The Luminous People of the Barefoot College
(who gave us hope for the future of the world)

A travelogue by Maja Kuzmanovic and Sanjeev Shankar

The Barefoot college in Rajasthan, India is a unique place, run by unique people. It is rooted in tradition, with a vision that reaches far into the future. It is an embodiment of Gandhi's philosophy, where literacy is separated from education, where women flourish, children run a parliament and people with a handicap are not disabled. On the Barefoot campuses there is no waste, water is harvested and sunlight turned into power (literally and metaphorically). In their programmes traditional crafts meet information technologies, while environmental and ethical sustainability are at the core of their everyday life.

From the peaks of Switzerland to the deserts of Rajasthan

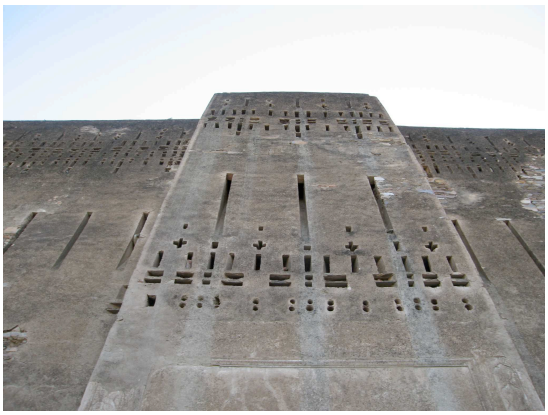
It was a cold and snowy morning in Davos, Switzerland, in January 2007, when Maja squeezed into a packed room of one of the many hotels hosting the Annual meeting of the World Economic Forum. She chose a session that brought together people from different parts of the world who shared a common passion - working on local solutions to global environmental threats. Mr Bunker Roy, the founder and director of the Barefoot College described their solar

programme, where illiterate and semi-literate women from around the world are educated as solar engineers in six months. He told us about a couple of Ethiopian women, who went back to their village, provided electricity for lighting, heating and cooking, then proceeded to set up and a night school for more than 500 children. If there was a local solution to be praised by the World Economic Forum delegates, this was the one.

After the meeting, Bunker invited Maja to experience the Barefoot approach first hand in Tilonia, Rajasthan. As she was planning to be in India a few weeks later, this became a real possibility. The plans were made for a visit after the Doors of Perception Conference, held in Delhi (about 500km from Tilonia) - Maja was to stay in the Barefoot guesthouse and spend about 24 hours exploring the college, meeting the people and learning about their programmes.

Our way to Barefoot

Several weeks later, we were in New Delhi, on a bus travelling to the Doors of Perception conference, discussing our lives before and after 'Juice' (the title of the conference). Maja mentioned her plan to visit the Barefoot college. Sanjeev's eyes brightened as he almost jumped out of his chair, impulsively declaring "I'm coming with you". For Sanjeev, the word 'Barefoot' was so powerful in its simplicity and honesty that he could not resist the temptation of witnessing the story himself. A few hours later, our little expedition team was increased with one more member - Catherine Widgery, an inspired and inspiring landscape artist, in residence at the Global Arts Village, otherwise based in Guatemala.



Our journey began the next day, from the New Delhi Train Station at 4:30 AM. After a Holi party in Roopangarh and a full moon evening in its fort, Maja headed to Tilonia in an open Jeep, whipped by hot winds and pierced by dust particles (both of which made her fever reach a nearly halucinatory stage). She reached the College half an hour later, only to find out that her Barefoot host, S. Srinivasan (a.k.a. Mr. Vasu) had fallen ill and had to go to the hospital. She was told that it would be best to return the next day. Back in the Jeep, she hoped that she wouldn't have to return to Belgium without being able to experience the college and decided to try again the day after. First thing in the morning, she was on the phone with Mr Vasu, who had felt slightly better and was happy to receive us.

