

# Sanjit "Bunker" Roy

India (1945- )

Bunker Roy's empathy with the poor began during the 1960s during the Bihar famine when he had a chance to go and see for himself what was happening there. His heart went out to the villagers; and after he graduated from an elite college in India, he went to live in the village of Tilonia, in Rajasthan, one of India's poorest and driest states.

Everyone, especially the villagers, had a lot of questions about his reasons. "If someone wants to do work in a village, the formal education system discourages him," asserts Roy. He says that universities cultivate in students the idea that going back to the villages is undesirable because it won't help their career. Remaining in the city is considered the path to success. (Misra, 2000)

Despite his education and expertise, Roy had a lot of learning to do before he could really help his new community. Actually, the way he puts it is that he had a lot of "unlearning" to do, mainly to shed the superior attitude that he had absorbed along with his schooling.



**Bunker Roy**

From <http://www.usc.edu/dept/LAS/tylerprize/04tyler.html>

## ***Superior Attitude?***

Nowadays Roy often says: "We believe that just because you can't read or write, that's no reason why you can't become an engineer, architect, or communicator." (Roy, 2007) This certainly is a long way from where he started! What he means, of course, is that illiterate people are fully capable of absorbing and applying technical knowledge if it is presented to them correctly.

All of you who are reading this have no doubt spent many years studying, so you may find this idea rather surprising, as I would have at a certain time in my own life. After years and years spent in school learning through books, we come to believe that the best most reliable knowledge comes from books.<sup>1</sup> Most of us come out of traditional schooling hardly able to embrace the idea that any other source of knowledge isn't inferior.

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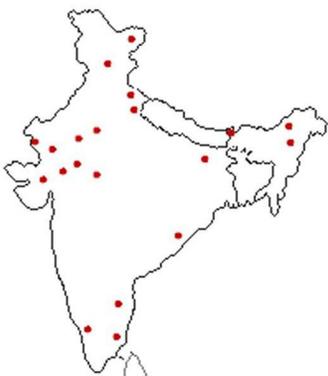
<sup>1</sup> What we may have forgotten is that books are not always right, or they may be only partly right for a given situation; and that there is a lot of knowledge in people's heads which has never been written down. Have you ever had the experience of getting to know a person with a lot of knowledge that is not written down anywhere? It isn't that unusual.

In fact, as Roy and others<sup>2</sup> have discovered, people who have occupied a place for hundreds or thousands of years have built up a lot of knowledge about how best to do things in order to survive and prosper in that place. Just because it isn't written down anywhere doesn't necessarily mean that knowledge is inferior. In fact, it might be the best way to solve a problem.

Roy became convinced that what the villagers really needed was not to be rescued by (and thereby become dependent on) people from the outside, but to add to their existing skills so they could become able to “develop themselves.”

## ***The Beginning***

This evolution did not happen overnight. For about 9 years after The Social Work and Research Centre (SWRC) was established in 1971, the basic approach was to bring urban "experts" together with villagers. They successfully brought electricity, clean drinking water, and health services many villages. Over the long run, however, urban professionals proved unwilling to put up for long periods with the primitive living conditions and poor pay. They also tended to come with an attitude of superiority which — even if they tried to hide it — resulted in an



### **Current BC Campuses**

From  
<http://www.barefootcollege.org>

increase in villager dependency, rather than the reverse.

During this time, Roy became convinced that the rural poor themselves not only could become competent to provide the same services the experts were providing; but also that they have the right and the ability to make decisions about what technology they need. The basic requirement is that the technology be explained in ordinary language ("demystified") and simplified.

Certain political problems caused by the approach of the first 9 years<sup>3</sup> also had to be overcome. All of this led to the current way of doing things— as well as a change of name.

"The biggest problem that we are facing is a mindset problem. It is inconceivable when you go through a formal system to accept that a woman who has never left her village in her life in 6 months can (learn to) solar-electrify her own village. This is our biggest problem -- how to convince the policy-makers, the movers and the shakers, that illiteracy cannot be a barrier to developing yourself. Why are we making it a barrier? And if we can break that barrier, then the sky's the limit.... And I think this is the future. If you want to make the communities sustainable, you have to take them into confidence and use their own skills. Simple as that. It's so simple!"

--Bunker Roy

--Roy (interview), 2007

<sup>2</sup> Dr. Vandana Shiva has written a lot (easily found on the internet) about the technical and social expertise in water management developed by the peoples of pre-industrial India, and the thousands of seed varieties they developed for crops in order to grow them in the different climate and soil conditions of different areas in India. These are only two examples of valuable technical knowledge held by “uneducated” people.

