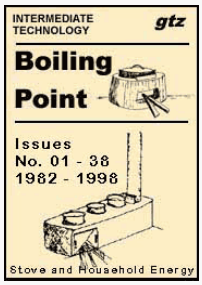
Stoves as Social Welfare support by Margaret Skutsch

Stove projects have been promoted under a variety of programmes in the past including energy conservation and environmental protection but it is increasingly frequently remarked that the chief benefits are in fact welfare ones, particularly in saving women's time during cooking (see for example Howes in BP23). This article looks at the case of a stove programme for workers in high level tea estates in Sri Lanka which was deliberately designed to support other social welfare activities. It was implemented by the Technical Assistance Team (TAT), a branch of ETC (Netherlands), which has been working for several years to assist the parastatal Estate Boards (JEDB and SLSPC) in developing social welfare programmes for the workers, including improved water supplies, health care and housing conditions.

Boiling Point



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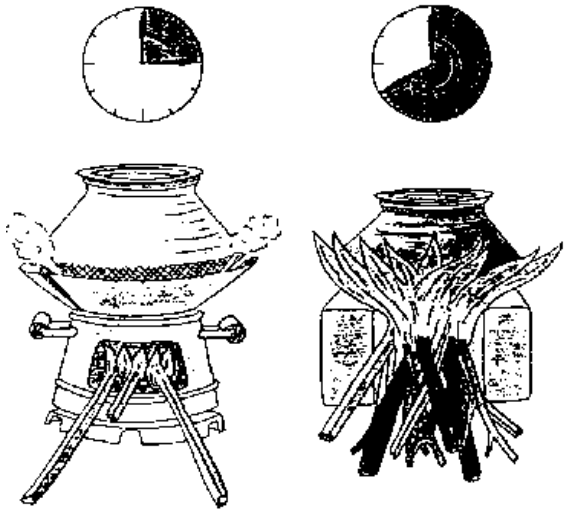

Improved Stoves Save Women's Time During Cooking

TAT was interested in starting a stove programme not for any energy or environmental reasons, but because it saw the possibility of integrating this effort with its other social welfare work. It wanted to use stoves as a means to achieve other objectives; for example, if health workers were involved in stove construction it would give them an 'entrance' to discussion with the women in their houses, and could lead on to advice on nutrition/preventive medicine etc. Alternatively the stoves could be distributed to particular families in need as part of an overall package of support to a limited target population, with the aim of 'lifting off' such very poor families. Or stoves could be used as 'rewards' to families who agree to participate in other social welfare activities. TAT thus believed that stoves offered a useful avenue for other work in which they were interested, apart from being useful devices in themselves.

The Ceylon Electricity Board (CEB) had earlier developed a ceramic liner stove with the support of Sarvodaya and ITDG which was known to perform well (several hundred thousand have been disseminated throughout the country, see BP 15, 19, 23) so it was decided to use this in a pilot projector the estates. Some physical testing was to be done because burning conditions and cooking requirements are different in these high altitude zones (5000-7000 feet) and acceptability of the standard model could not be guaranteed. Moreover TAT was well aware of the dangers of "technology push" and wished to ascertain whether stoves would be considered useful, and in what form. In addition, a version with a chimney was tested along with the standard model, as removal of smoke seemed a valid welfare objective in its own right.

Six estates in Nuwara Eliya and Hatton were selected; a preliminary social and cooking survey was conducted and fifty stoves were constructed in each estate after two workers from each estate had been trained by an experienced and highly reputable local stove agency which also supervised the work. The choice of workers for this exercise was obviously crucial but their selection was left to the welfare supervisors on the estates.

The majority were women, some trade union leaders and others line leaders. Unfortunately it was not possible to involve health workers at this stage.

Previous work on estates in these areas among others by ITDG had provided estimates of fuel use and also indicated that water heating for bathing (the air is cold up there!) was a major use of fuel. For this reason, two designs of water heaters were added to the experiments, a total of fifty being distributed.