Full moon in the Roopangarh Fort

Arriving in Barefoot

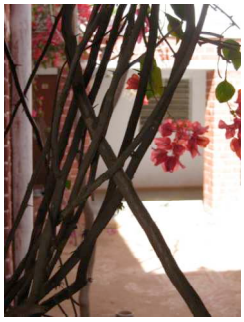
With only three hours before we had to catch our train back to Delhi, Mr. Vasu extended us a warm welcome and introduced us to our guide. What we witnessed in the next three hours was the successful implementation of a system based on truly empowering the people at the very base of the demographic pyramid. Over the last 30 odd years people belonging to the poorest communities and most marginalized sections within India and abroad have become a part of a sustainable, ethical and democratic Barefoot community. Initiated in the early 1970's, the Barefoot College has a strong impact in the local community and continues to inspire similar models worldwide. The College thrives owing to being founded on the principles of self-respect and dignity for all; be it poor women, physically challenged people, or small children.

Fighter planes and solar panels on a desert campus

Barefoot College welcomed us with its quiet, rustic setting, occasionally pierced with high-tech looking solar panels, medical equipment, IT facilities and - a fighter plane - donated by one of their previous visitors. Our journey began by walking through the 'New campus', which houses the office, computer and internet centre, electronics lab, night school, library, medical facilities, canteen, phone booth, shop, open-air theatre, residences, guest house and a massive underground water tank. After a delicious lunch, we visited the 'Old Campus', situated on the other side of Tilonia, at about ten minute drive from the HQ. The Old Campus is a home to most of Barefoot's production facilities, the rural handicraft's section, carpentry, ironwork, recycling and weaving workshops, many residencies and last but not least - the Barefoot bank.

Water harvesting

We walked through a beautiful and vibrant landscaped area on the New Campus, which was a lush green and bright red contrast to the arid planes surrounding the College. Next to the older trees, the Barefoot horticulturalists dug large pipes more than half a metre under the ground, to prevent wasting water on the surface, where it would evaporate before moistening the roots. The plants that do not survive are mixed with organic waste in a large container, providing the College with compost and a valuable fuel - bio gas. Our guide pointed to the repurposed medical glucose-drip bottles, supplying the plants with water directly where it's needed - close to their roots. Several bottles contained an almost fluorescent green liquid, which we assumed was some kind of fertiliser, but were quickly corrected - no fertiliser of such colour would be used here - some kids have poured some non-toxic Holi dye into the bottles!



Pour water where it's needed!

The Barefoot college is teeming with plants, despite being situated in the desert kingdom of Rajasthan, where water shortage threatens many lives. We have discussed this with the head of their water harvesting programme, a young, radiant woman who explained their efforts in making other communities in Rajasthan as green as the Barefoot campus. Delivering water more efficiently to the roots of plants is only one of the issues. Groundwater levels in that region have dropped and are still dropping, due to extensive private and industrial needs. In order to remedy this issue, the Barefoot college promotes rainwater harvesting, in addition to (or sometimes instead of) hand pumps that siphon the scarce ground water to the surface. The water engineers help the villagers to redirect rainwater to dry open wells, thereby not only providing a cost-free source of drinking water, but also replenishing the ground water basins. They are also involved in bi-weekly water mapping throughout the region, testing for existence of toxic chemicals and the overall water quality. In the hills, where groundwater is too difficult to reach, large water harvesting tanks are installed on rooftops of schools and family homes.

Tradition and innovation

The Barefoot college looks towards the future by embracing the past. Centuries old traditions passed through the hands of many generations, becoming more sophisticated and effective, as people tried, failed, learned and tried again. The Barefoot rural handicrafts centre provides a wealth of knowledge and techniques to manipulate and transform local materials - from textile fibres, to metal, wood, paper and even recycled composites. Plastic flip-flops are made into colourful toys, old ropes knotted into new ones, an empty tooth-paste tube is animated as a puppet and discarded text-books are turned into sturdy snack-bags.