<sup>3</sup> If you're interested in knowing more about the political and cultural aspects of this story, please read Roy, 1997.

## *What Barefoot College Does*

The education is intended to be entirely practical, to put the technology they want in the hands of the villagers, and to enable the learners to serve their own communities as health workers, engineers, accountants, teachers, and so on. No paper diplomas or degrees are awarded.

The College now includes the main campus, plus centers in many other parts of India. The main (Tilonia) Barefoot College campus was built in 1986-89 by a group of twelve barefoot architects who applied their practical knowledge about resources, tools, and methodology; along with 50 rural masons together with over 100 day laborers. They were supervised by Bhanwar Jat, an illiterate farmer who had done many jobs at Barefoot. Everyone who was going to live there was consulted, and their ideas were respected. They used local materials, and the women did a very successful job of waterproofing the buildings, using traditional knowledge and materials so secret that they made everyone leave while they did it!

The school design included something practically unknown at that time, a rooftop rainwater-collection system. Over the 400,000 liter storage tank, they built seating for 2,000 people facing a frequently-used stage.

"...if there is a message for national and international decision makers, it is that they will only understand what is possible on the ground when they realize that it is possible that literacy, high powered degrees and qualifications are NOT required to disseminate the most sophisticated of technologies to improve the quality of life. What is required is faith, trust and practical common sense to begin facilitating the process of demystifying technology and that tragically is totally absent in the so-called higher places of learning."

--**Bunker Roy**

-- See Roy, 1996

The campus-building project included the construction of over 70 geodesic domes, using metal recycled from discarded agricultural tools, and covered with thatch. The cost of the 85,000 square feet campus was \$21,000 US. It's the only fully solar electrified College in India. Forty-five KW of solar panels run more than 20 computers, photocopying machines, a telephone exchange, audio-visual equipment, 500 lights and 70 fans, and more. (2004 figures, Tyler Prize Home Page)

Five current<sup>4</sup> major areas of focus for Barefoot are: education, drinking water, alternative energy, the environment, and empowering rural women.

The education program involves pre-primary and night schools "directed at practical learning that fits local circumstances and builds on local knowledge." As of 2008, there were over 250 night schools in 7 states in India. They are serving youths who previously were unable to attend school because they were needed to look after sheep and goats during the day.

Classes are taught by more than 450 barefoot teachers, selected by members of the communities where the schools are located, and trained at Barefoot College. The children elect representatives who become part of the Children's Parliament, which assists in

<sup>4</sup> The College has also worked with groundwater management, medical care, agricultural extension, rural industry, animal husbandry and other areas of concern to the villagers.

administering the schools. This teaches the children leadership and organizational skills.

Another innovation was to provide running water and toilets at the schools. This was made possible by applying an old technology, harvesting rain water. The schoolchildren no longer have to spend part of their day hauling water from far away. After toilets were provided in the schools, attendance by girls increased 30%. It had been impossible for girls to spend the entire day in a place without a private place to take care of their personal needs.

This "low-tech" solution to water availability has the advantage that it can be built and maintained by the villagers themselves, using all local materials. A village water committee controls and distributes the water. In 2000-2001, BC's trained engineers constructed 446 community tanks in 317 schools, and 113 at community centers. These provide drinking water to over a million people. You can find information and videos about these projects on the Barefoot College website. (See References and Further Reading)

An exciting area of focus for the College is the Alternative Energy program. Since 1986 they have brought heat and light to over 90,000 of the poorest households all over India. How was this done? It began when the first remote villages which decided to participate selected 209 people, including 19 women, to go to Barefoot College. These Barefoot Solar Engineers returned to their villages and have electrified 140 villages, installing solar units in 10,000 households across 16 Indian states. Altogether, these systems provide more energy than the largest centralized solar power plant in India, the 500 Kilowatt plant in Maharashtra.



**A Barefoot Solar Engineer at work**

From [www.yesmagazine.org/article.asp?ID=2412](http://www.yesmagazine.org/article.asp?ID=2412)

Foto by Barefoot Photographers of Tilonia Copyright 2008

Village energy and environment committees coordinate the work of the Engineers, and collect the monthly contributions. The benefits include not only heat and lighting, but new possibilities for local employment, and environmental advantages. New kinds of village employment include fabricating solar water heaters, drying vegetables, using electric spinning wheels, installing and maintaining solar water pumps, solar cookers, and passive solar heating. No longer do people have to walk for two days to buy kerosene. People no longer need to destroy trees and shrubs for fuel for cooking and heating. A 97% reduction in carbon emissions has resulted between 1989 and 2008 (574 villages using solar instead of kerosene and diesel). (Roy and Harrington, 2008, Table 2)

## ***Village Women Gain Social Respect***

Village women have traditionally been active in India in affairs such as water management and education. There had been in the past a successful government program where women were trained to serve as hand-pump mechanics. The solar energy program

has brought them new skills and social status. The women are selected by their community, and they gain a new level of acceptance and respect due to their solar expertise. In addition, they develop leadership skills, since they have to persuade households to participate and pay a monthly contribution for the repair and maintenance of the village's solar system.

