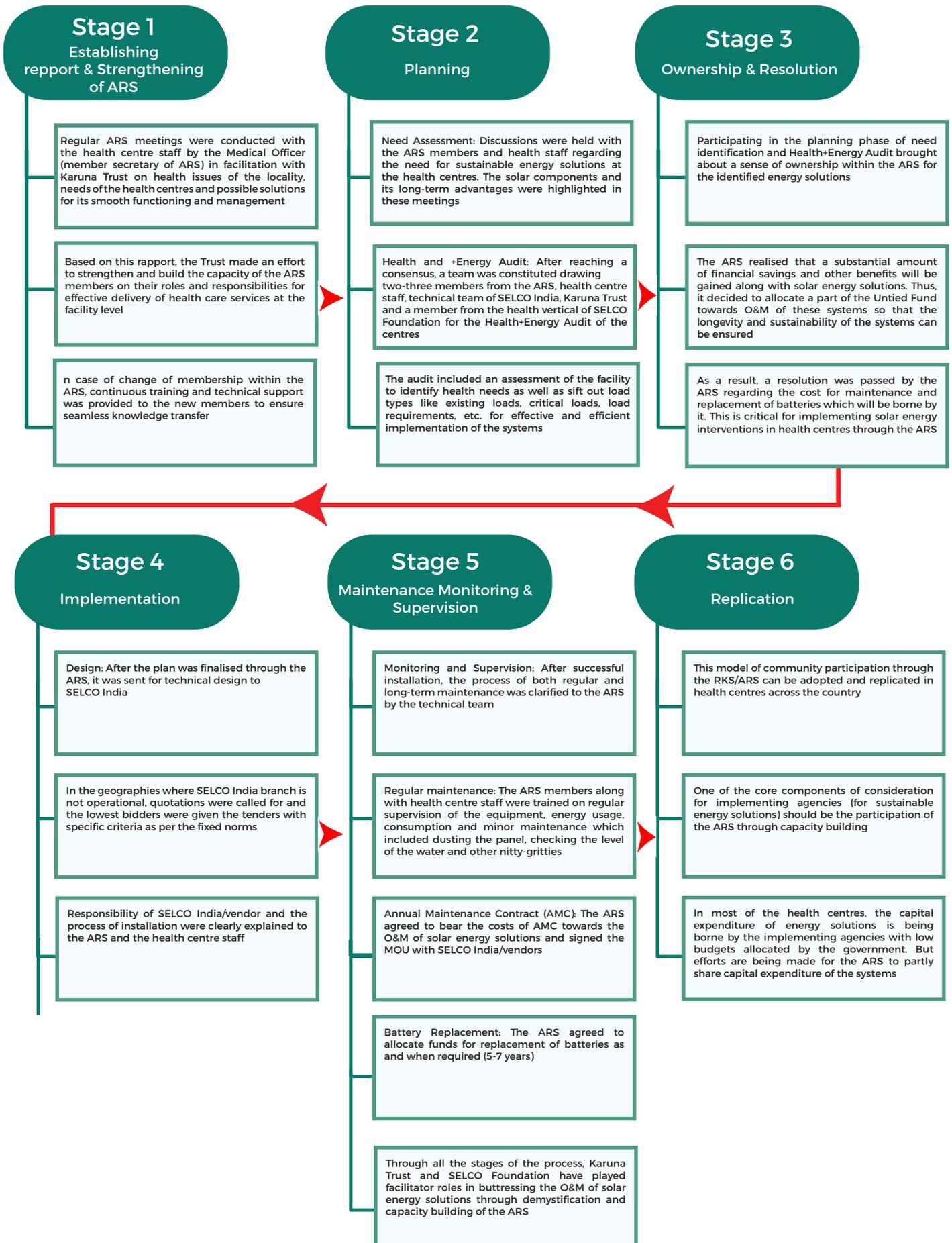
Karuna Trust (NGO) has pioneered in implementing a successful PPP model that leverages the government's significant investment in public health care infrastructure. Health partners like Karuna Trust run PHCs at a very low cost of Rs.200 per person per year. Therefore, there is a need to cut costs and increase service delivery efficiency and reliability by adopting sustainable energy solutions in health centres. The Trust has solar powered 23 PHCs and 18 SCs which are managed through PPP. Solar powering of the PHC/SC buildings including medical equipment/appliances was facilitated by SELCO Foundation. Karuna Trust has also become a path-breaker in bringing ownership of the community through the involvement of Arogya Raksha Samithi (ARS/Rogi Kalyan Samithi (RKS)) in Operations & Maintenance (O&M) of these solar energy solutions. It has also facilitated Annual Maintenance Contract (AMC) between the ARS and SELCO India for the O&M of the solar based systems in health centres.

