

# letters

Dear Sir,

First of all I must congratulate you on your journal. It is an invaluable source of simple and practical information on water supply and sanitation issues for developing countries.

Secondly, I would like to make some observations on the article, 'Behind the Technical Approach to Slum Improvement', *Waterlines* Vol.8 No.1, July 1989. In general, I do believe it is desirable to discuss and canvas broader issues related to water, sanitation and health in your journal. Whilst fully supporting the need to remain practical and avoid an academic pre-occupation with detail at the expense of action, I do believe the article made some dangerous generalizations and unsubstantiated claims. My specific observation on the article are:

- It was unnecessarily emotive and demeaning to refer to people's homes as slums — however unsatisfactory they may appear — a small point maybe, but still important.
- It is obviously true that the ideal solution to unsatisfactory housing is to allocate sufficient land and plan properly, but the reality is often that it is not going to happen quickly, if at all, in many rapidly developing countries. Moreover, the population growth and demand for new housing overwhelms and surpasses supply. Thus there is a need to handle the non-optimum situation.
- There are several quaint expressions of highly doubtful veracity. Such as, 'spaciousness and ventilation should discourage further the breeding of disease vectors'. My point is that in the situation being discussed, resources for rectification are very scarce and it is imperative to concentrate what little resources are available on the aspects that are of crucial importance, and not dilute them on factors that are only desirable.
- There is ample historical evidence to demonstrate that the major improvements in public health were achieved by clean water, proper sanitation and immunization. Other measures were really only of marginal benefit, and certainly not as cost effective. Thus it is not clear why spaciousness and airiness should be in the index.
- Even if one accepts that all the factors listed are of fundamental importance there was no rationale to accord them on equal weighting in the analysis.
- Raising the 'general environmental level' is referred to in paragraph 3 of page 25, where this seems a critical premise. Unfortunately this term is

not explored and it would appear to be a very subjective assessment.

As you may have gathered I have very firm views on the absolute imperative for the provision of clean water and proper sanitation — and the article in no way changes my viewpoints. Changing unsatisfactory housing conditions is desirable but, in the situations mentioned, would be addressed more effectively by community action and urban renewal. I suggest that Nigel Crook and Meera Bapat examine closely the reasons for the overall failure of British slum clearance programmes in the decades prior to 1970 and heed the lessons to be learnt.

Yours faithfully,  
David Clarkson

Dear Mr Clarkson,

We have received your letter of 19th December 1989 commenting on our article published in the July 1989 issue. We would like to reply to the various points, and general argument, that you make. We regret our delay in replying, but wished to be able to reply jointly, which meant awaiting the opportunity for both authors to be in the same country at the same time.

We would start by making a general point. We feel there is a danger in adopting practical approaches to sanitation improvement that are too simplistic. A simple intervention may result in little or even no overall improvement in a situation that is in reality complex. The ultimate outcome will be a waste of resources, and a deception of the population concerned.

To address specifically the points made in your letter: first, we should point out that our use of the word 'slum' is neither 'emotive' nor 'demeaning'. It is a technical term in the Indian planning programmes and legislature (such as the Slum Improvement Programme of 1971-2, and the Slum Upgrading Programme of 1985-6), and is defined as 'an area which is unfit for human habitation' according to a set of specified criteria. Furthermore the expression is used (in English) by the slum dwellers in India themselves as a collective term to refer to their settlements. Nor is it being used to describe housing conditions that are 'unsatisfactory', as you suggest. The position is far worse than that, and environmental conditions in many parts of Indian shanty towns can only be described as truly 'wretched'.

We absolutely agree with you that it is necessary to handle the non-optimum situation. This is precisely what we are trying to do. Presumably the optimum situation would involve the building of

solid dwellings of brick or concrete and the paving of streets. We do not advocate this as we know it can only be a very long-term solution to be applied comprehensively if and when more resources are available. What we propose is a much more limited environmental improvement, of the kind that has *already taken place* in some slum settlements. It is important to stress that a considerable variation exists in the quality of the environment *within* the slum sector. At one extreme huts consist of bamboo poles, gunny bags, and polythene, are without raised foundations, sewerage, drainage or water taps, and are regularly inundated with water, being situated cheek by jowl on the slope of a canal bank or hillock. At the other extreme they consist of sun-dried brick with a corrugated iron roof, raised on plinths, with deep-cut drains, serviced with communal latrines and water-taps, situated on level ground with a footpath between each hut. The latter type is possible within the current resource constraints, though it must be regarded ultimately as a 'constrained optimum' solution to the housing problem.

If we are to aim at 'proper sanitation' we must define what we mean by that expression. You write as if the space allowed per person, the ventilation, and even the drainage are luxuries and not the first necessity in health promotion. We make two points here. First, as we have argued clearly in our article, merely to provide water pipes and taps, and community latrines, requires an increased allocation of serviceable land. Secondly, to reduce the spread of communicable diseases, especially those that are transmitted through the respiratory system, requires a lower density of habitation than currently exists in India's slum settlements: both tuberculosis and leprosy are transmitted in this way and both are hyper-endemic in many Indian cities, including Bombay. Until these major widespread killers can be eliminated we cannot claim to have provided adequate sanitation or health-promoting measures.

