



The Barefoot College  
Tilonia

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# The Barefoot College



Equality  
Collective Decision-making  
Self-reliance  
Decentralisation  
Austerity

## *Why Barefoot?*

- Because millions of poor people in India who carry the knowledge, skills and wisdom of their forefathers live and work barefoot. They sit and work on the floor.
- It is symbolic of the recognition, respect and importance we give to the collective knowledge and skill that the poor have.
- By calling it 'barefoot' we want to give its application a unique category of its own, that is superior, sophisticated and enduring. Far more valuable than any paper qualification.

## *Why College?*

Because it is a centre with a difference

- a centre of learning and unlearning.
- where the teacher is the learner and the learner the teacher.
- where everyone is expected to keep an open mind, try new and crazy ideas make mistakes and try again.
- where only those are welcome who have no paper degree to hide behind.
- where only those are considered who are NOT eligible for the lowest government job.
- where tremendous value is placed on the dignity of labour, of sharing and on those who are willing to work with their hands.
- where no certificates, degrees or diplomas are given.



# Gandhi & the Barefoot College



The Barefoot College has internalized into its lifestyle and work ethics, Gandhian ideas that are still relevant and universal in the 21st Century.

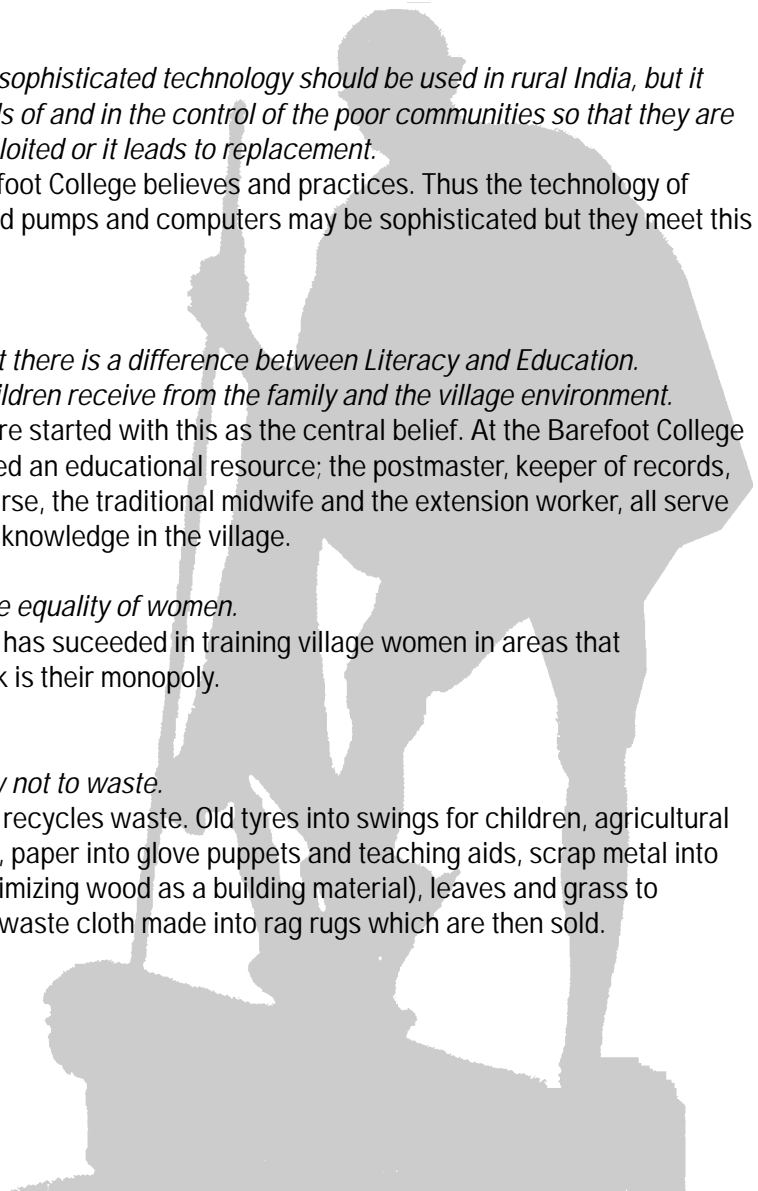
*Gandhi's central belief was that the knowledge, skills and wisdom found in villages should be used for their own development before getting skills from outside.* The Barefoot College has done this for the last 29 years. Only technology that can be understood and controlled by the community is widely applied and used in a sustainable way to improve the quality of life of the poor.

