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Feminism in Practice: Learning from the Barefoot “Solar Mamas”

By Neda Parvin Shaikh

Abstract

The Barefoot College (India) is an NGO working in the fields of education, skills development, health, drinking water, and solar power mainly to train older, rural women who are determined to challenge restrictive gender roles in their respective communities. Since its inception, the NGO has trained over 2,000 rural women as solar engineers across 93 countries worldwide and has brought electricity to over 18,000 homes. Barefoot trainers employ non-normative methods of sharing knowledge such as color coding, sign language, and practical experience. This paper conducts a critical assessment of the Barefoot College Solar Electrification Programme to explore how it empowers illiterate and semi-literate women from remote rural areas around the world to become solar engineers (or “Solar Mamas”). It utilizes qualitative research methods to analyze this women’s empowerment project as a landmark practical application of decolonial feminist theory. The paper contends that the Barefoot approach both challenges and conforms to the Women in Development and Gender and Development approaches of the past. The research is grounded methodologically in feminist praxis and also borrows from the conceptual frameworks of Feminist Political Ecology and Women and the Politics of Place. Stories and personal experiences from Solar Mamas have been highlighted to understand the real world impact of the program. The main findings indicate that the Barefoot College’s innovative approach to empower marginalized communities and educate older women is achieved through decentralizing control and demystifying technology.

Keywords: Solar engineering, Solar power, Barefoot College (NGO), Rural women, Older women, Women’s empowerment, Decolonial feminism, Women’s development

Introduction

This paper aims to critically assess the key features of the Barefoot College Solar Electrification Programme (SEP) to understand how it empowers older illiterate and semi-literate women from remote rural areas around the world to become Solar Engineers (SE) (fondly baptized as “Solar Mamas” or SM). The Barefoot College was founded in Tilonia, Rajasthan, India by Sanjit Bunker Roy in 1972. It functions as an NGO working to foster education, skills development, health, drinking water, and solar power. The SEP of the Barefoot College (BC) specifically targets older rural women who are determined to challenge restrictive gender roles and empower themselves. As these older women are not formally literate, the SEP trains them to become SEs by employing non-normative methods of sharing knowledge such as color coding, sign language, and practical experience. This research utilizes qualitative methods to analyze the SEP as a landmark practical application of decolonial feminist theory that propagates inclusive

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2 For the purpose of this paper, the terms Solar Mamas and Solar Engineers will be used interchangeably.
feminism that is attentive to borders while also learning to transcend them. The research contends that the Barefoot College approach both challenges and conforms to the Women in Development (WID) and Gender and Development (GAD) approaches. The study is grounded methodologically in what is known as feminist praxis—the application of feminist ideas into practice—and also borrows from other conceptual frameworks like Feminist Political Ecology (FPE) and Women and the Politics of Place (WPP) to realize its objectives. Stories and personal experiences from SMs have also been highlighted to understand the real world impact of the program.

Problem Statement

Policy makers are in agreement that development can only be sustainable if its benefits accrue equally to both women and men. Although there has been considerable progress in realizing this goal in the past few years, the process has been slow and uneven. The promise of economic empowerment remains unfulfilled for the majority of the world’s women as the economic opportunity gap between genders continues to widen each year (World Economic Forum, 2020). Less than two-thirds of women worldwide (62%) are in the labor force, compared to 93% of men. Of those women who are employed, 58% are in the informal economy earning low wages and lacking social protection (World Economic Forum, 2020). Although it sustains families and economies, unpaid care and domestic work is still largely women’s burden and often goes unnoticed, compromising women’s ability to earn an income and build up assets for their later life (UN Women, n.d.). Furthermore, although financial inclusion is on the rise globally, a gender gap still persists (Kende-Robb, 2019). While extreme poverty has declined dramatically between 1990 and 2015, poverty remains gendered across regions. Globally, women aged 25-34 are 25% more likely than men to live in extreme poverty. Most of these women lack access to social protection and public services that would provide them with sustainable routes out of poverty (United Nations, 2020).

