

Role of Eco- Friendly Institutions in Saving and Developing the Environment: Hands on Experience at Barli Development Institute For Rural Women

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Saving and developing the environment is one of the most threatening concern for the people all over the world at this time of history. Time has come when each human being individually as well as collectively needs to think globally and act locally.

The United Nations Environment Programme encourages partnership in caring for the environment by inspiring, informing and involving governments, Institutions, individuals NGO donor agencies and all other sections of society , to participate in the process of Sustainable development.

Being a Baha'i inspired NGO Barli development Institute for Rural Women¹, a UNEP Global 500 Laureate ² has been committed to save the Earth's resources³.One of the principles it has been learning to apply in practice is "Let deeds, not words, be your adorning..."and the hands-on experience gained for more than two decades has evidenced that Eco-Friendly educational /residential Institutions can play a very significant role in achieving their goals of educating people by practicing the values and principles to be taught there.

About Barli Development Institute for Rural Women Indore

The Institute started working in 1985 on a 6 acre plot of unutilized land in village Bhamori (then outskirts of the City of Indore).Over the years the Indore city has grown, the Institute is no longer on the outskirts; it is now surrounded by high rise building,

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¹ <http://www.barli.org>

² In 1992, UNEP conferred the Institute with the Global 500 Roll of Honour for outstanding environmental achievements due to its work in helping to eradicate Guinea Worm by working in 302 villages of the Jhabua district.

³ *Conservation of the Earth's Resources* Prepared by the Research Department of the Universal House of Justice, October 1989

including shopping malls. In the midst of all this an Institute has emerged as a model of what can be done to improve the environment within the city.

The word *Barli*, a common female name in Jhabua district, in the State of Madhya Pradesh, literally means “central pillar” in a tribal house. Programmes of the Barli Institute are based on the philosophy that women are the central pillars of society and that if they are empowered, the whole society is empowered. It is through women that knowledge, attitudes, practices, values and skills are passed on to children and further sustained by generation after generation specially starting with women as they are the first educators of the next generation and are the closest partners of environment .

By now, the Institute has trained more than 5000 rural and tribal young women have returned to more than 500 villages under 97 residential training programmes for 6 months to one year , conducted free of cost with board and lodging at Indore. The number of indirect beneficiaries spreads to atleast 50,000 as each trainee returns to her community taking with her the information she has learnt, shares her knowledge on environment ,health, hygiene and social values which are beneficial to all, encouraging participation by and also through creating self help groups. Over the years these women have proved that sustainable development is possible by empowering people with spiritually motivated education.⁴ .

Eco- Friendly Institution Promoting caring for the environment

Barli is an environmentally friendly campus, an oasis of green in the middle of Indore, a dusty and noisy city. The campus is mostly self-sufficient in terms of production of food fuel and self service.It serves as a working model and demonstration center to conserve and develop the Earth’s resources for rural technologies.

All the trainees at the Institute learn caring for the environment is taught as a spiritual responsibility by a combination of eco friendly lifestyle, by doing practical work at the campus as well specially designed curriculams that include, the value of indigenous environmental resources ,knowledge and practices .They learn about biodiversity , agricultural skills , planting and maintaining trees, seeds, the use of environmental and energy conservation techniques such as composting, vermiculture, the use of

⁴ Website ,Barli Ki Dunia PHD Theseis

biodegradable products and appropriate waste management .Each day about 100 trainees and staff work for 2 hours from 7:00 to 9:00 a. m in maintaining the campus, cleaning the roads, buildings planting crops and vegetables.

More importantly, the trainees learn conservation strategies by practicing them and by developing an eco friendly campus having a wide range of solar and energy efficient technologies as well as a functioning model of sustainable development.

On the campus of the Institute approximately 50% of the area is occupied by roads, parking, building, lawns and other amenities. Rest of the area is used for agriculture and horticulture. With the exception of crops, wheat and rice all the food vegetables, many spices and crops of maize, potatoes, grams and lentils are grown. The programme provides not only technical skills, but also a sense of personal worth, giving the women confidence to implement initiatives of their own. It also promotes the concept that managing the environment is a service to the community and a spiritual responsibility through its training

Planting Trees on Rakhi Festival

During the festival of Rakhi, a festival in India where brothers pledge to take care of sisters, and bring gifts to them. At the Institute, people are encouraged to bring tree saplings and plant trees on this festival. At least 80% of trees growing on the campus are Rakhi. This has been a practice for more than 20 years, children come with their parents to see the Rakhi trees, which were planted years before, and also plant their own trees. Three generation of one family come on this day to plant trees.

First Largest Solar Community Kitchen at Campus

The Institute manufactured the first largest Solar Community Kitchen cooking for 300 meals daily for 300 days in a year saving monthly 900 kilos of wood and .

World's Only Solar Storage Cooker

Made and Installed 4 Large Solar Kitchens in School Hostels

such kitchens in rural school hostels, cooking for about 1300 persons ? tested and using world's first Solar Storage Cooker, ? various models of Scheffler solar cookers, driers, ovens, water distillation units, SK14 solar cookers for domestic use, Thousands of Barli graduates trained in solar cooking, more than 350 carried solar cookers to 100 villages in 13 Indian states , promoting solar energy for cooking, boiling

water, ironing clothes, textile printing and they found these safer, inexpensive and gender-friendly.