*Gandhi believed that sophisticated technology should be used in rural India, but it should be in the hands of and in the control of the poor communities so that they are not dependent or exploited or it leads to replacement.* This is what the Barefoot College believes and practices. Thus the technology of solar appliances, hand pumps and computers may be sophisticated but they meet this criteria.

*Gandhi once said that there is a difference between Literacy and Education. Education is what children receive from the family and the village environment.* The night schools were started with this as the central belief. At the Barefoot College everyone is considered an educational resource; the postmaster, keeper of records, the policeman, the nurse, the traditional midwife and the extension worker, all serve as communicators of knowledge in the village.

*Gandhi believed in the equality of women.* The Barefoot College has succeeded in training village women in areas that traditionally men think is their monopoly.

*Gandhi taught us how not to waste.* The Barefoot College recycles waste. Old tyres into swings for children, agricultural waste into handicraft, paper into glove puppets and teaching aids, scrap metal into geodesic domes (minimizing wood as a building material), leaves and grass to produce bio-gas and waste cloth made into rag rugs which are then sold.



# People's Power



People have *always* had power. They just need to recognise it.

By giving them confidence in their own knowledge and skills the Barefoot College has helped people recognise their power.

- The power to ask questions and to demand answers.
- The power to decide and choose; to enquire, to hold accountable.
- To know how much money is coming into their village, for what purpose and how the money is being spent.

No organisation giving money in the name of the poor wants to be transparent and accountable to the poor.

*Only* by adopting the Barefoot approach can you give people power. Otherwise it remains cosmetic and unequal.

*The Barefoot College organised a the first ever transparency meeting explaining to people where the money for the village came from and how it was spent.*



# Women's Power



The Barefoot College has encouraged women to come together in large groups to realise that they are not alone. By far the most powerful communicators of knowledge and action have been these educated but illiterate rural women who have gained confidence in the fact that they are heard.

- Women's fairs, public hearings and campaigns against rape.
- Barefoot women mechanics repairing and maintaining handpumps giving women control over their own water sources.
- Woman solar engineers taking on male dominated areas.
- Women's action effecting the first judgement in Rajasthan on minimum wages won in the supreme court ensuring that in times of famine the Government pays minimum wages.
- The first public action against rape when scores of women took to the streets - unheard of in traditional conservative Rajasthan.

*More than 400 rural women produce high quality handicraft for the domestic and export market. The annual turnover is about 100,000 British pounds a year with most of the earnings paid by cheque. They are forced to open their own bank accounts and to learn how to read and write in order to claim their money. 20-25 semiliterate rural women are doing our data input work on computers. 30,000 hours of data entry have been done so far.*





# Women's Power



In 1985 some of us in Rajasthan decided to have a celebration with rural women. It was decided that the Festival should affirm working women's' solidarity, focusing on the poor.

Women came from all over the country. They spent time talking about their bodies, joys and themselves. They danced together - 1000 of them. In the morning they had an invocation walk and sang songs from different parts of India. There were grass-cutting competitions. They also played men's games - tug of war, kabaddi and rode bicycles for the first time. They communicated without words about child rearing, labour rates, marriage rites, jewellery and clothes. Despite the wide variety of cultures, languages, food habits, one common thread linked all of them - poverty. The festival was an exchange of ideas but it was mostly an affirmation of love.

The political learning that came out of this get together was the deep understanding of atrocities on the female gender. When an old man came for justice and recounted the rape of his 11 year-old daughter it became a real concern because in their own lives they faced this threat every day. For the first time it became a big public issue. The energy of the morning invocation walk got converted to the mass rally that took place in the nearby town of Kishangarh on 4th October 1985. Tractors driven by villagers in support pulled trolleys full of rural women. Everybody wore black bands on their arms and sat in front of the local administrator's office.

A small part of women's history got written that day. Never in this very traditional and conservative area had so many rural women been seen marching in public and publicly expressing their protest.

The Fair was a tremendous expression of women who toil with their hands. A great sense of completion for others who had worked hard to prove that thinking and acting are not mutually exclusive activities.

It was also a statement that the personal is political. Women know this without rhetoric.

# The Night Schools



60% of poor rural children cannot afford to go to government morning schools since they share family tasks like cattle grazing and water collection. This is why schools at night have been started.