Reusing and recycling: thin rope as thick rope, flip-flops as toys and textbooks as snack bags

We met the chief tailor and several designers, working on weaving, printing, quilting and beading of textiles and textile goods that adorn many houses in Rajasthan and beyond. Their fabrics storage was a visual and tactile treat. Wherever we went, there were raw materials (often recycled), mixed with prototypes, still to be assembled components and finally, stacks of finished products. We commented that while the natural resources might be scarce, productivity and inspiration are very much in abundance.

Beading ornaments and painting teaching aids

Some of their products are sold easily, others have a smaller market. The lines that are more marketable are subsidising the less profitable works. Everyone is paid equally, providing the people an adequate living standard. We talked to a young social entrepreneur who recently started a business making wooden teaching aids and toys. The college buys his products for a year, while training him in business development, accounting and marketing, as well as providing a start-up loan from the Barefoot bank. This mentored start-up process allows him to grow, while teaching him how to become independent and self-sustaining.

Weaving, dyeing and quilting

In a time when designers around the world are beginning to revive their interest in the ages old crafts, the knowledge of these men and women is an enormous wealth, which is nourished and kept alive by the Barefoot college. Far from being shown as a local curiosity and tourist attraction, the crafts' products are goods valued on a global market, dressing up people and places on all corners of the planet.

The Barefoot engineers

At the entrance of the New Campus we found Barefoot's Internet cafe (dhaba), run by a local woman in her late 40's. Dressed in a colourful rajasthani attire, she sat on the floor in front of the computer to demonstrate her abilities. After an initial training period of three months, she is now comfortable with administering the online systems of the college and assists her colleagues with emailing, surfing websites, typing letters and faxing documents. All this in spite of the fact that she doesn't understand, read, nor write any English (they are unfortunately not using a local distribution of Linux that would allow her to operate the computer in her own language). She uses her strong visual sense and identifies words and letters by relating them to the alphabet on the keyboard. She is now responsible for carrying out the college's online activities and also training new members. Accustomed to many young, male and grumpy system administrators, we met a smiling and skilled woman, who took pride in her work and gladly shared it with others. May there be more of her in our world!

Our next stop was the Barefoot electronics assembly lab, where (among other things) the printed boards used in solar lanterns are being made. People are trained here to assemble (pre-designed) electronic circuits, using a simple 'look and match' technique. We witnessed how people with no prior education can execute a whole series of tasks, from putting together component parts (such as inverters and transistors), to completing complex PCBs. All tasks are planned to provide a rapid, comprehensive and hands-on education and production, including more experienced students mentoring novices. This lab focuses on designing and developing systems which utilise solar power to provide ambient lighting and cooking facilities for remote, off-the-grid villages. Lighting, one of the women engineers told us, is the most crucial part of their work, as it allows for night-time education, an important aspect of self-empowerment for the villagers in poor rural areas of India and other parts of the world.

The selection of people to be trained here is quite thorough and involved. The priority goes to the commonly disadvantaged groups - the poorest of the poor, women, children, the elderly and people with physical or mental disabilities. We talked to their head engineer, a woman who has become the coordinator of solar electrification for more than 20 villages and is able to share her knowledge with new generations of young women, educated through the Barefoot programmes. She and her colleagues have a practical and positive attitude towards the simplest and the most complex of problems, that they tackle with much passion and determination. The numerous awards displayed on the walls witness the importance of their contribution to a wider community around the world. After browsing through charts and diagrams used in the courses, our guides showed us the results of the lab's efforts. There were numerous products on display, including portable solar lanterns, varying in size and brightness, using LEDs or CFLs. When completed, these products are sold to villagers, at affordable rates. The exact prices of the lanterns are based on local conditions - for example, it can be calculated based on the average yearly family expenditure for lighting, cooking or heating. We couldn't resist purchasing the smallest and lightest lantern, of a simple, but effective design, which provides enough light (using a super-bright white LED) for at least one person to read by. It comes with its own tiny solar panel and both easily fit in Maja's already over-stuffed luggage. Now it illuminates the FoAM studio, half way across the planet.