Women have proved somewhat better than men for Barefoot programs, because, unlike men, they are not likely to leave the village, even if their new knowledge would enable them to make more money in the city. Now the women are branching out into solar cookers, which have great promise. They have established the Society of Barefoot Solar Cooker Women Engineers, are building, installing, and maintaining solar cookers all over India, and are teaching others as well. Recently these illiterate and semi-literate women have been showing themselves quite able to learn to handle computers.

Since 1984, rural women's groups have been formed in 68 villages, with a total membership of around 4,000 women. They meet every month to take up critical issues, both gender-specific (eg: rape) and of interest to the whole community (eg: health, education, wage levels). They have also have been successful in getting the men's support on a number of issues, as well as organizing politically beyond the village level.

## ***How The College is Run***

The basic principles of the College are: equality, austerity, collective decision-making, and transparency. Everyone at the college, from the founder and director to the person who answers the phone are equal, and has the same say in decision-making. Everyone gets a living wage, and per month it ranges from around \$75 US (75 Indian Rupees per day) to about double that. Living conditions are simple and basic. Decisions are made collectively. For example, salaries are decided on by everyone in the organization. It is based on a point system. Everyone rates her or himself and everyone else based on the point system. Experience is given more weight than paper qualifications.

The affairs of the College are run by village committees. They make the plans, which then must be approved by members of rural communities, especially including the poorest of the poor. All decisions are made collectively. The village committees control the funds for construction, pay workers, and may also collect fees, for example monthly contributions from end-users of water systems or solar-lighting systems. The committees are made up of equal numbers of women and men. The College has four Field Centers, each working with 15 to 25 Village Committees. Once a month the people in charge of the Field Centers meet with the college director.

Transparency means to reveal fully, especially to reveal the details of how money is handled. Barefoot holds public meetings to share with the community its financial details, including sources and amounts of funding, how money is spent, and the bank accounts of the staff.

"Can this concept be replicated? Of course it can. Wherever there are people from the rural areas who have been rejected by the educational system, where paper qualifications do not matter and are not used to judge the worth, quality, and aptitude of people, the Barefoot College concept can work."

**--Bunker Roy, 1997**

## ***Barefoot Goes International***

As of 2008, Barefoot has trained more than 340 men and women from eight countries in Asia, Africa, and South America— most of whom had never been outside their own village — to be Barefoot Solar Engineers, and to install rainwater collection systems. The most isolated villages (technologically, geographically, and culturally), were chosen for the first projects, in order to demonstrate that the very poor had the ability to work as solar engineers.

They do not need to know any Indian language, or English. They easily learn using sign language and a learning-by-doing method how to install, build, repair, and maintain solar units and solar systems. Graduates of the training program have solar-electrified over 550 schools and 13,000 households in more than 600 villages. They have assembled and installed over 10,000 solar home lighting systems and 4,400 solar lanterns, for a total installed capacity of 646 kilowatts. Language, climate, culture, schooling — none of these are barriers to learning how to install solar systems. To learn more about the international program, visit the Barefoot College website.

## ***Funding, Partners, and Awards***

2005- Schwab Foundation for Social Entrepreneurship - Outstanding Entrepreneur

2004- Tyler Prize for Environmental Achievement

2006- Alcan Prize for Sustainability

The Barefoot College receives financial support from international agencies and foundations, the United Nations Development Program, and agencies of the Government of India (see Barefoot College website)

## ***Changing Ideas in “Development”***

Although they seem not to have greatly affected how "development" money is spent, there is a current of discussion about "development ethics" and "bottom-up" development. (See Sacirbey, 2008 and Goulet, 1997, for example) Perhaps it will become larger due to the Barefoot College example.

## **References and Further Reading**

The information in the article above came from the following sources. Many of these articles overlap, but they are slightly different in detail. I took some idea or fact, idea, or quote from each of these.