- For the convenience of the students and *not* the teachers.

The central belief of the Barefoot College when the night schools were started was that

- the community, family and village environment are responsible for a child's education.
- school merely teaches one how to read, write and count.
- everyone is an educational resource; the postmaster, keeper of records, the policeman, the nurse, the traditional midwife and the extension worker.
- they are as important as the teacher as communicators of knowledge in the village.

*The curriculum of the night schools has been designed to make the rural children more aware of their village - how the rural institutions like post offices, banks, police stations and land records offices work. Today after 29 years there are more than 150 night schools spread over 500 square miles. Over 3,000 children attend them every night. 70% of these night schools use solar lanterns to provide light.*



# Children's Parliament



The concept of the Children's Parliament is integral to the curriculum at the Night Schools. Children attending the night schools get to know more about political systems and structures by actually going through the learning process.

While the parliament monitors supervises and administers the 50 night schools, the cabinet sees that

- the teacher comes to school regularly and on time
- that the solar lanterns work properly
- that there is safe drinking water available
- that teaching aids are available and used
- that more dropout children attend school.

The cabinet has full power to hire or fire teachers and to visit any night school as ministers and report at the next cabinet meeting.

Problems have to be solved before the next meeting.

All members of parliament are between the ages of 12 to 15.





# Children's Parliament



"I am studying in class V in the day school at Shiksha Niketan, Tilonia. This is my first year at Bal Sansad and I am enjoying being involved. I have learnt a lot, especially how the political system functions and I feel all the children should get a chance to be on the Bal Sansad as it really helps one to grow. I will not contest the elections next year, as others should have an opportunity to do so. I am going to study further and probably later in life contest elections at the state level. I was disappointed when our party did not form the government, as it was in the minority, but even though we are in the opposition we keep a complete check on them and pull them up when they do not perform well. We work in coordination and help each other when needed. My family feels very proud of me and has also started taking me more seriously, even often asking me for advice!"

*Madhu Devi, 10 years old. Member of the  
Opposition Party*

"I was the Minister for Education in the Bal Sansad last year even though I always wanted to be the Prime Minister. Since I was in class V last year, and would have completed primary education and would not have been allowed to contest the elections, I decided to repeat the class to become the Prime Minister. That did not happen this year either. Anyway, I manage two departments now and try to do the best I can. The girls seem to have taken the lead here".

*Kanaram, 15 years old, Minister of Finance  
and Education*



# Demystifying Technology



The Barefoot College demystifies technology in order to serve urgent needs of the people. There is a message in this for national and international decision-makers. Literacy, high powered degrees and qualifications are *not* required to disseminate the most sophisticated of technologies to improve the quality of life of rural people. What is needed is faith, trust, and practical common sense to begin facilitating this process.

Only technology that can be understood and can remain within the control of the community should be widely applied. This is what the Barefoot College practices and believes in.

*At Tilonia, very ordinary men and women, in rural communities have done extraordinary work. Anyone and everyone, whatever their qualifications, can learn about computers, solar energy, biogas and electronic mail.*



# Traditional Media



Where the percentage of illiteracy is high and the oral tradition rich, the traditional performing arts like street theatre and puppetry are more powerful than television or the written word, like books and newspapers. More than ever this media, once considered entertainment alone, has become a powerful tool to change attitudes and the mindset of people who think they cannot change or improve the quality of their own lives.

There are 45 puppet teams that enact themes on issues like

- The right to Information.
- Reasons for rural school dropouts in contrast to urban school dropouts.
- Why the rural poor stay poor.
- The reality of minimum wage practices.
- The need for wasteland development.
- Political processes and systems.
- Untouchability.
- Women's rights.

Approximately 2,150 performances have reached out to over 8,00,000 people. The transformation from traditional string puppets to glove puppets provides greater visibility, as well as addresses environmental concerns, as these glove puppets are made from recycled waste.

*The 1987 drought walk through 63 villages gave the puppet team the opportunity to conduct plays and stage puppet shows on drinking water, the fragile environment, the need to conserve water and the importance of trees. Over 100,000 people were exposed to these shows.*





In 1981 a group of 50 landless rural women were seeing a puppet show in the evening. The puppet asked them: "How much are you being paid for 8 hours of work?" The women replied: "Rs. 2 to Rs 3 at the end of the day". The puppet asked them: "Do you know that the law of the country entitles you to receive Rs. 7 per day for eight hours of work".