On our way out of the solar lab, we encountered the 'Control Room' for Barefoot's massive solar power plant, which electrifies the whole campus, including all their IT facilities, lights, heaters, electronic, medical and culinary apparatus. Looking up, we noticed that most of the roofs were covered in solar collectors, feeding on the ample sunlight. The roof above the kitchen houses a large solar cooker, able to boil 20 litres of water in less than an hour. The technology is remarkably simple, focusing rays of sunlight into a small silver-coloured oven, slowly turning to match the motion of the Earth around the sun, gathering energy for most daylight hours.



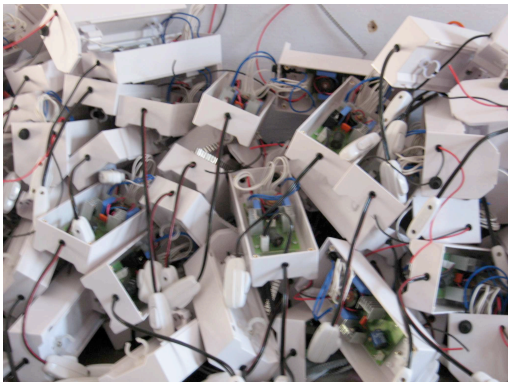
Solar Cooker

Later in the day, we visited the solar cooker fabrication facility, situated on the Old Campus, entirely run by women folk from the nearby villages. It was a treat to see an entirely indigenous

mechanism, that uses bicycle gears to turn the solar dish and follow the sun. This ingenious system was developed by women for whom the Barefoot College was the first stop after leaving their family homes. They were helped by books, which showed images of creating a mechanism able to act as a sundial. For Rs 10.000 (which is approximately what a family would spend for fuel in a year), the cooker can be purchased and used to prepare food for a group of 10 to 15 people. The larger cookers can serve groups up to 60 people and are often collectively bought and used in communal kitchens. The women showed us the fabrication process, from drilling holes in mirrors, to stringing them together, to producing the metal stands and assembling the gears. We even had an impressive demonstration of the effectiveness of the cookers, when one of the girls placed a sheet of paper in the cooking-oven and once the dish was turned to the right spot, the paper burnt to ashes in a matter of seconds. This demo made us more aware of the beautiful, but lethal reflections of the thousands of tiny mirrors, covering the walls of the open-air workshop, as well as the women's flowing sari's and Maja and Catherine's fragile pink skin. Again, we were struck by the technological savvy of the women. They were true princesses of the kitchen, now not just in charge of food preparation, but also of designing and constructing the tools. Under their skillful hands, their kitchens became portable, self-sustaining and environmentally friendly.

From drilling holes in the mirrors, to assembling sun tracking mechanisms on solar cookers

Another awe inspiring women's workshop was the multi-cultural solar lantern fabrication lab. Throughout the world, from the most disadvantaged and remote communities, a Barefoot committee and the villagers select the poorest person (usually a woman), with the least development opportunities, but a strong mind and motivation. This person leaves their friends and family for six months to move to Tilonia and join a team of likeminded people, eager to become solar engineers, later to return and electrify their villages and regions. We met women from Afghanistan, Bolivia, Guatemala and Ethiopia, learning together with people from different parts of India. Upon completion of the course, the women go back to their countries to become entrepreneurs and teachers, creating a ripple effect within their own communities. The women were winding transformers, soldering PCBs, operating a test-setup and signing off finished products. They were surrounded with colour-coded charts in more than five languages, semi-assembled controllers and lanterns, numerous drawers stuffed with a myriad of components and a snake-pit of cables and wires. On the blackboard, an electric diagram reminded them at all times of the most important inputs and outputs, voltage and 'wattage' of a solar panel, its connection with a charge controller, with a battery, which links to the CFL to complete the electrical circuit for a solar lantern. Simple tech, profound results. The image of an Ethiopian making an effort to understand instructions from her Indian counterpart despite language barriers remains etched in our minds. Girl power at its most electrifying!