Program Flow



The planning, implementation, monitoring, supervision and maintenance of solar energy solutions in the health centres were executed combinedly by the ARS and health staff, facilitated by Karuna Trust. The ARS contributed in each step of the following process through a participatory approach which inculcated a sense of ownership within its members.

ARS & Solar Program



Recommendations



Since ARS/RKS is a government body, grants are being allocated to it for the regular functioning & management of the health centres. With this objective, each state has deployed a director level official for community monitoring and supervision of the utilisation of government grants including ARS/RKS. The grants can be utilised from a community participatory approach through mobilising the ARS/RKS members as well as through a top to bottom approach by coordinating the state directors, the Chief District Medical Officers and Medical Officers in the last mile for sustainable energy solutions in the health centres.

Conclusion



The efficiency of solar energy solutions, the savings from the expenditure towards conventional energy source & procurement of generators/ DG Sets which eventually reaches the patient in terms of improved healthcare facility and protection of the environment through reducing carbon emissions will encourage the state and central governments in promoting incentives & adoption of solar energy solutions in healthcare policy & guidelines. The process of community participation in O&M of the solar solutions requires rigorous propaganda for its wider adoption in national & international forums. Development and promotion of such renewable energy solutions will be a significant step towards reducing the dependency on conventional sources of energy and transforming the bigger healthcare system into a sustainable entity.

Annexure



PPP model: (Annex)

Public Private Partnership (PPP) is a model where the public sector i.e. the government and the private sector i.e. the not-for-profit organisations/NGOs work in tandem towards a common goal of providing accessible and affordable services. It encompasses collaboration between the two sectors on provision of Operations and Management (O&M) of public utilities. This partnership embraces planning, service delivery, monitoring, evaluation, technology, training, research, policy formulation and sharing of learnings with each other.

and quality healthcare at the last mile. The foundation believes that with improvement in sustainable technology and efficient appliances, energy gaps in the health centres will be significantly reduced.

SELCO Solar Light Pvt. Ltd. (SELCO India) : (Annex)

SELCO India is a solar energy enterprise that delivers sustainable energy solutions for the poor through innovative technology, finance and delivery models. The vision of SELCO India is to deliver Last Mile Reliable Energy Solutions to improve the quality of life and augment socio-economic development of the marginalised. It provides customised and tailored energy solutions based on the needs of the poor across sectors and geographies, taking into consideration the nature of settlement, affordability and the state of infrastructure. SELCO India through its company branches and incubatees across the states ensure quality of its products and services in a timely manner combining it with door step service models. It believes in the philosophy of hiring local youths to add a sense of trust and responsibility among the villagers that is crucial while serving the underserved communities.

SELCO Foundation : (Annex)

SELCO Foundation is a not-for-profit organisation that strives to create a holistic ecosystem for sustainable energy access to the marginalised sections. It envisions a world where sustainable energy solutions are a part of the approach to development by linking it to poverty eradication, healthcare, skills and environment through collaboration with governments, NGOs, private health partners, local financial institutions, educational institutions and social enterprises. The foundation aims to create avenues for asset building, enhancing the quality of life and livelihoods opportunities for the downtrodden through decentralised energy solutions.

In the context of health centres, energy needs are critical while analysing the gaps in service delivery. Along with bridging energy gaps, the foundation aims to develop holistic solutions to the challenges faced in operations, functioning and delivery models of the health centres as well as developing technology to redefine accessibility, affordability



Brief History of RKS1 (Annex)

The plague outbreak in Surat in 1995 attracted the attention of the terrified city of Indore, Madhya Pradesh to clean up the deteriorated and unhygienic Maharaja Yashwantrao (MY) Hospital which was once recognised as a premier institute in providing medical healthcare in the country. Over the years, the hospital had become home to thousands of rats which added to the degree of urgency to eradicate the rodents and clean-up the hospital. In addition, the need was felt to repair the building and effect an overall improvement of the hospital to ensure a kind of metamorphosis to this. The district administration under the leadership of the Collector took up the strategy to fight the crisis on a war footing through people's participation and complete transparency. In response to an appeal made to the people of Indore, donations started pouring in and more than one million rupees were collected in the first week itself which was used to clean the entire hospital campus, removing tons of rubbish, truckloads of junk furniture and elimination of rats, pests and insects. After this mammoth task, all the infrastructural and clinical facilities were restored and the hospital was renovated to a functional state. Throughout the process, the district administration persisted with continuous participation of the local people either through labour contribution or drawing up strategy for every stage of operations.