The women were surprised and angry. "What should we do to get what we are due"? In a humorous tone the puppet advised them to lie down on the National Highway and stop all the trucks on the road so that the government officials would get agitated, sit up and take immediate notice.

A few days later the staff of the Barefoot College saw 200 women walking towards the road. "Where are you all going" they were asked. "To stop all the trucks on the road" the puppet told us it would get us Rs. 7 per day. A meeting took place asking them to reconsider. There was a better way they were told. Why don't they all write a letter to the Chief of Justice of India explaining your problem? "Are you sure such a big man will listen to us? Does he have the time" ? Yes, he will. The puppet gives you that assurance.

A letter was written. The Chief Justice of India accepted it as a Writ Petition and summoned the State Government of Rajasthan. The Chief Justice asked the government "why are you paying Rs. 2 to Rs.3 when the law says you should be paying Rs. 7 per day as the minimum wage? The Government informed the Chief Justice that that was the practice they had been following since 1964.

Every time there is a famine declared in a state, the Government passes a Presidential Ordinance allowing the state to legally violate the Minimum Wages Act. "So", the Chief Justice said, "in time of famine and hunger when people should be getting more money you are paying less, with the logic that more people can be employed with the same amount of money available"? "Yes", said the state "that has always been the practice".

In a historic judgment of the Supreme Court of India, the Ordinance of the Government of Rajasthan was declared unconstitutional and they were obliged to pay to all the women who signed on the petition the correct amount that was due to them.

It all started with the puppet show.





# Solar Power



Solar electrification of remote villages in the Himalayas is the most

- sustainable, in the long term
- cost effective
- community controlled and
- environmentally friendly solution.

As a result of solar power, in Ladakh alone 1,00,000 litres of kerosene and diesel have been saved.

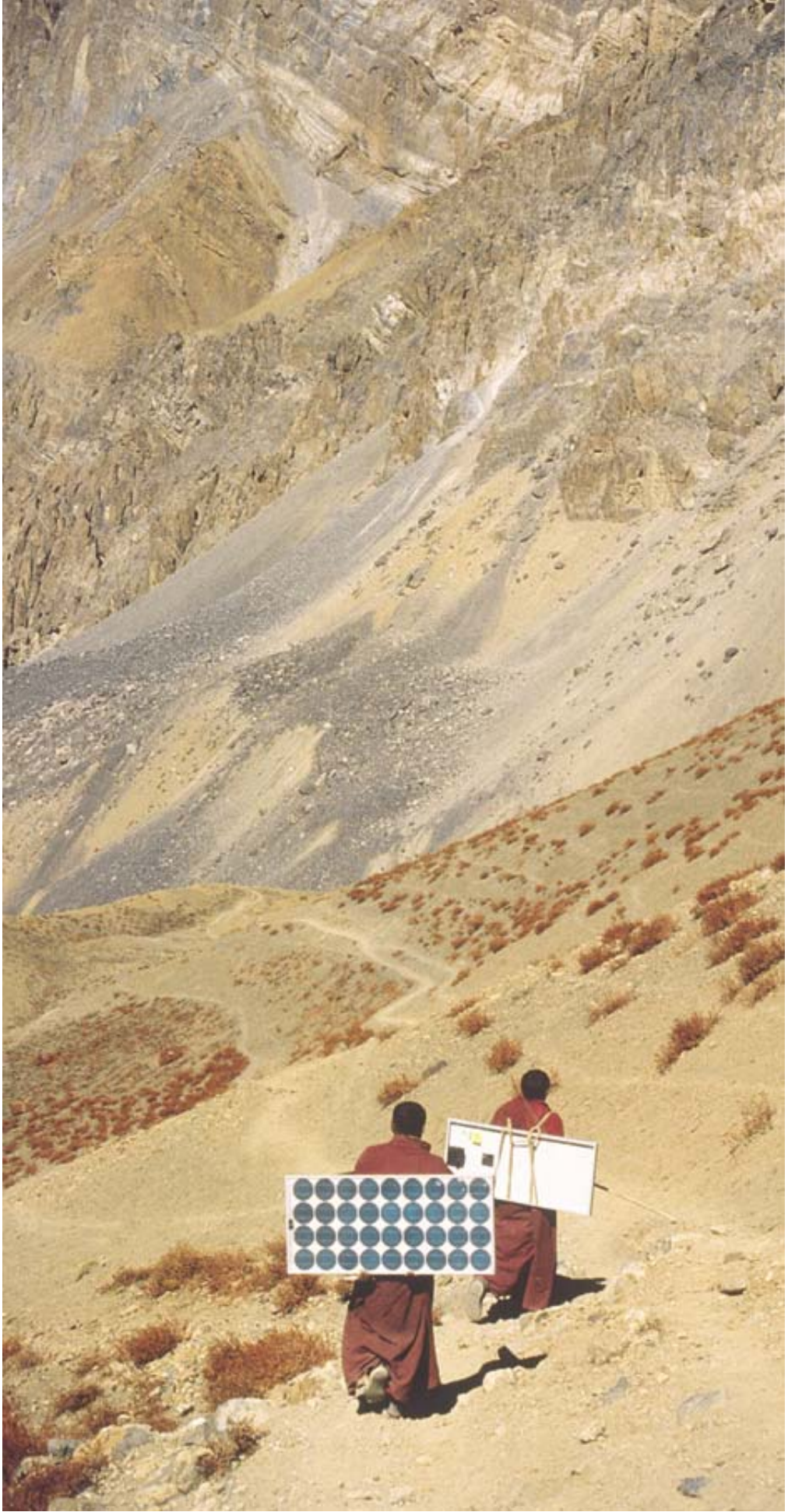
But who is listening?