Despite progress in women’s education, nearly half a billion women and girls aged 15 years and over are illiterate and only 39% of rural girls attend secondary school (UN Women, 2012). Increasing women’s access to education has been shown to increase women’s labor force participation rates, to delay marriage and child-rearing, and to make women less vulnerable to violence (Heath & Jayachandran, 2017). Thanks to better access to maternity care, fewer women die in childbirth today compared to 20 years ago. Yet, women’s sexual and reproductive rights remain far from realized (United Nations, 2020). Women and girls have less access to education and healthcare, too often lack economic autonomy, and are under-represented in decision-making at almost all levels. In rural communities, gender discrimination intersects with other disadvantages, including limited access to services, markets, communications and technology. The combination of these factors makes rural women among those most likely to be left behind. Women and girls are indispensable to rural communities, yet they are among the people most likely to be poor, to lack access to assets, education, health care and other essential services, and to be hit hardest by climate change. On almost every measure of development, rural women, because of gender inequalities and discrimination, fare worse than rural men.

Rural women are at greater risk of experiencing multiple forms of violence and harmful practices. Violence can occur in homes, places of work, or in public spaces, such as while women and girls collect water or firewood. Higher levels of poverty, limited access to justice, and entrenched discrimination are among many factors that put women and girls in rural areas at increased risk of violence. Rural girls are more likely to become child brides than their urban counterparts worldwide. Gender discrimination limits rural women’s rights to food security and
nutrition in multiple ways, constraining access to agricultural technology, credit, knowledge, and essential services. Health care for many rural women is out of reach or poor in quality. Poor health and lack of reproductive rights can compound other deprivations, negatively affecting rural women’s and girls’ well-being and perpetuating gender inequality (UN Women, 2018).

**Development Literature**

Access to economic resources is an important step towards the empowerment and development of marginalized groups such as women, given gender inequalities in low-income countries. The development literature has recognized the importance of women’s individual interests and the need to avoid homogenization. In their seminal work *Development, Crises and Alternative Visions: Third World Women’s Perspectives* (1987), Gita Sen and Caren Grown synthesize and analyze three decades of economic, political, and cultural policies and politics toward “Third World women.”

Focusing on the impact of the global economic and political crises that led up to the 1980s—debt, famine, militarization, and fundamentalism—the authors show how, through organizations, poor women slowly began to mobilize creative and effective development strategies to pull themselves and their families out of imminently catastrophic conditions. Sen and Grown argue that the underlying ideology of feminism in development contexts should be diverse, with each type of feminism being responsive to the needs and issues of women in different regions, societies, and times. Beneath this diversity, feminism has as its unshakeable core a commitment to breaking down the structures of gender subordination and a vision for women as full and equal participants with men at all levels of societal life. A recognition of diversity in issues and methods allows women to work for change within existing structures or to work to transform those structures. It makes it possible to form alliances with other organizations, to assert the need for autonomy, or to work within existing organizations as appropriate.

In the light of this conception of feminism, the vision for rural communities put forward by Sen and Grown is a dual one. Since poor women are the central actors on this stage, both poverty and gender subordination must be transformed within rural society. As far as poverty is concerned, its structural roots lie in unequal access to resources, control over production, trade, and finance across nations, genders, regions, and classes. Furthermore, they argue that what is really lacking is not resources, but political will. The transformation of the structures of subordination that have been so inimical to women formed the basis of the ideology that was widespread during the 1980s. If women are to attain justice in society, changes are necessary to laws, civil codes, systems of property rights, women’s control over their bodies, labor codes, and the social and legal institutions that underwrite male control and privilege. Women’s organizations are central to achieving these goals. Empowerment of organizations, individuals, and movements has important requisites, which include resources (finance, knowledge, technology), skills training, and leadership formation, on the one side, and democratic processes, dialogue, participation in policy and decision making, and techniques for conflict resolution, on the other (Sen & Grown, 1987).

