Bringing positive change among

The Brick Firemen

Community in East Uttar Pradesh

A STORY IN PHOTOGRAPHS

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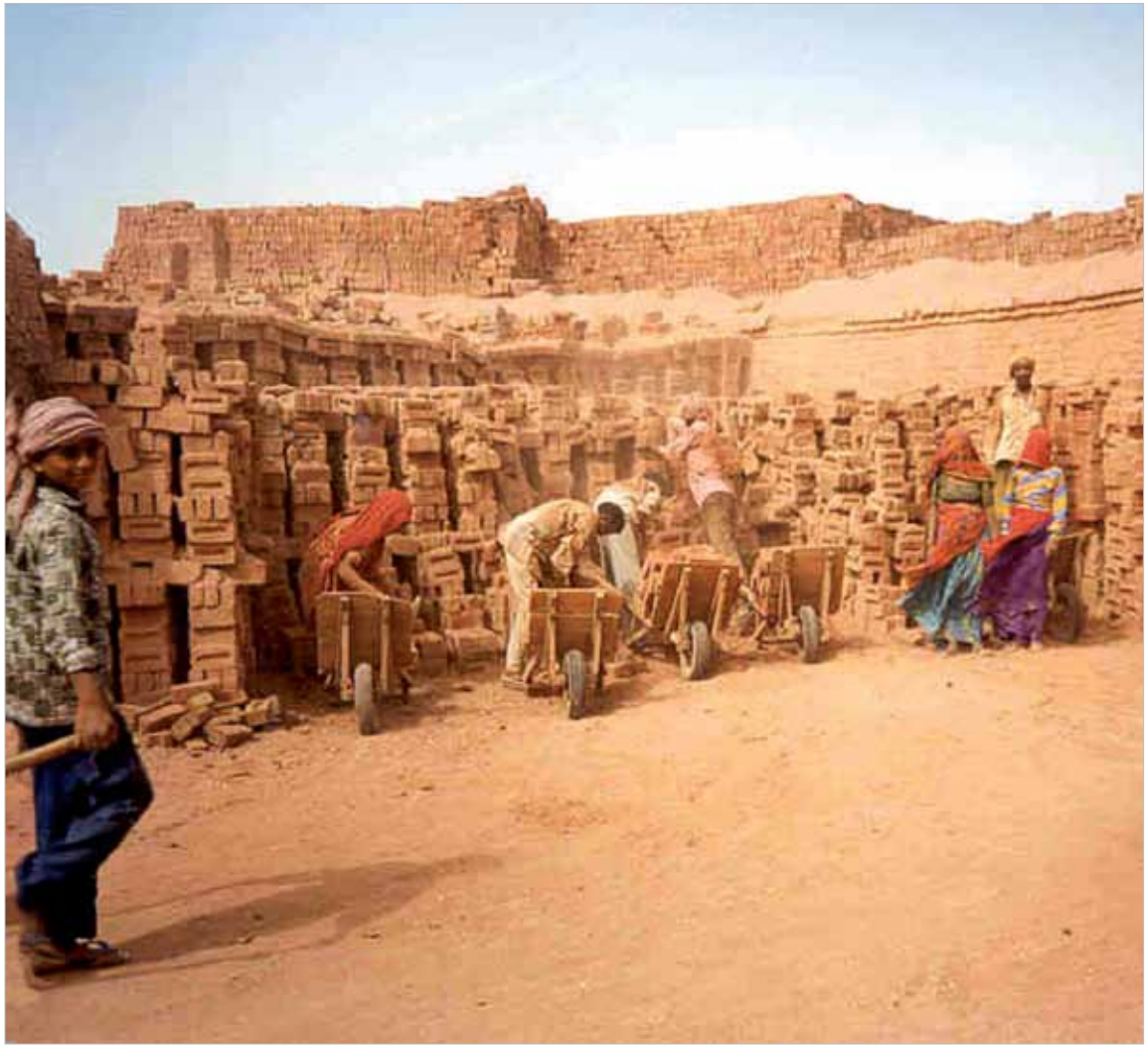
The Indian brick industry is enormous in terms of its ecological footprint as well as socio-economic importance. Each year, over 100,000 brick kilns across the country produce an estimated 140 billion bricks—enough to build two 30-metre wide brick roads of 40,000 km length each circling the Earth at the Equator and the Poles! In the process the industry consumes about 500 million tonnes of clay-rich top soil and 24 million tonnes of coal, generating over 40 million tonnes of CO_2 as well as huge quantities of particulate emissions. About 60% of the bricks in India are produced by Bull's trench kilns (BTKs) located in north India.

