

Visit to an Anganwadi, Thiruvananthapuram: Empowering sustainability, Igniting change.



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The visit to an Anganwadi in Thiruvananthapuram, Kerala highlighted the transformative impact of sustainable practices and modern technology, particularly electric cooking, in enhancing child development and environmental responsibility. Kerala's successful "**Angan Jyothi**" program initiated by Energy Management Centre – Kerala, promotes induction cook stoves and energy efficiency, serves as a model for the nation. The adoption of induction cook stoves improved kitchen staff's working conditions, reduced LPG usage, reduced cost, and minimized food wastage. Community engagement and cultural alignment were vital in achieving these sustainable changes. Replicating this Kerala model nationwide can lead to

energy efficiency, reduced pollution, and improved child well-being while aligning with India's environmental goals

Background

India has made significant strides in its electricity infrastructure, ensuring improved connections to the grid across the nation. As part of this transformation, eCooking has emerged as a cost-effective and environmentally friendly option, with dishes like Rajma cooked in energy-efficient Electric Pressure Cookers (EPCs) being up to 60% cheaper than LPG cooking. Recognizing the importance of eCooking, it has been integrated into Mission LiFE (Lifestyle for Environment), a global environmental movement led by India. Additionally, the government's Energy Transition Task Force proposed a target of 25% of households using electricity for cooking by 2030.

In this context, it's vital to consider the role of eCooking in improving child development, particularly through initiatives like Anganwadis. These centres, part of India's Integrated Child Development Services (ICDS) program, play a crucial role in providing healthcare, nutrition, and early childhood education for children under six years old. However, they face challenges like inadequate infrastructure and limited resources. By promoting eCooking, and energy efficiency which is not only cost-effective but also environmentally friendly, and by encouraging cooking demonstrations for healthier meals, we can foster better child development and overall

well-being, aligning with the goals of Anganwadis and benefiting the future of India's children.

Promoting Electric Cooking in Kerala: The Kerala Model

Kerala hits the peak demand load at 5100 MW during the evening hours i.e., 6 to 11 pm. In the mornings, the demand is almost half i.e., around 3000 MW. Fifty-three percent of the demand is driven by the domestic/residential segment. The state-run utility manages the entire supply. Seventy percent of Kerala's power demand is supplied by neighbouring states. Kerala has long-standing power purchase agreements with power producers, which is costly, and procured by State utility. Further, the cost of grid supply for institutional entities is becoming increasingly unviable and thus they are directly procuring power from independent power producers (IPP). There are 10 million households in the state, with almost 100% electricity access. The cooking happens before 9 am and after 6 pm in the households. Thus, the promotion of electric cooking in the residential segment may have an adverse impact w.r.t increase the peak load demand. Energy Management Centre-Kerala (EMC) under the Dept of Power, Govt of Kerala is also the State Designated Agency of Bureau of Energy Efficiency (BEE) taken the primary responsibility for the implementation of "**Go Electric**" Campaign in the State, and the activities under the same. It is thus working on strategies to increase the power demand during off-peak times, making it a win-win for the sector, and driving it towards additional revenue and profitability.

Under the “**Angan Jyothi**” programme, EMC is promoting electric cooking in the Anganwadis in Kerala. This aligns with their strategy aligns with its underlining aim of enhancing the off-peak demand and Kerala becoming net-zero by 2050 under the Navakeralam initiative. In the Anganwadis in Kerala, the cooking happens between 9 am to 11 am. With over 33,150 centres in the State, the transition to electricity-based cooking could be key to driving enhanced revenues from the power supply.

Anganwadi: Child Development and Community Engagement

Anganwadis are child care centres established as part of India's Integrated Child Development Services (ICDS) program. With around 13.9 lakh operational centres across the country, they provide essential health care, nutrition, and early childhood education for children under six years old, constituting the world's largest public service of its kind.¹ These centres distribute supplementary nutrition, offer health and nutrition education to mothers, and encourage family planning measures. Anganwadi workers also assist in organizing health care services and support initiatives like immunization drives. Despite their crucial role, Anganwadis face challenges such as inadequate infrastructure, staffing shortages, low remuneration, limited outreach, and deficient monitoring mechanisms. To improve their impact, fostering community engagement through interactive learning sessions and nutritional gardening, as well as



promoting cooking demonstrations for healthier meals, can contribute to better child development and overall well-being.