Some common concerns that women in low-income countries face and that can vary according to the cultural and socio-political context are male control over women’s work, restricted access of women to economic resources, and undervalued social and political power. They result from a highly unequal distribution of resources between genders, gender-based violence, and male control over women’s sexuality (Mininni, 2017).

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3 The term “Third World women” is no longer in use; it has been replaced with “women from low-to-middle income countries” more recently.
Studies show evidence of gender inequality across the world regions, including restricted mobility, high illiteracy, low education, limited skills transfer, and low pay in the informal job sector (Ridgeway, 2011). This is especially true in rural areas where women’s subordination and oppression due to patriarchal norms and customs are palpable. It is argued that women’s access to resources (economic and educational) and employment has several positive effects on the household as a whole, e.g., better nutrition and improved children’s education and health conditions (Kabeer, 2012). While international NGOs have been working in rural areas since colonial times, they have been largely ineffective in improving the day-to-day lives of the rural poor. The Women in Development and Gender and Development approaches that big donors and Western experts have taken to alleviate the conditions of the poor often do not allow the vulnerable to develop themselves or have a say in the decision-making process. The methods used to help the poor tend to be patronizing, insensitive, expensive, and almost exclusively adopt a top-down approach.

Although the world has committed to upholding the rights of all women and girls, fulfilling this commitment is particularly urgent in rural areas. Rural women and their organizations are on the move to claim their rights and improve their livelihoods and well-being. They are showing their determination by educating themselves, acquiring new skills, setting up successful businesses, pursuing their legal entitlements, and uplifting their families and communities using innovative methods which combine old knowledge systems with new media and technologies. The ongoing climate crisis also brings into focus the need for alternative development pathways (United Nations, 2024). Scaling up investments in the care economy and ensuring that women benefit from new green jobs is critical for such pathways to succeed. In addition, it is an untapped benefit to the world economy. Estimates show that closing the gender gap could increase global GDP by 35% on average (International Monetary Fund, 2019).

Energy as a Vital Resource

Energy is a basic necessity for human activity and for economic and social development. Equitable access to energy in the form of electricity is the key to raising economic productivity, reducing poverty, and improving millions of lives. In a sense, energy is the foundational keystone for a better quality of life in modern times. Yet, there is evidence of inequalities in energy services distribution across and within countries and amongst population segments (e.g. across genders). Women tend to suffer the consequences of energy service deficiency from different avenues; they suffer in terms of access, use, benefits, training, income generation, and participation in the decision-making process. Development has, by and large, marginalized women and deprived them of control over resources and authority within the household, without lightening the heavy burden of their traditional duties (Clancy et al., 2012). Energy planning has ignored the reality that men and women have different priorities and levels of access and benefits. It can be argued that gender inequalities with respect to energy consumption and generation are partly the consequence of uneven power relations within our society today.

Clancy and associates (2012) claim that there is evidence of a correlation between energy (availability, access, consumption, and downstream benefits deriving from it) and changes in people’s lives. However, causality is not easily proved since access to electricity per se cannot generate business development. Other elements need to be in place to contribute to people’s life transformation. These include training, access to finance to set up a business, and access to a market for energy products (van Dijk, 2008). Through engagement in energy programs, other
aspects of women’s lives can be positively affected, such as increased mobility, entrepreneurship, and women’s active engagement in challenging socio-cultural constraints (Mininni, 2022).

Clean and reliable energy can improve health and livelihoods and can ease work burdens inside and outside the home. Small-scale, low-cost energy alternatives, particularly in remote areas and poorer communities, can play a vital role in extending power and making energy democracy a reality (UN Women, 2018).