With the demand for bricks increasing to meet the growing infrastructure and housing needs of a rapidly urbanizing India, there is a clear need to introduce improved, energy efficient brick making technologies that can reduce the consumption of resources like clay and coal by the brick industry as well as cut down pollution from the brick kilns. The challenge is to achieve these ends while at the same time improving the livelihoods of the millions of migrant workers who depend on the brick industry for their survival.

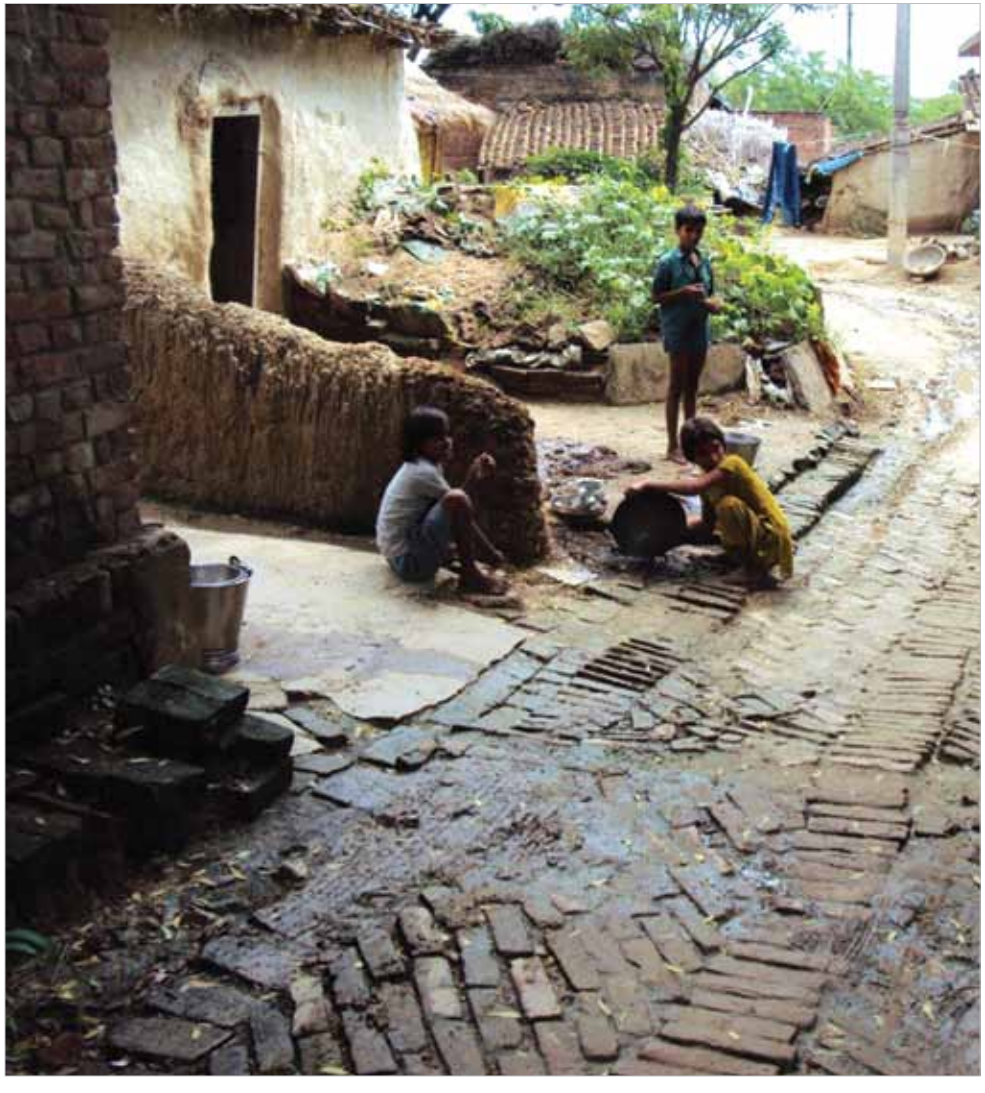


Each year, an estimated 10 million people—mostly rural poor—migrate to brick kilns during the non-agriculture period (November to June/ July) to work as labourers, moulders and firemen. The hardships of migration are made worse by the abysmal living and working conditions at the kilns; yet the migrant workers have little choice—for them, it is a matter of sheer survival.

In 1994, the Swiss Agency for Development and Cooperation (SDC) in partnership with a number of agencies including TERI, initiated a project to transfer, adapt and demonstrate an innovative small-scale brick-making technology from China—the vertical shaft brick kiln (VSBK). SDC envisaged the VSBK as becoming a catalyst for positive social change among the brick-making community: a clean, energy efficient technology that showed promise to be a commercially viable as well as socially fair option for small scale brick producers.

Initially, TERI provided other partners with technical support on energy-related matters in adapting the VSBK to suit the needs of local brick producers. During this period TERI worked closely with the firemen on existing brick kilns, mainly BTKs in north India. In the course of its work TERI gained insights into the traditional kiln firing practices of the firemen, and also evolved and disseminated better (energy efficient) kiln firing methodology that yielded fuel savings of 5–10%, improved the quality of bricks, and reduced particulate emissions to some extent.

Working alongside the firemen also enabled TERI to obtain insights into the lives of the firemen. Almost all the BTK firemen reside in villages located in three districts of Uttar Pradesh—Pratapgarh, Allahabad and Rae Bareilly. Unlike other categories of brick workers, the firemen leave behind their families when they migrate to brick kilns; the main reason being that the fireman's job is not only highly skilled and individualized but extremely arduous.