This brings us to a point of major controversy. You write that there is 'ample historical evidence to demonstrate that the major improvements in public health were achieved by clean water, proper sanitation, and immunization'. In actual fact there is a considerable debate in the literature on these issues. There is a school of thought that believes that contemporaneous improvements in *nutrition* made the major impact (T. McKeown, *The Rise of the Modern Population*, 1976). There is another school that believes that behavioural change within the home because of the knowledge spread by medical health visitors was crucial. It is important to observe that in England and Wales the infant mortality rate did not fall along with nor shortly after the sanitary reforms of the last quarter of



*The provision of clean water is only one of the elements of an urban renewal programme.*

the nineteenth century. It actually persisted at a level of 150 per thousand until the first decade of the twentieth century. Some scholars have attributed this persistence of high infant mortality to the use of bottled milk for infants. Until greater knowledge of contamination was more widespread, and refrigeration better developed, the poor quality of milk that resulted from transportation to the home (especially in the summer months) is believed to have been responsible for keeping infant mortality high (Beaver, *Population Studies*, 1973). Finally it has often been pointed out that many of the major killer diseases had been substantially reduced *before* immunization was adopted: tuberculosis is a good case in point, and also, of course, most of the diarrhoeal diseases were reduced before or without the benefit of prophylactics. The only important exception to this general argument is probably small-pox, which may have been substantially reduced in the nineteenth century as a result of major vaccination campaigns. What we wish to stress here is that the question of disease control is far more complex than you seem to suggest.

You seem to feel that good drainage is less desirable than the provision of safe drinking-water. In the context in which we are writing we do not believe that this is so: the effect of the provision of safe drinking-water is largely negated without the provision of good drainage. For instance, in both Pune and Bombay, perhaps especially the latter, flooding during the monsoon washes faecal

matter into people's homes and almost certainly accounts for the outbreaks of epidemics specifically during this season. This is no new problem. During the last decade of the nineteenth century the water supply to Bombay was substantially expanded by the creation of a new reservoir above the city. Since, however, the drainage capacity of the city was not simultaneously increased, the result was an increase in periodic flooding. It may be no coincidence that the worst cholera epidemic to occur in the city came shortly *after* the improvement in the water supply. The Chief Medical Officer commented *at the time* that it was pointless providing a better water supply if drainage was not simultaneously created to let the waste drain away (I. Klein, *Modern Asian Studies*, 1986). This point is equally valid today, and it is one that we are at pains to make.

As regards the weighting system best adopted when aggregating various environmental measures or scores, we would gladly be informed of a better procedure. By giving equal weights to several indicators we ensure that no particular indicator has a predominance in the overall index. We explained carefully our procedure and the definition we have adopted for the 'general environmental level'. We did explore some alternative procedures, such as the taking of logarithms, and the use of some of the indicators by themselves, such as water taps per head. The correlation with our various morbidity measures came out to be lower under the alternative procedures.

We do not feel that the parallel with the post World War II renewal programme in Britain is a good one for the situation we are describing; a better, but still not convincing one, might be the new housing programmes and new urban developments of the early decades of the twentieth century. It is noteworthy that these not only involved provision of water and toilets, but also spatial standards that improved on the 'back-to-back' housing of the nineteenth century. Some scholars have attributed to these programmes the improved mortality that occurred in the areas subject to such developments during the first decades of the century (see for example, P. Waterson, Ph.D. thesis, London School of Hygiene; also Woods, Woodward, and Waterson, *Population Studies*, 1989). However, we do agree with you on the need for community involvement in any such schemes (the lack of which condemned the post-World War II programmes, as you point out, in Britain). In fact we stressed that point in our article. One of the authors is intensely aware of this need, as she has been working in the slum communities and with the slum dwellers in Pune for many years.

We would like to conclude by reiterating our central argument, on which we feel you have not adequately taken issue. There is no technical solution to the slum improvement question that does not involve the reallocation of *some* resources from the better-off to the worse-off. To think otherwise is to delude ourselves, and the poor. *Some* land has to be reallocated. This is made quite clear, for example, in the surveys conducted by the state's Housing and Area Development Authority responsible for Bombay. Of the 331 slum colonies on state-owned land scheduled for up-grading under the Slum Upgrading Programme, 169 were listed as impossible to cover under the scheme, owing, *inter alia*, to the hazardous nature of the terrain: relocation would therefore be necessary. A similar picture is seen in Pune. There is much usable land lying vacant in Bombay, but some of this is now being released to private developers to build for the middle- and upper-class population, instead of being allocated for providing adequate and sanitary shelter for the low-income population (M. Bapat, *Economic and Political Weekly* (Bombay), July 14, 1990). If such a situation is allowed to persist it will be impossible to improve the sanitary conditions of more than a few of the slum dwellers, who, in Bombay, currently number nearly 5 million out of a population of 10 million. Hence we feel that the political dimension to the problem of urban development is more critical than the technical. Our article draws attention to this reality.

Yours faithfully,  
Meera Bapat  
Nigel Crook