The Barefoot College

In the 1960s, when the Indian government and NGOs were looking to utilize technology and industrialization to curb poverty, Sanjit Bunker Roy, an Indian social activist and educator, was enlightened by the exceptional knowledge and talents of villagers who were ignored by the mainstream media and public. He thus founded Barefoot College, earlier known as the Social Work and Research Centre (SWRC), in 1972 in a small village called Tilonia in Rajasthan, India. The BC believes that placing the rural poor at the heart of the development process is the most reliable and effective way to pass on Indigenous knowledge and practical skills that all rural communities already possess, and which are so often undervalued and under-utilized. The BC promotes far-reaching solutions and low-cost innovations in conserving energy, schooling, technology, health, solar power, communication, women’s empowerment, water conservation, and livelihood generation, amongst others (The Barefoot College, *Tilonia Diaries*, n.d.).

The BC developed a model that places illiterate women, who are usually the people most affected by poverty, as the principal agents of rural empowerment. Meagan Carnahan Fallone, The BC’s Senior Advisor, explains the rationale behind this decision: “Women are the key to sustainable development; they are the passers of knowledge, they teach habits and behaviors, and if you develop women in this capacity, generations to come will continue to benefit from that greater understanding of impact on their own environment” (cited in Turi, 2012). In some of the BCs programs such as water and education, women have traditionally been quite active, but their role in spreading solar technology is new. Although it may build on their traditional responsibility to maintain the supplies of kerosene for lighting and fuel for cooking, what is worth studying is how, for the first time perhaps, sophisticated solar technology has been demystified, and older illiterate village women can demonstrate how they can effectively manage and control it to improve their quality of life. Despite several obstacles, the women seem determined to take up this opportunity to develop their competence and confidence to handle technology, providing services to their own community that give them a new level of acceptance and the respect they deserve (Roy & Hartigan, 2008).

Another innovative aspect of the program is decentralizing decision-making by involving the whole community in selecting semi-literate women as SEs to provide a vital and non-traditional technical service in an area not generally associated with rural women. It also requires them to develop systematic leadership skills, persuading the community to pay a monthly contribution for the repair and maintenance of the solar systems they have installed in each house in their own village. Older rural women are preferred to men because they are often respected in their villages and have strong convictions to improve the quality of life in their community. Their age is often associated with a wealth of wisdom, which makes them influential members in society. After their training, they are the most likely to share their new skills and knowledge with women and girls and lead by example. They are also rooted in their villages and have a low chance of migrating to cities even if their skills could earn them higher incomes there (Roy & Hartigan, 2008).
One of the major goals of the BC is to maximize the use of renewable technologies in rural villages to improve livelihoods and make marginalized communities self-sufficient, which can also help prevent large scale migration to cities. To this end, the institute adopts Gandhian principles to encourage traditional methods of education and employment of local skills. Gandhian values of equality, collective decision-making, decentralization, self-reliance, and austerity are put into practice with each activity undertaken at the institute (The Barefoot College, 2020).

The BC encourages village-led solutions, found through traditional skills and wisdom. With roots in the village community and respect for the efficient use of water, air, earth, and the sun, the BC has set an example of how not to waste or overexploit natural resources. The approach has had a considerable impact in changing the mindset of urban experts and influencing their attitudes toward the idea of having the poor identify and solve their own problems. Development with dignity means development with less dependence on urban skills and more self-respect (Roy & Hartigan, 2008). The Barefoot approach has made continuous progress in demystifying technology for rural folk, whilst also igniting the capabilities of women in the process (The Barefoot College, 2016a).

**The Barefoot Model: Feminist Theory in Practice**

The main aim of the BC is to enable marginalized rural communities to participate in planning, executing, and evaluating developmental projects through which they can lift themselves out of poverty with dignity and self-respect. The BC is a prime example of a decentralized management philosophy and capacity building from within (The Barefoot College, 2017). While most institutes require a certain level of formal education and English proficiency from prospective students, the BC has no such expectations. In fact, the international SMs training programme is specifically geared towards those with little formal education or English language skills.