For more than 10 years the all the food for 100 persons using large Scheffler solar cookers, 3 meals per day for approximately 300 days per year. Barli Development Institute for Rural Women also promotes the use of solar cookers in the rural areas. More than about 330 SK 14 solar cookers, are already in use in the families of trainees and by others including micro credit groups who use and income generation tool. Scheffler solar cookers are manufactured at the Institute to facilitate other NGOs to establish solar kitchen similar to the one at Barli

Solar Dhaba/ Bakery /Water Distillers/ Water Heaters.

Institute is trying to use solar energy and heat in whatever it is possible. A solar oven has been designed and built to bake bread cakes etc. Designing a boiler that gives 1 litre of boiling water every 10 minutes while sun is shining.

Solar-laundry and Ironing

Clothes are ironed with the old type irons heated on the solar cookers. House hold size reflectors made that the cook can be under some shade while cooking. During the approximately 65 days when we have, cloudy partial cloud and rainy days, All fuel for the kitchen is sourced from within the campus. Throughout the year all deadwood is harvested, trees trimmed, fast growing trees are cut back to promote new growth, providing fuel, even the smallest breaches are harvested. Waste papers, tree leaves and farm waste are made into briquettes to provide fuel, saving fuel wood.

Other Energy Efficient Technologies

When cooking on the wood burning stove during cloudy days, water is heated up to nearly boiling point. Inside the brick built chimney a heat exchanger attached to the flue pipe, this is insulated with 30 mm of ceramic wool. Water is piped to the system from a overhead supply tank. Using this high temperature water in the cooking process, results in a saving of 10 kilos of wood per day.

SK 14 Cookers in Villages

For Domestic Use

Barli is committed to building the capacity of rural and tribal women as a step towards sustainable development; institute trainees are encouraged to transmit the use of solar cookers and other energy saving devices in their villages. Training programmes exist at the Institute for trainees and graduates who are willing to pay 10% of the cost of a cooker and who are willing to attend training at the institute to learn how to use and maintain the cooker correctly.

The pride of using a new form of technology also means that more men are becoming interested. Barli graduates are becoming pioneers in new technologies that are helping the development of their villages. With this new found role men are gaining more respect and status in their families and communities

Solar Drying of Vegetables

During the winter when there is a surplus of vegetables, these are dried in the low cost solar tunnel driers. This provides a supply of vegetables to the kitchen during the dry season. The rural women learn that for a minimum cost they can turn low value surpluses into valuable food. Many spices and other medicinal herbs are also dried in these solar driers.

Near Zero Waste Creative Recycling

Barli uses creative methods for recycling and reuse.

Some examples are paperweights made from used torch batteries.

Fallen hair from students is collected in each dormitory and use to make brushes for use in the batik printing. Rice and flour sacks are artistically embroidered and turned into strong ethnic and stylish carry bags. Waste from cutting and tailoring classes get reused to make colourful mobiles for children and decorations

Brooms are made from date palm leaves, the tree grow in the Institute

News papers when read are used for pattern making in the cutting and tailoring class, then mixed with tree leaves etc and made into briquettes for fuel.

Rubble created during renovations etc is reused to build concrete roads and parking areas. All biodegradable material is composted and used to grow vegetable and crops.

Water Management

For more than 10 years all rainwater falling on roofs of building, roads, yards and agriculture land is harvested through a system of small pond, pipelines with chambers to arrest silt and floating material. This water is channeled to the open well through a series of filters to the open well, and used for irrigating the crops. Washing-bathing water and sewerage are both separated at source, sewerage water is treated, both are stored in underground tanks and used to irrigate the growing crops.

Saving electricity

Every effort is made to save electricity; supply meters are read daily to monitor consumption. Only CFLs and other energy efficient lights are used, all campus exterior lighting is controlled by passive infrared detectors. All electric motors, particularly pumps are opened on a yearly basis and repaired where necessary. All bathing washing water and is heated by solar collectors, there are no electric geysers on campus.

Barli as a Learning Centre

The Institute has become a learning centre for civil society, government, NGOs, and educational institutions. Barli is regularly called to give presentations to Government Officials and others on solar cooking and on how to use non-conventional energy for the development of Central India in terms of schools, workshops and seminars for other NGOs. This exchange of information helps to raise the awareness of solar food processes, and also by helping to ensure new developments are tested, made available, promoted and marketed well.

Training of Micro-Credit Groups

As well as supporting the training of individuals, in 2004 the Institute expanded its training to assist existing Madhya Pradesh Micro Credit Groups in the use of solar

cookers and to find an income. These programmes have generated a demand from NGOs such as SIRDI. In one example, a group of eight women in Betul now cook for two hours during the peak sunshine each day using solar cookers. This transferal of technology has also enabled rural women, in the words of Institute Director Janak McGilligan, 'to become pioneers in the development of their villages' a role not readily available to rural and tribal women.

Conclusion

Barli Institute is constantly learning to identify the needs of rural communities and to diagnose the appropriate solutions. Among the problems identified by the Institute, some have been given a growing attention along the Institute's development, such as the society's unawareness of pollution problems and the depletion of natural resources. One of the Institute's main objectives has been to overcome the harmful practices of the past in order to promote environmental respect, always through cultural respect. The Institute campus provides a working example of sustainable practice for the trainees as well as for other organizations.

Institute is a now venue for study tours for Ministries of Government of India, Universities, colleges, school and many others who wish to see our energy efficient campus, where within a city an education institution is established to cater for most of its needs within the campus.

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