*The entire campus of the Barefoot College has been solar electrified by a priest who is a secondary school pass. 15 computers, one 250 line telephone exchange, e-mail, a total of 500 lights for a library, dining hall, residences for 100 people with their families, water pumping and distribution, a pathology laboratory, maternity centre are provided with power that comes from the sun. As a result of this 60,000 litres of kerosene and diesel have been saved. Moreover 100 night schools for shepherd boys and girls who cannot attend school in the morning are provided lighting through solar*









## Solar Power

Ladakh, for six months of the year it is cut off from the outside world by snow and temperatures dropping to  $-50^{\circ}\text{C}$ . In the winter, people huddle together with their goats in the kitchen, where a single kerosene lamp is all that they have for warmth. A month's supply of 20 litres of kerosene means a two day walk to the nearest government depot and black market rates despite supposed subsidy! To provide three hours of electricity a day, the government has resorted to diesel generator sets supposedly providing light to villages within a five kilometre radius from the station. They belch out fumes and are prohibitively expensive to maintain. When the solar option was suggested to the government in 1988, we argued that the answer in Ladakh was a decentralized individual household system where the involvement of the people was paramount. On the condition that the community would select their own trainees *and* pay for the service we challenged the engineers to choose any one from the remotest village, literate or otherwise and that we would train him to be a barefoot solar engineer in three months.

"Absolutely out of the question", they said. "solar energy is too expensive and its efficiency unproven. Moreover no rural community has ever paid for electricity in Ladakh". We stood our ground. "If they maintain it themselves, they will pay for it". So in 1989 the project started in the village of Gurgurdo near Batalik on the Indo-Pakistan border. Abdul Karim, an illiterate rural youth whose job it was to supply the army border with essential goods by mule, was trained to be the first barefoot solar engineer.

He has since become a trainer himself and has assisted in the installation of over one thousand units in Ladakh. There has been a phenomenal response from the remotest of village communities where each family has paid for the service. Every year nearly three thousand US dollars are collected which is enough to pay a small salary to several barefoot engineers to repair, maintain, purchase spares and even change batteries and solar panels. Now village after village send their petitions to the District Development Commissioner demanding solar electricity. More importantly, they are willing to pay for it!

The demystification of technology is a process that cannot be rushed. It must move with the pace at which the community moves, slowly carrying everyone along.

*Tsewang Norbu lives in the village of Digger across the 4,500 metre high Khardungla pass in Leh District. He is twenty-eight years old, has five children and keeps goats.*

*He was selected by his community to be trained in the installation, repair and maintenance of solar photovoltaic units. All the solar units the installed were brought to the village by Yak and on the backs of people from the village. He was trained on the job: he installed fifty-nine units himself, taking three months to complete the work.*

*The units were installed in 1992. They are still working.*



# Rain Water Harvesting



- There is no need to exploit water from great depths using prohibitively expensive machines. By using local materials, village skills and voluntary labour from the community, it is possible to construct tanks to collect large quantities of rain water. Those are short term solutions.
- The knowledge and practical wisdom of rural communities is fast dying because short sighted “experts” have no faith in its value or relevance.