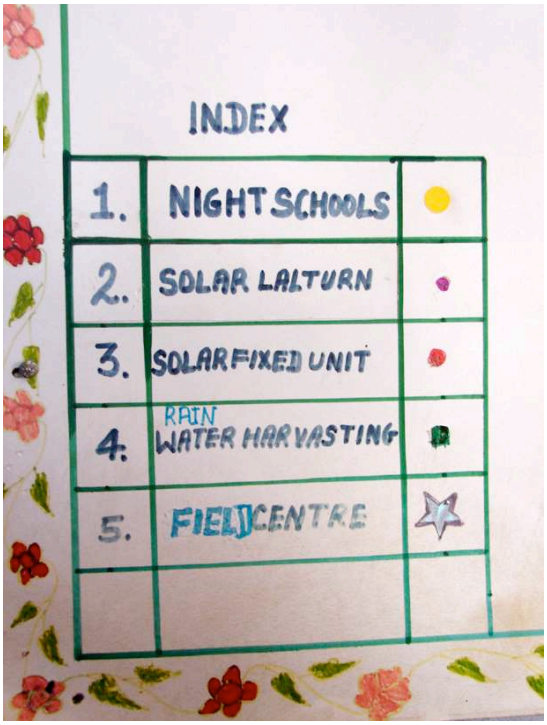
Multilingual, colour coded charts

Multi-cultural solar lantern assembly workshop

Circuit diagrams for a solar lantern

Living and learning

One of our most inspiring stops was the education department, an eye opener for everyone in the group. We could have stayed in this small but cozy office/classroom for hours. What we learned in a short time that we had at our disposal convinced us that the Barefoot education system has what most of our schools were lacking - roots in the local context, participatory teaching and learning methods, students' involvement in the design and the running of the schools, etc. Out-of-school learning is valued as high as in-school teaching. We realised this when we visited the Barefoot library, that was packed with people browsing magazines and reading books in English, Hindi and several other languages. It also became clear how important the solar lanterns are for rural education - most children and especially girls work with their families during day, which makes the hours after twilight the only time they can afford to go to school. Without artificial light, learning how to read and write would be close to impossible. The collaboration between Barefoot's solar engineers and teachers makes night-schools a reality in more than 150 villages across Rajasthan (and since a few years also in other parts of India and the world).



Having light is an essential and indispensable infrastructure, but what makes Barefoot education truly unique is their philosophy. They distinguish between literacy and education, where night-schools are designed to make children literate, by teaching them to read, write and calculate. Traditional, hands-on forms of day-time education in families and through apprenticeships happen in the community itself. Their principle that everyone can be a teacher means that the villagers are heavily involved in educating their youngsters, thereby gaining respect and understanding of the whole community. Most importantly, they treat children as thinking and acting human beings, capable of making decisions and dealing with the consequences. The night-schools provide primary education, (up to the fifth grade), after which the students are able join other Barefoot programmes.

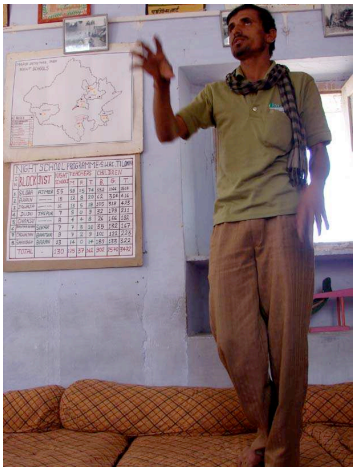
The syllabus is customised to suit the needs of the local community, tailored to feed the aspirations of people coming from that region of India. The text books have illustrations from a particular village, a mathematical problem might include the name of a local barber, or attempting to solve a real issue of water distribution. In this way, the abstract knowledge is directly embodied in the physical reality of the students, making them able to translate the learned material into everyday situations. Furthermore, it makes them prepared for a life in their village and region, all the while making them aware of the value of this life and its opportunities. This kind of education makes the communities much more sustainable, by removing the need of children to migrate to the cities for jobs and schooling.