Back in the villages, with the firemen away for most of the year, their families too face great difficulties in the absence of basic social infrastructure such as facilities for health, sanitation, and education. The womenfolk have to shoulder family and village responsibilities—an especially challenging role when they have little or no savings and when they lack education and employment opportunities.

From 2000, SDC sharpened its focus on alleviating rural poverty through the creation of better livelihood options via improved technology. Through extensive consultations with social activists, academia and other specialists, the project evolved an innovative strategy to harness technology for social action. This approach came to be called techno-social integration (TSI); it recognizes and continuously builds on the existing community knowledge and strengths, rather than follow the typical 'problem solving' approach which tends to ignore or discount traditional knowledge. The TSI approach appreciated the traditional brick making knowledge of the firemen community, and encouraged the firemen to pool their traditional brick-making knowledge for the betterment of the community as a whole. The VSBK was promoted as a small-scale brick-making technology that the firemen community could adopt at village level.

> Technology must be pro-poor. This means much more than merely 'cheap'; it must blend with local traditions and practices, it must in a sense evolve by marrying existing knowledge with new knowledge. This, in a sense, is the approach called TSI... it is not a goal. Rather, it is a dynamic process, an evolution...

TERI found two NGO partners to work with at grassroots-level in eastern Uttar Pradesh, where around 150,000 firemen families resided: Paryavaran Evam Prodyogiki Utthan Samiti (PEPUS) based in Allahabad, and Lokmitra based in Rae Bareilly. Through a sustained campaign of group meetings and one-on-one interactions, the villagers—particularly, the women—were made aware of the power that knowledge sharing and collective, concerted purpose and action could bring them. They were encouraged to form collectives at village level; to discuss the challenges that they faced; and to pool their resources to tackle these challenges.

At the village level, the project's interactions with firemen were necessarily restricted to off-season months (when the firemen returned home from the kilns), but took place throughout the year with their family members, in particular the women. The initial interactions with the firemen community demanded great patience, tact, and empathy from the project teams.

TERI recognized that women would have to play a major role in driving the formation of collectives and sustaining their work. Hence, special capacity building workshops were organized for women to support and strengthen their roles in the initiative.