The older women who train to become solar engineers break the stereotypical mold of what a mother (or “mama”) can achieve despite the considerable obstacles they face in marginalized communities. By using the word “mama” along with the word “engineer,” the paper takes the stance that the two roles can coexist, without one negating the other. The word mama—which has traditionally been used to signify reproductivity, domesticity, and oppression—can be reclaimed by older rural women to denote intelligence, autonomy, literacy, gainful employment, and empowerment.

The BC SEP can be studied as a landmark practical application of decolonial feminism. Popularized by Maria Lugones in 2010, decolonial feminists examined colonialism as a force that imposed gender hierarchies on Indigenous women (Tlostanova et al., 2019). Decolonial feminist theory provides a theoretical framework for the silenced voices of women from the Global South to become agents in the production of knowledge. It implies a new path that is not an imposition or prescription, but an alternate way of understanding gender that emanates from marginalized women in the Global South (Manning, 2021).

After learning at the BC, the women return to their respective villages and install fixed solar systems in individual houses which then power solar lanterns that light up homes. They also coordinate rural electronic workshops (REW) where they can meet to discuss the program, train other women, and store raw material. The skills learnt from the REWs are utilized to undertake all repairs and maintenance work in various solar electrified villages. This unique initiative helps empower women through vocational training and skills. It also enables the women to save money since the expenditure on solar lights every month is consistent and amounts to less than they
previously spent on environmentally unhealthy alternatives such as kerosene, candles, torch batteries, mobile charging, wood, and diesel (The Barefoot College, 2016b).

The BC model is considered decolonial feminism in praxis—a practical application of the ideology rooted in relationality. The praxis aims to be horizontal, emphasizing leadership from below, specifically by those who are often unable to actively participate in their own development (dos Ventos Lopes Heimer et al., 2022). Women’s participation in the rural energy technology employment sector is often limited by the lack of social inclusion, skills transfer, and financial support (Baruah, 2015). Economic and technical solutions often result in top-down approaches applied without consultation with those people they aim to help (Mininni, 2022). The BC debunks old assumptions that formal education is required for development work. In challenging established theories on development, the BC discredits modern modes of education/expertise as incapable of achieving the same impact in rural communities as rural women can. One achievement of the Barefoot approach in villages around the world has been the replacement of cost-intensive initiatives and jobs by low-cost and labor-intensive initiatives, providing gainful employment to disenfranchised women (Roy & Hartigan, 2008).

Due to language barriers and lack of prior schooling of the participants at BC, special emphasis is given to training using puppetry, color coding, and practical hands-on sessions. The women learn almost exclusively through various oral methods and visual aids like colored symbols for components, which help them remember the circuit board wiring without having to memorize it. Sign language is also used when needed under the guidance of a master trainer. For reference, multi-colored encrypted charts are hung on the walls of the lab. Candidates are taught to identify electronic components through color codes and shapes (The Barefoot College, Rural Women Solar Training, n.d.). Within India, the programme has trained over 1,700 women SEs from 2000 to 2022 across 20 Indian states, spanning over 5,000 villages within which a total of 75,000 houses have been solar electrified. This far-reaching and cost-effective solution is further estimated to have saved 30,000 liters per month of kerosene (International Renewable Energy Agency, 2022).

Outside India, a village solar committee is formed in each of the non-electrified villages selected for electrification. The SEs, upon return to their respective villages, set up rural electronic workshops (REW) and start assembling and installing the free solar equipment received from the BC. Every beneficiary household contributes a fixed amount per month to the joint account of the village solar committee. This ensures a regular income for the SEs and ensures a regular flow of money for the renewal of the stock of spare parts and batteries and the operation of the solar committee. Within the Indian Technical and Economic Cooperation’s (ITEC) scheme, the Ministry of External Affairs also pays for the airfare of the women participants and gives them a stipend for the duration of their training in Tilonia. Within this time period, the women learn to build solar lanterns, improve local electronic workshops, and also troubleshoot the solar powered system. What regular universities and colleges are able to achieve in three to five years, the BC is shown to accomplish in six months, since the emphasis is more on practice than theory.