These centers are fundamental components of the effort to combat child malnutrition and promote overall health. Serving as hubs of basic healthcare provision in villages, Anganwadis engage in various activities. These include offering contraceptive counseling and supplies, providing education on nutrition, conducting pre-school programs, and acting as repositories for oral rehydration salts, basic medications, and contraceptives. As of May, 2023, a substantial number of Anganwadis and mini-Anganwadis, totaling 13.9 lakh (where one lakh is equivalent to 100,000), are operational¹.

Anganwadis play a multifaceted role in supporting the health and development of children and communities. These centers provide supplementary nutrition.¹ The smart diet scheme proposes to provide nutritious food for children in morning, noon and evening. Fruits, vegetables, egg and milk produced in the kitchen gardens of households are collected through Kudumbashree in order to prepare the food. Kudumbashree¹, a comprehensive community network that spans across the entire state of Kerala, India. Its organizational framework is structured into three tiers, starting with Neighbourhood Groups (NHGs) as the foundational units, followed by Area Development Societies (ADS) operating at the ward level, and finally, Community Development Societies (CDS) established at the local government level. Notably, it stands as one of the world's largest women's networks.

While Kudumbashree's core mission revolves around poverty eradication and the empowerment of women, it is characterized by several key elements. These include a commitment to democratic leadership principles and the creation of a supportive ecosystem referred to as the 'Kudumbashree family.'

Different menus are prepared every day from Monday to Saturday. The menu suggests ragi (finger millet) or rice flour ada, idli, noolputtu, vegetable pulao and puttu along with delicious side dishes for breakfast. The menu for noon includes vegetable biryani, egg fried rice, sadya

and Kashmiri pulao along with juice. Different types of snacks including payasam is served. It also engages in non-formal pre-school education and health education. Additionally, they facilitate crucial immunization services, health check-ups, and referral services. These aspects are closely coordinated with public health systems, ensuring a holistic approach to healthcare delivery.

In essence, Anganwadi centers serve as cornerstones of comprehensive care and support for children and communities in rural India. By addressing nutritional deficiencies, offering educational opportunities, and promoting health awareness, these centers contribute significantly to enhancing the well-being and future prospects of the population they serve. Despite decades of impressive growth, India has an acute shortage of doctors. The doctor population ratio in 2019-20 was 1:1456; against the WHO recommended level of 1:1000. Through the Anganwadi system, the country is trying to meet its goal of providing affordable and accessible healthcare to local populations.

Anganwadi workers have the advantage over the physicians living in the same rural area, which gives them insight into the state of health in the locality and assists in identifying the cause of problems and in countering them. They also have better social skills and can therefore more easily interact with the local people. As locals, they know and are comfortable with the local language and ways, are acquainted with the people, and are trusted.

Reflections from the Visit

During the visit to an Anganwadi in Thiruvananthapuram, Kerala by Mr. Vimal Kumar, Co-founder of Finovista, and Dr. Nicholas Rousseau, International Liaison Manager of the MECS programme, they saw how modern technology and sustainable practices have made significant inroads in transforming the centre into a hub of energy efficiency. The adoption of eCooking devices, such as Induction cook stoves, has not only streamlined cooking processes but has also resulted in more nutritious meals for children. This initiative, spearheaded by





EMC and proactive Anganwadi workers, showcases the potential for embracing innovation to drive positive change. The centre boasts various green technology elements, including an EV cycle charging post, 2 kW_p rooftop solar panels, and induction cooking facilities, underscoring its commitment to reducing its carbon footprint and imparting environmental responsibility to the younger generation.

The introduction of induction cookstoves at the Anganwadi has indeed been a transformative change. It has not only improved the working conditions for the kitchen staff but also brought about numerous other positive impacts.