With the women playing a proactive role in their formation, the village-level collectives slowly but surely grew in number and spread across the region. They provided effective forums for the firemen community members to exchange knowledge—technical and non-technical, formal and informal—among themselves and with the project, and thereby strengthen themselves individually and collectively to claim and benefit from their socio-economic rights.

On 2nd October 2004—Mahatma Gandhi's birth anniversary—the collectives formally came together with the project's support and conducted a joint 'Foundation Day' conference at the village of Ghuisarnath, near Lalganj. This event marked the transformation of the numerous village-level collectives into a synergetic federation, called Sanghatan, that represented the collective knowledge and strengths of the entire firemen community.

Through the medium of Sanghatan, the project introduced capacity building programs that contained elements of both technical and social knowledge, of relevance to the firemen community. These programs were participatory in nature, and had two broad and interlocked themes:

- Social—developing and strengthening of women's leadership; vocational training; creating awareness on gender issues, rights, health and sanitation, and labour laws; improving working conditions for firemen
- Technical—Training in best operating practices on BTKs; promoting VSBK as an artisan-operated kiln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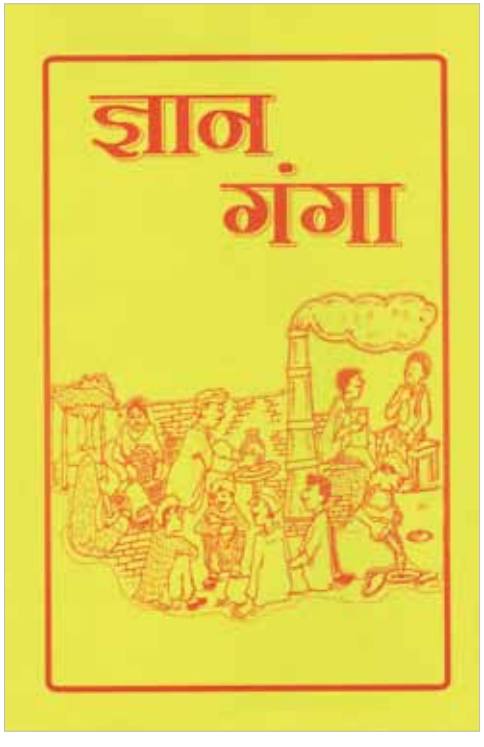
Through participation in workshops, awareness meets and training sessions, the community members are evincing growing confidence in their own abilities to bring about improvement in their lives in the villages. They are learning new skills and sharing their knowledge for the betterment of the community as a whole. The process of knowledge sharing among community members has been encouraged by the establishment of informal forums for regular interaction among villagers like Gyan Chaupal, Gyan Soochna Kendras and Chintan Dhaba Kendras. A Hindi newsletter, 'Gyan Ganga', is being published; it carries articles and snippets of interest to the firemen community including contributions by villagers themselves.