One of the greatest impacts of the BC is building the confidence of women who become valued members in their communities. Many of the rural women who undergo training are mothers and grandmothers, who are incentivized to create better living conditions for themselves and their families, resulting in far-reaching effects for their communities. This is proof that even older illiterate and semi-literate women can become change-makers in society provided that feminist theories lead to contextual practical applications (Kabeer, 2001; Sen, 1985).
Impact and Applicability: A Global Feminist Transition

Over the years, the BC has expanded its international outreach into places like Africa and Latin America, where women are the first and most direct beneficiaries. Before the BC, several international sustainable development strategies treated women as a homogeneous category which led to a series of social and gender injustices under the garb of women’s empowerment (Leach et al., 1999). One of the main reasons for the BC’s global success can be seen as stemming from its framework of Feminist Political Ecology (FPE). FPE identifies gender differences as arising from the social interpretation of gender that diverges by class, culture, race, and place and that are prone “to individual and social change” (Rocheleau et al., 1996, p. 3). The framework emphasizes that in order to conceptualize power relations, they need to be contextualized within the interplay of intersectional structural relationships including gender, class, race, and other dimensions of difference. The need to improve women’s access to resources and their participation in the community and decision-making is a key theme under FPE.

The Barefoot Vocational Training Institutes (BVTCs) endeavor can be read as working within the framework of Women and the Politics of Place (WPP). The WPP framework takes into account the linkages among women and environmental globalization movements. In addition, it aims to look at the relation of people, place, and nature to understand how global perspectives can be built based on changing economic and social realities in terms of place. Alternative education programmes, which are equivalent to formal education, can be used for remediation. As such, both the young and old populations need to be trained with life skill techniques for sustainable livelihood generation. The WPP framework emphasizes a collective strategy for transition that is built upon recognizing solidarity across gender, class, age, sexualities, race, and ethnicities.

In 2008, when the MEA included the BC within its prestigious ITEC colleges, several ground partners were on-boarded including the WWF, UNESCO, UN Women, and UNDP Small Grants Program. The BC collaborates with these ground partners to implement higher order governmental policy shifts in a way that is focused on long-term sustainability. Administrative and project-related costs are generated partially from the college itself through the solar enterprise earnings, the Tilonia articraft bazaar, the five Sub-Saharan Regional BVTCs, and private philanthropy. The Ministry of External Affairs, GoI, also provides funding for the training centers, including the construction of a rainwater harvesting tank, two years of running costs for solar training, and travel transportation required for the training purposes. The GoI’s financial support is estimated to be around USD 1.5 million annually. The BC invests in the solar equipment that the participants need for practice and in their villages. These trainees also get paid for their monthly job by a committee of seven villagers (led by women), who are also in charge of the equipment (Indian Technical and Economic Cooperation, 2016).

The Barefoot approach can be seen as reconceptualizing what defines a professional, what constitutes an education, and how to elevate the crucial leadership role and talents of women as the foundation of economic enhancement. Meagan Carnahan Fallone, senior adviser at the BC, explains that within their communities, women act as harbingers of culture, repositories of information and traditions, and teachers of habits. Women prioritize education for children, stability for the community, and placed-based skills that build on existing cultures. Furthermore, statistically speaking, women invest twice as much of their incomes back into their family than men (80% to 40%). As such, working towards gender parity could raise GDPs around the world by over 25%, according to a 2015 McKinsey Report (McKinsey & Company, 2015).
Personal Stories and Experiences

The stories of these women also show their respective struggles and how they overcame them to become SEs despite being formally illiterate.