Barefoot College, 2008. *The first rural women heroes of Timbouktou.*

February 2008 On the Barefoot College website, news section:

[www.barefootcollege.org/news.htm](http://www.barefootcollege.org/news.htm) . A film about two illiterate women from an extremely remote village in Africa who came to India, learned about solar energy, and went back to electrify their whole village in about 10 days. It explains how they

were chosen and describes their experience. It describes the great difference solar electrification has made in the villagers' lives, including reducing their expenses for lighting. From this web page you can also find several videos about Barefoot College projects and work. Elsewhere on the web site you can find statistics and tables about what they have done.

- De Sam Lazaro, F. (interview) 2008. *Barefoot College in India*. Sept. 19, 2008 (Episode No. 1203) PBS Religion and Ethics Newsweekly website: <http://www.pbs.org/wnet/religionandethics/week1203/cover.html> This is an interview, and The entire text of the video is there. Great for listening practice.
- Goulet, D. 1996. *A new discipline: development ethics*. At the Kellogg Institute for International Studies, University of Notre Dame: <http://www.nd.edu/~kellogg/publications/workingpapers/WPS/231.pdf> Accessed 2/6/2009.
- Misra, N. 2000 *India's Barefoot College generation*. UNESCO Courier, V.53, No.3, p. 19. Online at: [http://www.unesco.org/courier/2000\\_03/uk/dossier/txt02.htm](http://www.unesco.org/courier/2000_03/uk/dossier/txt02.htm) Accessed 2/6/2009.
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- Roy, B. 2005. *Why the millennium goals won't work*. *International Herald Tribune* Sept 13, 2005. At the International Herald Tribune website [www.ihrt.com/articles/2005/09/13/opinion/edbunker.php](http://www.ihrt.com/articles/2005/09/13/opinion/edbunker.php)
- Roy, B. 2007 (interview) *The Poor Helping the Poor at Barefoot College*. At: [www.rocketboom.com/rb\\_07-feb\\_22/](http://www.rocketboom.com/rb_07-feb_22/)
- Roy, B. 2007 *Ending poverty, but only on paper*. In *The American*. "A Magazine of Ideas", World Watch, at: <http://www.american.com/archive/2007/july-0707/ending-poverty-but-only-on-paper> Accessed 2/6/2009. Writes that a fundamental flaw in the current "development" approach is that people administering it, from top to bottom, are "speaking and acting on behalf of poor communities instead of being answerable to those communities."
- Roy, B. and J. Hartigan 2008. *Empowering the rural poor to develop themselves: the barefoot approach*. In: MIT Press Journal, *Innovations, Technology, Governance, and Globalization*, V3 No 4 (April, 2008): 67-93. Can be found online at the Barefoot College website: [www.barefootcollege.org/pdf/EmpoweringTheRuralPoor.pdf](http://www.barefootcollege.org/pdf/EmpoweringTheRuralPoor.pdf) .

Sacirbey, O. 2008. *Bottom-up approach can quicken development*. The New Nation, March 28, 2008. At: <http://nation.ittefaq.com/issues/2008/03/28/news0687.htm> Accessed 2/6/2009.

Tyler Prize Home Page 2004. Tyler Prize, 2004 Laureates. *Barefoot College, and Red Latinoamericana de Botanica*. At the Tyler Prize website at the University of Southern California: <http://www.usc.edu/dept/LAS/tylerprize/04tyler.html>

## Discussion or Essay Questions

*When you talk or write, please try to use some of the new words you have learned in this reading. If you have noticed new grammatical structures, try to use them, too.*

1. Watch the film (on the internet) mentioned under the reference Barefoot College, 2008. Choose one part of the film that especially interests or impresses you. Write several paragraphs about it, and/or discuss it with a partner in your class.
2. Read any one of Bunker Roy's articles. Explain in your own words what his major points are. Do you agree or disagree? Explain your reasons.
3. One of the items on the reference list is Roy, 2007, an article titled *Ending Poverty But Only On Paper*. There is a quotation there from this article in the reading. Take a look at it. What does it mean to "speak or act on behalf of poor communities?" How is that different from being "answerable" to them? Give examples that you know of personally or have read or heard about.
4. Choose any topic brought up by this article that interests you and write at least two half a page about it. Then get with a partner and explain in your own words (without looking at your paper) what you wrote.
5. Can you see any possible application of the ideas in this reading to your own community or country? List each idea you like and explain how you think it could work. If it would need a bit changing in your opinion, you can discuss that, too. For speaking practice, you can do rotating pairs in class. Spend only 5 minutes with a partner explaining one of your points. Then rotate to a new partner.

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