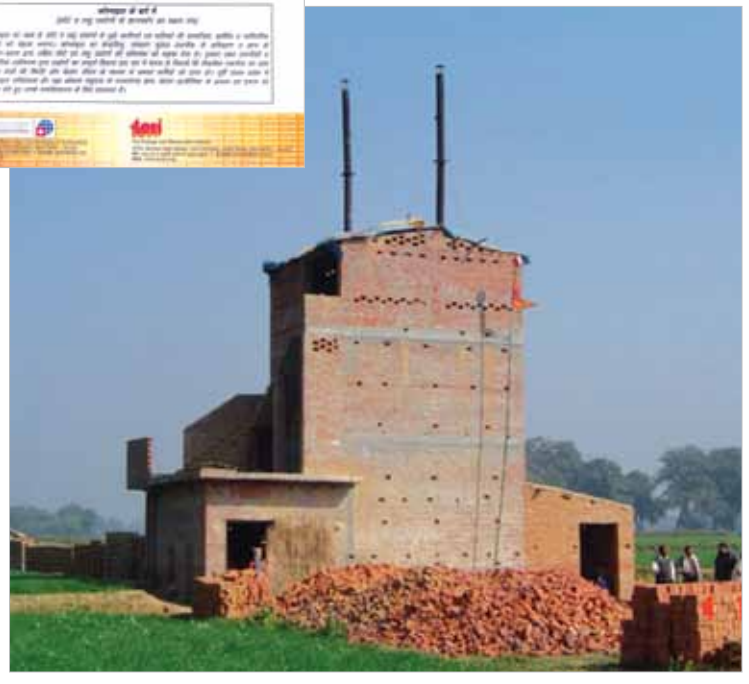


The project also made efforts to provide the migrating firemen with some sense of work security. Earlier, without ID cards of any kind, the firemen were exposed to harassment by police and railway personnel en route the kilns. Also, the lack of ID cards made it difficult for the authorities to inform their families in the event of any mishap. The project has now put in place a simple system by which ID cards signed by the Sanghatan office and village Pradhan are issued to the firemen. Around 4100 such ID cards have been issued by the Sanghatan.

The firemen often did not get their dues in the absence of written contracts. Through extensive discussions and with inputs from the project, the Sanghatan has evolved a simple, standardized 15-point contract called iqrarnama, to be signed between fireman and master fireman/kiln owner. The iqrarnama covers all the major issues of concern to the fireman—quantum of advance and monthly wages, living arrangements at the kiln site, provision of kerosene for cooking, and so on. A number of master firemen have accepted the idea of signing iqrarnamas with firemen. Gradually, kiln owners too are beginning to accept the idea of signing written contracts with master firemen/firemen.

To strengthen the traditional technical skills of the firemen, the project conducted 28 training programs in best operating practices (BOP) on BTKs for over 1300 master firemen and firemen. The 'train the trainer' programs comprised two phases: (1) classroom training sessions at the villages during the 'off 'season (August–December), and (2) mentoring sessions at the kiln sites during the following brick-making season (January–June). The trainees were given formal certificates by the project. The trained firemen and master firemen are helping bring about 5–10% energy savings in the brick kilns, and the certificates are enabling them to negotiate for and obtain better wages from the kiln owners.

Through the Sanghatan, the project identified and assisted two villagers in setting up VSBKs: one in Akhirajpur (Allahabad district) and the other in Pure Kalandhar (Pratapgarh district). The experience with these artisan-owned VSBKs has been mixed: although a clean and energy-efficient kiln, the VSBK's intrinsically rapid heating and cooling cycle hinders its ability to produce good quality bricks from the clay-rich soils of eastern Uttar Pradesh. Nevertheless, the two VSBKs have provided valuable experience and lessons for the firemen as well as project staff on firing techniques and clay qualities.



The Sanghatan movement has grown to cover around 24,000 firemen families in the intervention area in eastern Uttar Pradesh. It has inspired solidarity and confidence among the firemen community—particularly the women—and empowered them to act individually and collectively in order to improve the quality of life in their villages. The Sanghatan has duly been registered as a cooperative society with elected office bearers and its own office space and bank account. A simple but effective 'grievance redressal' mechanism has been set up in the Sanghatan office to provide legal counsel to members and enable them to resolve a variety of problems related to work as well as village issues. Around 15 knowledge sharing forums have been established so far.

The transformation of the Indian brick industry poses immense technological as well as socio-economic challenges that have to be tackled simultaneously at the policy and grassroots levels. With the establishment of the Sanghatan, the seeds have been sown for addressing these challenges in a participatory manner that respects and builds on the traditional knowledge of the brick workers.

Since 1994, TERI (The Energy and Resources Institute) and SDC (Swiss Agency for Development and Cooperation) have partnered to develop innovative solutions to energy, environment and social issues of four energy intensive small-scale industrial sectors:

- Grey iron foundries
- Glass units
- Brick kilns
- Biomass-gasifier based thermal applications

In each of these sectors, the intervention stressed on making the technological solutions more holistic by integrating the social concerns of the workforce.

This booklet tells the story, in photos, of one of the major initiatives in brick sector—to bring about positive social change among the brick firemen community in East Uttar Pradesh through their empowerment both at the brick kilns and in the villages.