Magan Kawar, a 52-year-old mother of two from Bhawani Khera village in Ajmer, Rajasthan, was disowned by her parents-in-law when she decided to leave her village for a job in 2008. Kawar reminisces how “they were very angry, women never stepped out of the home alone. To go outside of the village and work in an office alongside men was a disgrace. My parents-in-law said I had brought upon them that disgrace” (Paul, 2017). Despite their discouragement, Kawar traveled to Tilonia, a village an hour away from hers, where, along with her husband, she became a technician at a rural innovation center. Eight years later, Kawar, who never studied beyond the third grade, is one of India’s top renewable energy experts. She is a lead instructor at the BC in Tilonia. Kawar shares the story of Chantal, one of her trainees from the Democratic Republic of Congo who was raped several times in her home country: “It was her first escape from the violence. She first cried for days, then just immersed herself in learning. Somehow, she found our informal learning environment very soothing. And we also realised that the world over, the lives of women are the same—there are too many challenges, but together, we can help each other rewrite our stories” (Paul, 2017). Kawar, however, was able to rewrite this story for her two children whom she sent to universities. She also invited her parents-in-law to visit the BC and said: “They came, saw me teaching and my mother-in-law liked how it is women educating each other. That day, she welcomed me back into the family” (Paul, 2017).

Niembain Charlotte, a 60-year-old former farmer from Cameroon, traveled to Rajasthan, India in 2019 to become a SE. She has been a widow since 2007 and has one surviving daughter who is 27 and a grandson. Women in her village are expected to collect and chop wood, which is needed as a light source and for cooking. For a woman like Charlotte who married young and had to abandon studies as a young woman, she seized the opportunity to study again (The Barefoot College & IsDB, 2020). Charlotte finished her training successfully and returned to her village in early 2020, just before the upheaval of the pandemic began. In the same year, 400 solar home lighting systems arrived in Cameroon and were assigned to very remote regions where grid electricity is not available, to benefit 2800 villagers. Charlotte began solar electrifying villagers’ homes from Mpagne, a region with only one road in and out. Charlotte’s training gave her the opportunity to work in a village as a woman where typically only men work in such occupations. Her newfound business and financial acumen helped her to save money and use a bank account. The cellphone she was provided along with the digital literacy classes helped her access the Internet. She understands concepts like women’s rights and health and nutrition, and learning English was a milestone for Charlotte. As she said, “I took quite a journey—now people perceive me differently. They admire me for my courage and sacrifices!” (The Barefoot College & IsDB, 2020).

Lekeleka, a 44-year-old woman who grew up in the Ha’apai region of Tonga (a small island nation in the Pacific Ocean) had a hard life, but she is passionate about helping her community and family. Lekeleka joined the BC program in 2016. She explained that “instead of not having an education, I can use my mind and also my hands to make something for my family. I want to do it because I know it is very helpful for Tongan people here” (Gjedrem, 2019). At the BC, Lekeleka observed women going beyond the traditional notions of women’s work, and this changed her perspective to seeing women as agents of change. She highlighted the contrast between the BC women and the Tongan gendered work roles: “In Tonga there are no women doing these kinds of jobs. I may be the first woman of my kind, first woman who can hold a job because the opportunity
of learning to make solar lanterns in India is only for women” (Gjedrem, 2019). The BC helped boost Lekeleka’s self-esteem by providing her with positive role models of women who can do practical work. Before the BC, lack of confidence and self-esteem limited Lekeleka from stepping up and taking measures for improvement that would potentially promote development of her life and her community. She shares her personal experience and says: “I always thought I cannot do anything. I would only dream of such an opportunity like this before, honestly. Now, instead of just sitting idly in my house, I can actually make something for myself” (Gjedrem, 2019). Lekeleka further explained how the change in her self-image and confidence encouraged her to contribute to her family’s uplift: “In the past, I would just sit in my house and wait for my husband to provide for us. But now I know this is my function too, to help him earn money, not to just sit on my chair like a princess. I know that if I do not step up and do something, my family will fall back, my children’s education will suffer and my community will be left in darkness. Now I have a strong feeling to stand up and do something for them” (Gjedrem, 2019).