Subsequently, it was apprehended that unless a system was evolved to ensure permanency of public participation in the hospital administration, it may relapse into its old state of decadence. With this objective in mind, it was decided to share ownership of the hospital with a committee of local people to oversee its day-to-day operation, maintenance, management and ensuring permanency to the healthcare services delivery through a community participatory approach. As a result, a committee was formed of the local people to carry out reallocation of available space to improve efficiency, redefine administrative responsibilities and introduce user charges to strengthen the resource base for proper management. This committee was dubbed as Rogi Kalyan Samiti (RKS).

Arogya Raksha Samithi (ARS) (Annex)

Arogya Raksha Samithi (ARS) (Annex)

Rogi Kalyan Samiti (RKS) was formally introduced under the umbrella of the National Rural Health Mission (NRHM) in the year 2005 and was constituted in government-owned health centres across the country. In Karnataka, this is known as Arogya Raksha Samithi (ARS). The objective of the formation of ARS was to increase people's role and participation in the functioning, management and service delivery of healthcare facilities. It seeks to include members from Panchayati Raj Institutions (PRIs), legislative bodies, government medical staff and civil society. The central government allocates Untied Funds annually to each ARS for health centre management. The allocation and disbursement of funds is at the discretion of the committee which can also decide to utilise it for sustainable energy solutions.

ARS Fund Alocated for G.H Koppa PHC

Being 60 Km away from Dharwad district, the Primary Health Centre (PHC) in G.H. Koppa is situated in Dandili Forest Range in Talaghataki Taluk of Karnataka. Its remote existence made it partially functional since the time of its establishment. But the functioning of the PHC has improved in terms of both infrastructure & service delivery after Karuna Trust was handed over with its management through Public Private Partnership (PPP). With 16 hours of power outages, the electricity supply to the village of G. H. Koppa was poor & unreliable. This used to hamper the service delivery in the hospital in general and maternal & neonatal healthcare in particular. During 2014-15 albeit, the reliability has increased, the 6-8 hours of power-cut a day remained a regular affair for the PHC.

Given energy this crisis scenario & in order to ensure reliability in power supply, SELCO Foundation in collaboration with Karuna Trust initiated solar energy solutions to the PHC, G. H. Koppa in 2017. The said move was put forth before the Arogya Raksha Samiti (ARS) and was approved with a common consensus for an alternative energy solution for the health centre. A resolution was passed by the ARS and subsequently, the most essential medical equipment such as: Baby Warmer, Suction Machine, Nebuliser, Deep Freezer including Lights, Fans, computers & Printer and Water Purifier were solar powered to provide uninterrupted healthcare services.

It was found that the solar installation in the PHC has augmented services including emergency and deliveries. The triggering factor was, the health centre started operating for 24 hours without any obstructions even during power cuts in the village. After DRE, the management stopped using the inverter or generator as a substitute of electricity which saved a huge expenditure on conventional energy sources like diesel. Additionally, the solar powered Deep Freezer ensured vaccine potentiality and saved it from decay which used to occur due to severe voltage fluctuation in the resource constrained, G. H. Koppa. With all the advantages of solar energy solutions in the PHC, the concern for meeting the cost towards servicing and maintenance of solar systems was raised in the ARS meeting. After a thorough discussion, the ARS agreed to bear it from a portion of its allocated grants by the Government. After one year of guaranteed servicing, a Memorandum of Understanding (MoU) was signed between the ARS of G. H. Koppa and SELCO India (the solar vendor), in 2018 for the servicing and maintenance of the installed solar system. The battery replacement cost was also agreed to be allocated from ARS grants. Till now, two servicing including each, half yearly have been completed with the sanctioned amount of Rs. 4.510/- from the ARS.

Meeting of the ARS, GH Koppa for passing resolution on AMC



Meeting of the PHC staff



SELCO Foundation

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