First and foremost, the adoption of induction technology has significantly alleviated the physical demands of cooking. Traditionally, using conventional stoves often required strenuous physical labor, particularly in a high-demand setting like an Anganwadi center, where large quantities of food needed to be prepared regularly. Conventional stoves placed a significant physical burden on the people who are cooking. Individuals had to endure the discomfort of sitting or standing in a kitchen filled with smoke. They were required to constantly blow into a pipe to regulate the flame of a mud chulha (stove), and inhaling smoke in the process, making the cooking process even more demanding. Additionally, conventional cooling systems, such as fans, were ineffective in such an environment due to their impact on the stove's flame. This challenge persisted even with the adoption of LPG/PNG-based stoves. The

significant advantage of induction cook stove is the transition to a smoke-free and flame-free kitchen. This shift has had a profound impact on the overall health and well-being of the center's staff. With the induction cook stoves, the staff no longer have to endure the strain of tending to open flames, leading to a more comfortable and ergonomic working environment. The kitchen staff can now work under a fan or even an air conditioner. This change not only enhances the well-being of the kitchen staff but also ensures a more sustainable workforce in the long run.

Another compelling benefit of induction cook stoves is their efficiency, which has led to a substantial reduction in the usage of LPG cylinders. This translates to significant cost savings for the Anganwadi, as LPG is often a considerable expense. Furthermore, the utilization of thermocol insulated Hot Boxes underscores the centre's commitment to energy conservation. These Hot Boxes help maintain the freshness of food, reducing the need for frequent reheating. This not only saves energy but also ensures that the food served at the centre is of high quality, meeting the nutritional needs of the beneficiaries effectively. It also minimizes food wastage, which is crucial in any social service program.



The success of these energy initiatives is closely linked to community engagement and alignment with local values. The Anganwadi's decision to embrace modern technology, such as electric cooking stoves, was achieved through understanding the needs and preferences of the local community. The involvement of Anganwadi workers in decision-making and training further reflects the importance of cultural and social

alignment in the adoption of sustainable practices. It is essential to acknowledge that technological advancements must respect and integrate with existing cultural practices to yield effective and lasting results.

The inspiring transformation of the Venpalavattom Anganwadi in Thiruvananthapuram serves as a beacon of sustainability, offering a glimpse into the potential of small efforts to drive significant positive change. EMC had provided Inductions Hobs, Induction friendly utensils & Hot boxes to 226 anganwadis in the state as part of its pilot initiatives and currently in the process of implementation on rest of the anganwadis in a phased manner.

As we move forward, it is crucial to recognize the power of collective dedication in shaping a greener and brighter future. The centre's success story resonates with India's broader mission of promoting sustainability, innovation, and community empowerment. It was very encouraging to see how the MECS programme, through its in-country partner, Finovista, is working with local partners in Kerala towards a harmonious symphony of transformation that elevates kitchens, communities, and our shared world toward a more sustainable and prosperous future.

Conclusion and Way Forward

The visit to the Anganwadi in Thiruvananthapuram serves as a testament to the remarkable impact of sustainable practices and innovation on local communities.

Through the integration of modern technology, community engagement, and cultural alignment, the centre has become a model for promoting energy efficiency and environmental responsibility. Replicating the Kerala model of promoting electric cooking and off-peak power demand enhancement in other regions of India holds immense potential for addressing energy efficiency and sustainability challenges nationwide. Kerala's success story serves as a compelling example of how a state can strategically transition to cleaner and more

efficient cooking methods while simultaneously optimizing its power grid. Furthermore, disseminating best practices and sharing knowledge across regions is essential. Kerala's "**Angan Jyothi**" program demonstrates the transformative potential of introducing induction cookstoves and energy-efficient solutions in communal kitchens. By facilitating technology adoption and providing financial incentives to institutions like Anganwadi centers, other states can reduce their reliance on polluting fuels and minimize health hazards for workers. Additionally, encouraging the use of thermocol insulated Hot Boxes can not only conserve energy but also improve the quality of food served, making it a win-win situation for both consumers and the environment. Replicating Kerala's model in



India's diverse regions can pave the way for a sustainable, energy-efficient future while contributing to the nation's broader climate and energy goals. This transformative journey reinforces the potential of collective efforts in shaping a greener and more sustainable world for generations to come. As we unite to harmonize kitchens, communities, and the environment, we embark on a journey toward a future where progress and sustainability coexist harmoniously.

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