Florentina Choc, a SM from Toledo, Belize (on the eastern coast of Central America) has a similar success story. Florentine is one among the 37 women who came to India from 11 of the least developed countries. Remotely located in the southernmost part of Belize, Toledo is often referred to as a forgotten district. Living in a palm-lined thatched roof house surrounded by dense jungles and rows of corn and cassava, 42-year-old Florentine has spent all her evenings in the dark. Florentine plants her vegetables and grains in the jungles of Santa Teresa and earns one USD for every pound of produce, that is, if she has enough to feed herself and her young son. “Life is hard there. I am a single woman, and there is no one to support me or earn money for me,” she said (Desai, 2014). Her son heard about the programme run by the BC and told her to go. She looked up the lone encyclopedia in the house to find where India was located. “I was very scared but my son convinced me to go as it will help not just my family but the entire village,” she said (Desai, 2014). In 2014, in Rajasthan, India, Florentine lit the first spark, which she later used to bring electricity for the first time to her hometown. “I never thought I could do anything. My life revolved around planting corn and cassava,” Florentine said (Desai, 2014). “I only studied till class six you know, I don’t read or write much. I had no idea what a solar panel is or that the sun can bring electricity. I was surprised to even discover a solar lamp when I first came here. But now I can fix a solar light,” she said (Desai, 2014).

From Damascus, Syria, SMs Hala Naseef and Azhar Sarhan had to cross many hurdles to come and train in India. They pointed out that although the government may try to show Damascus as an oasis in an otherwise war-torn Syria, the ground realities are different: “there are frequent power outages and everyone lives in fear of a total collapse of the grid. Solar technology is not very popular, but could soon become the only source of power if the war does not end soon,” says the duo (Paul, 2017). It has been a long journey from Damascus to the BC for both Sarhan and Naseef, but they are quick to point out that the past five months, despite daunting odds, have been a very enriching experience. “I miss home and the food…but to see other women who have come from difficult places, we forget our own struggle,” says Naseef (Paul, 2017).

Closer to India, in Nepal, the first three local women to become SMs in 2022 were Chhepa Lahmu Lama, 44 years old; Tsering Pama Lama, 42 years old; and Laiku Lama, 46 years old. These women from marginalized communities were thrust into the vanguard of change, creating it on a local level in their country. “It is unimaginable for me as an illiterate woman,” observed Laiku Lama, “to be able to install lighting in my community. And it was even more astonishing to have gone all the way to India for this opportunity, to receive the training that enabled me to help my own people” (Thapa & UNDP Nepal, 2021).
Discussion and Conclusion

The BC, in many ways, is a unique training institute. The SMs’ initiative focuses on older women from developing countries who are trained to be SEs. The programme improves women’s employability skills, thereby empowering them economically, and also improves electricity access in rural areas in a sustainable manner. Initiatives like these can also help tackle issues of healthcare, poverty, population control, unemployment, and environmental degradation. For example, the African continent has succeeded in replacing more than half of the kerosene lamps with solar power lights. By giving the reins of development directly into the hands of the rural poor women, the programme creates a sense of dignity within the poor. Women, who would not otherwise have received formal education, are transformed through this training from home makers into SEs and gradually into entrepreneurs (Barefoot College International, 2022). The adoption of solar energy also contributes to improving women’s and communities’ health. By engaging women in the energy technology field, the programme supports gender equality in energy (Mininni, 2022).

The project has had a tremendous impact on its students, trainers, participant country governments, employees, investors, beneficiaries, and the environment as a whole. Solar water heaters, included in the devices offered to participants, prevent the freezing of water during cold winters. Manufacturing of these devices has led to avenues of employment generation as well. The availability of light allows study, work, and relaxation for the people of these communities. The newly educated rural women benefit through their newfound economic independence and financial stability, thereby earning self-respect and confidence within their patriarchal rural communities. By recognizing homegrown talent and the vastness of rural women’s capabilities, the BC has managed to apply feminist principles through sustainable and environment friendly methods. The footprint design on the BC logo is appropriate in this context, as its inclusive strategy has spread across the world, leaving a mark on vital issues of social progress.

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