*At the cost of one drilling rig it was possible to collect 12 million litres of rainwater in 107 schools and give 1000 people jobs for 4 months.  
The choice is clear.*



# Rain Water Harvesting



Using people's knowledge, in 1986 the Barefoot College constructed a 400,000 litre underground rain water harvesting tank on the campus. It is fed by pipes from roof tops and ledges and has an overflow into an open well. The impact of this exercise has been far reaching.

In 1997/ 98 for the cost of one DTH drilling rig, a total of 12 million litres of rain water was collected in 107 rural schools and thirty villages. To build these tanks a thousand people were given jobs for four months. As a result the attendance of girls in night schools rose because they could avail of sweet water for the family.

When the Barefoot College launched a massive campaign of collecting rain water through schools and community centres in areas where the water is brackish or not potable because of iron, fluoride, salt etc, there was resistance from urban trained paper qualified engineers. They were used to expensive solutions of ground water surveys, piped water supplies, deep bores and hand pumps and had little faith in the low cost solutions that had sustained communities for centuries. Furthermore in order to devalue this approach engineers often use the argument that this water is unfit for drinking. This is untrue. Studies have shown that there are more water borne diseases spread through poorly planned bores and piped water supplies than from rain water harvesting structures.



# Drinking Water



The availability of drinking water is not a technical problem as engineers make it out to be but more of a social one.

Community issues like the choice of technology,

- collection and distribution,
- poor installation, wastage and leakage
- repair and maintenance
- corruption

need to be addressed by the people themselves in consultation with others involved. These issues are best solved by the community of users rather than urban engineers who as outsiders, and do not share the same concern or urgency.

*While hand pumps have provided safe drinking water and brought down infant mortality rates, traditionally the well was a place where women met, washed clothes, and kept abreast with village gossip. With the hand pump and piped water these vital communication channels have been affected. Did we do more harm than good?*





# Drinking Water



While sitting in a tea shop in 1982 we saw a jeep drive past carrying lots of people. The villagers laughed. "What was the joke" I asked?

"They have come to repair a hand pump from the district headquarters 50 km away, they replied. The Government has a lot of money to waste!"

In 1983 the Barefoot College took illiterate farmers, cycle repairers, diesel pump mechanics, carpenters who repaired bullock carts, blacksmiths who made agricultural implements and trained them in a month to become hand pump mechanics.

No trucks no jeeps, no engineers- only HPMs on cycles looking after 30 hand pumps within a radius of 5 km from the village they lived in. This brought the cost of repairing the hand pumps by one-third.

This made the engineers in the Government livid, it angered the international donor agencies and experts because the HPMs were laughing at their solution and also doing a much better job at repairing hand-pumps.

The story gets better. Tilonia created the first woman barefoot hand pump mechanic in traditional Rajasthan. It was a sight to see a woman without her face covered repairing a hand pump in front of the whole village putting everyone to shame. Today in Rajasthan they are a common sight!

*"... we repair our own tractors, we repair our own bullock carts, we repair our own diesel and electric pumps, we repair our own cycles. Look around - Do any of us have paper degrees or diplomas? What's so great about changing nine parts of an India Mark II hand pump?"*



# Fighting Mindset



What has led to massive rural unemployment and migration?  
Conventional grid power coming to a village.

- The advent of plastic as in shoes, rope and utensils have put the traditional leather worker, ropemaker, potter and blacksmith out of work.
- Power looms have replaced the handlooms.
- Increased irrigation facilities have resulted in land grabbing, resulting in more landless farmers.
- Increased dependency on urban areas and the death of traditional skills.

The answer to India's problem is not mass production but production by the masses.  
But who has the courage and the vision to look for alternatives?



## Think About It



- What do people in the developed countries have that we do not have already ? Knowledge ? Skills?
- The biggest threat to development is the literate expert. An expert actually is an ordinary man or woman from another village.
- Thousands of jobs in urban areas are there to ensure that the rural poor remain poor and that extreme poverty continues to exist.
- What is evident is that people who control funds do not have the practical wisdom, the patience, the humility or the solutions.
- One indication of the lack of seriousness and sincerity to tackle poverty is their impotence to come to grips with issues that the poor feel strongly about: corruption, wastage and leakage of public funds. No one cares.