The coordinator of the education department with a number game (left). A collection of teaching aids (right).

It is encouraging that in a country where women are generally not considered worthy of tuition, in 150 Barefoot night-schools in Rajashtan, 72 percent of the students at are girls. In Roopangarh we met two girls who went through a Barefoot night-school. The youngest of the two, who nearly finished primary school is a fond collector of pens, as she was planning to become a writer. Several villagers around us confirmed that she was an excellent student. She told us that she must be prepared to write a lot, hence she was wondering whether we could donate a pen for her collection (which we of course did). The other girl, 15 year old Indra is a proud seamstress, with a keen sense of pattern, colour and motion. She had designed and sewn a three-piece costume for Catherine, in less then five hours. In front of her family and friends, with a big smile, she presented Catherine with perfectly fitting pants, tunic and scarf, which she insisted should be photographed and shown to our friends. If they were ever passing through Roopangarh, they should come and see her for a fitting. A fine seamstress, with a keen sense of entrepreneurship!


Indra and her family (left). Catherine in her new garment (right)

How come these girls are not only skilled, but are also able to see the value of their skills for others? We found the answer in the Barefoot education system as well. To coordinate the night-schools and their programmes, a democratic voting system is put in place, in a manner more effective than most democracies of the world. The school is designed, owned and run by the students, for the students and with the students. In order to for this system to function smoothly, the children form a governing body. Students are elected from the entire state in a well-planned manner with special ballot papers (which use visual clues and symbols, instead of words) and proper accountability. This team of elected members, aged 9 - 13 years, constitutes a 'Children's parliament', which then selects a 'prime minister' among themselves. Interestingly, for the last 12 years, which is about five terms, the prime minister has been a girl. The current prime minister takes care of a small herd of goats during day and presides over a cabinet of ministers at night. Her cabinet consists of 14 members who handle different portfolios: agriculture, water, education, etc.



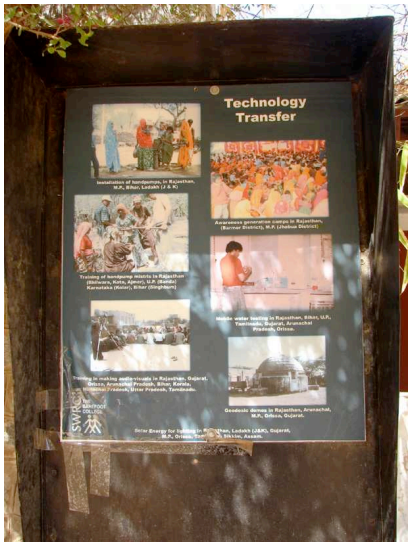
Explaining the intricacies of the children's parliament

For a child to be eligible for the parliament, the entire village community presents the school with a letter of approval, taking into account the requirement for a certain minimum of villagers attending the meeting. There is a constant monitoring and reporting system in place, with the elected members visiting other schools and villages to apprise themselves of real issues and opportunities. We were told the story of a child MP who realised how acute water shortage in his village was and then created a movement to mobilise resources, which resulted in a new well. This was an impressive account of the vote of confidence which this system gives to the students. They can fire and hire teachers and coordinators, up to the director of the whole Barefoot College (luckily, we were told that Mr Bunker has a very good relationship with the current cabinet, although they did call a meeting to warn him that he's travelling a bit much!). We realized that this might be one of the important reasons for every single girl and boy in Roopangarh being so confident and fearless in expressing their opinion about any issue - they are aware, knowledgeable and able to act on their own, as well as on community's behalf. When they grow up, their life will be in their own hands, no matter which government, religion or economic system is ruling their large country.