Findings of the preliminary study

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The preliminary survey found that gathering fuelwood was considered a serious problem on the estates, not because of the time taken, or even because children sometimes had to be kept off school for the purpose, but because of the harassment suffered by the gatherers (men, women and children) at the hands of watchers and authorities who fine them for cutting wood illegally. However, the attitude of the women at this point towards a fuelsaving stove was dismissive. Other problems concerned them far more - poor state of housing, particularly leaking roofs, defective latrines, non-existent or malfunctioning water supplies, etc., as well as lack of alternative income- earning opportunities.

Almost all families were found to be using an enclosed stove of local design, with a firebox below the first pothole and an air passage to a second. The firebox entrance was rather large, often spilling fire outside, and air flow to the second pot was evidently limited because it could only be used to keep a pot warm after cooking on the first hole. The top of the stove was usually constructed out of metal from a discarded barrel; families constructed their own stoves but sometimes paid a handyman to cut and fit the top.

The survey found that the biggest uses of fuelwood in the home were tea preparation (8 times per day), and cattle food preparation (in the case of families possessing cattle, about 25% of the population), and bathing water, seasonally, although it was also seen that the stove was kept burning low all evening for warmth, as is common in highland areas all over the world. It should be noted that bathing water and cattle food are both prepared outside on a three stone fire, not on the cooking fire, as they require huge pots or barrels. For these purposes the water does not have to be boiled, merely heated to about 40°C. In many cases, double food was cooked once a day and saved for a second meal; in many cases an uncooked meal (bread) substituted for rice. or roti made at home

Performance of the improved stoves

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After two to three months, quantitative tests were made in the homes of those who had received the ceramic liner stoves. Technically, the stoves were found to work as adequately here as in lowland Sri Lanka and gave savings in the order of 25-30% in normal use by the housewives.

Women who used the stoves were delighted - not with the fuel savings, which were scarcely mentioned, but because of the rapidity with which food could be prepared - a result which, as already noted, has been mirrored in many stove projects. Savings in time spent on fuel gathering were not spontaneously mentioned, though sometimes admitted when pressed. Women said there was no difference in smokiness between their old models and the new ones, even in the case of the chimney models (with few exceptions). It seems that the main factor in smoke pollution in the line houses is the position of the stove relative to windows and doors. Previous action to install chimneys in the houses had been very unpopular because they leaked and brought rainwater in over the cooking area; the best conditions were found when a small side window at waist height was open in the side wall of the house close to the stove and directly opposite the open doorway. This strengthens the view that the stove programme should be integrated into a welfare programme that covers general improvement of housing, including ventilation. A measure of the popularity of the stoves (the users made no distinction between the different types) was that many requests for stoves were received from women who had not been involved in the pilot project, surely a true indicator of acceptability.

Unfortunately, no technical testing was done on the waterheaters; the experiment had run into difficulties, partly because of jealousies aroused when the different types were allocated, partly because some users had not been instructed fully in their use.

The conclusion was that the pilot study had been a success; it was decided to go ahead with a large-scale programme for dissemination of stoves in the high-level estates. The proposal for this is currently in formulation stage and is expected to receive funding.

Conclusions

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There is no question that these stoves are effective in saving some fuel and there is no doubt that they are much appreciated by the busy women as time savers. This on its own can be considered a welfare criterion and it is highly appropriate that TAT, as an agency concerned primarily with welfare, should support a programme which achieves this. However, the overall fuel savings will not be very high as more than half of all fuel is used in the outside fireplace for water heating and cattle food preparations, for which a suitable device has not yet been found.

Further consideration needs to be made into how the stove programme can be used as a vehicle for other social welfare goals, of the type envisaged at the outset, since the real aim of the programme is not fuel saving, but social development. It was unfortunate that during the testing phase the practical, physical aspects of stove performance took precedence over the more subtle considerations of who should be involved in stove dissemination, and the selection of particular delivery channels to achieve other, indirect objectives. There are still many considerations of this type which need careful thought during the programme formulation, and which need to be tried and evaluated before the programme comes fully into operation.

(The views expressed are those of the author, not necessarily those of TAT).

Ed Note: There is a very large potential for fuel saving by improvements in the design of water heaters. This would need to involve both the estate companies and the estate workers in implementation but preliminary design work could be done by the specialist stove agencies.

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