## Shelter & the Barefoot Architect



- The 30,000 sq.ft. Barefoot College was constructed out of low cost materials by a farmer who still cannot read or write. He was assisted by 20 village masons. It was fully solar electrified (40 Kws) by Hindu Priest who has only done 10 years of rural schooling. Over 100 people live and work in this College campus.
- More than 70 geodesic domes (originally conceived by Buckminster Fuller) have been fabricated by village blacksmiths. The geodesic domes are used as night schools, libraries, a pathology laboratory, meeting halls for women and pre-primary schools.
- Hundreds of rain water harvesting structures using traditional waterproofing techniques to prevent loss of water seepage.
- By giving responsibility of choice and application of technology to the rural communities, by handing over total control to the barefoot technologists with roots in the community and by showing respect in the faith and competence of ordinary people to provide tangible benefits to their own people there could not be a better way of demonstrating the enduring value of a process and system that is totally owned by the actual beneficiaries.



# Shelter & the Barefoot Architect



No one in our family knows how to read and write. We are 3 brothers all farmers. We have 15 acres of agricultural land. Now all our children are going to school. This is the first time such a step has been taken and I am glad. I joined the Barefoot College twenty years ago in 1977. I used to fill water in the houses with Kanaram and his donkey water carrier. Because I was a farmer I was asked to work on the fields to grow good for the Centre. Then I worked on the poultry farm looking after chicks for one year with Vasu. At the same time I drove a tractor for the Centre when it was needed to visit the schools at night.

In 1986 I was asked to build the New Centre I was and am still illiterate. But that did not worry me. I had already done so many jobs in the Centre. This was just one more. To dig the foundation it took one year. I was asked to supervise the work of about 50 rural masons and over hundred daily labourers. It took two years to build. An architect tried to make blue prints but they were changed so many times that they were useless in the end. It was a joint effort. Everyone who was going to live there was consulted. Every one's views had to be respected. So the location of doors, windows and roads changed every day. Rafiq the Blacksmith fabricated the doors and windows in his rural workshop in Tilonia.

We tried many new ideas. Collecting rainwater was a new idea in this area. The roofs were connected underground to a tank. The stage was built over the tank to save money and make it look nice.

Another idea was to line the roofs with small earthen pots (used for drinking tea in railway stations) to give it space so that it was cool in the summer and warm in the winter.

*Bhawar Jat, Barefoot Mason*







Organizations are born in the context of social condition. A condition defined by their people.

Tilonia is the name of a village in Rajasthan. Today it is a name that evokes strong memories of shared existence. A melting pot of experiences and temperaments. Where the young came to seek answers, to be adventurous, to change, plan, be angry and to love and hate. The villager came with caution and curiosity, the dweller with impatience to perform and depart. In the initial years in 1973 the deserted TB Sanatorium was an evocative back drop to the stories of hosts in the kitchen and the stark loneliness of young women far away from urban homes.

The story of people is now a rich collage of experiences and actions. It is the funny anecdotes of Tejaram, the middle school drop-out who came to cook and also gossip; his rotten food offset by only the richness of his stories, and the deftness with which he could steal the rations, outwitting the most clever of his opponents.

Of Parsa Kaka his assistant, who hadn't the guts to travel as far as Kishangarh only 15 kilometres away, so parsimonious that when he died he left three trunks full of bars of soap he had been given to clean himself. He died with the same dirty shirt he had worn all his life.

It is the memory of Ram Baba the elder who was respected, who had dignity and character that even caste could not taint. Born into the sweeper community, he held his own, in traditional, caste ridden Rajasthan.

Dhani Bua (aunt) bent double with age was courageous and modern enough to support the unmarried young women who came to live in a campus full of men, unchaperoned! She was a friend. Born into the most orthodox of village communities -the Gujjars- she came to love the strange people who came from far away. So much that she named her great daughter ... 'Centre', after SWRC (Social Work and Research Centre)!

It is the story of young qualified bohemians who left the humdrum of mainstream life to be confronted by responsibilities of a different kind. It is also the collective courage and doggedness of young people from cities who came to learn and fight their way through a tradition of caste and feudal attitudes to women. Deep in our memories there are pictures from a night lit by kerosene, and of two women fighting to save the life of a mother and child, fighting their own fears as they braved the hostile environment and the superstitions of the midwives. The extraordinary relief when the child was born healthy and howled his guts out with the laughter and relief of us all. The beginnings of friendship and trust.

The story continues.....