The Barefoot Library

Warm hospitality

Even though our visit was short, our hosts took time and effort to offer us a delicious lunch. We ate at the Barefoot communal kitchen, where food is made and served by everyone. A simple, participatory and sustainable method, which brings the entire community together under one roof, several times a day. We enjoyed tasting everything, under the watchful eye of a proud cook. We were allowed to serve food ourselves, have seconds and thirds of a tasty tomato-based vegetable stew, fresh curd, spicy pickles, Basmati rice and whole-grain chappatis. We sat on the floor and ate with our hands, trying to guess the ingredients and the preparation methods. Curiously, the food reminded Maja of her mother's and grandmother's Balkan kitchen. The whole situation, although soaked in many different cultural details, was familiar, warm and welcoming.

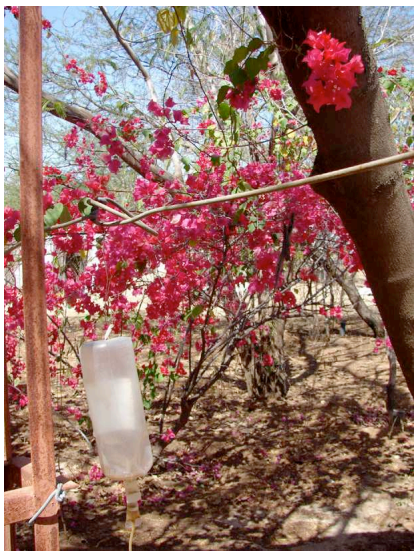


Acclaiming global interdependence and exchange...

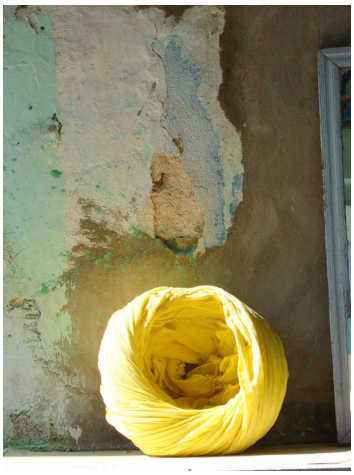
We felt at home and wanted to stay and contribute, but there were trains to catch, families and obligations waiting on the other side of the world... We thanked Mr. Vasu for the rare and thrilling experience and offered our collaboration wherever and whenever needed. We rushed into our Jeep and soon after the Barefoot college disappeared in a cloud of dust. What remained was our determination to spread the word about this amazing place and our personal hope to be able to infuse our own fields with some of the ethical and environmental principles that govern the Barefoot college.

Hope for the future...

From the first encounter with the Barefoot-ers (be it men, women or children), we were amazed by their competence, confidence, hospitality and most of all - their pride. We discussed later that we have rarely seen women radiating such power and quiet happiness. These people appeared more fulfilled, accomplished and joyful than any jet-setting CEO we had ever met. Which in itself gave us much hope for the future, in which the majority of our global society will be the world's financially poor. While the 'developed nations' panic about changing lifestyles, business practices and social orders, in order to become more sustainable and survive the current ecological, cultural and economic turbulence, the people in the Barefoot College quietly found their way to the future. It is practical and hands-on, rich and imaginative, inspiring and empowering, tightly woven in the fabric of the local community. For the people, by the people and with the people. Shrouded in red dust, the Barefoot college is the most luminous green world we had ever experienced.



With many thanks to Mr Bunker and Mr Vasu for inviting and hosting us, and to everyone in the Barefoot college who took their time to answer our numerous questions, guide us around, drive and feed us!



Links:
Hosts:
http://www.barefootcollege.org/

Visitors:
http://fo.am/

Catalysts:
http://luminousgreen.org/
http://younggloballeaders.org/
http://juice.doorsofperception.com/