

# Participatory analysis for redefining health delivery in a Bombay slum

N. D. Emmel and P. O'Keefe

## Abstract

**Background** This paper explores the application of participatory methods in a Bombay slum of 33 households, Budh Mandir, to establish the local women's perception of their health status.

**Method** Six participatory meetings were conducted alongside informal interviews with key informants. The meetings were structured with health ranking, mapping and seasonal mapping exercises.

**Results** The participatory exercises expose the differences in perceptions between professional health deliverers and the women of Budh Mandir, as well as providing data at a household scale about the incidence of disease and important differences in the interpretation of health problems.

**Conclusions** Differences in the perception between local women and health professionals are noted, which, it is argued, have important implications in redefining health delivery. Some methodological problems are identified and solutions are offered. It is argued that participatory methods can act as a process through which slum dwellers can demand appropriate health care for themselves and their families. In so doing, they can redefine their health needs in order that health intervention can be directed more appropriately.

**Keywords:** participatory methods, social observation, urban slums

## Introduction

There is an increasing questioning of existing approaches to health delivery amongst the poor in developing countries and the evaluation of these health programmes.<sup>1</sup> These renewed calls for a change in focus coincide with the maturation of a number of social methods which redirect planning, implementation and evaluation away from the measurement of the incidence of disease as a starting point, to an appreciation that peoples' understanding of their own health needs, through the use of participatory approaches, are of demonstrable value to development projects.<sup>2</sup> Further, it is suggested that participatory research can lead to the empowerment of people to express, share, enhance

and analyse their knowledge,<sup>3</sup> leading to locally applicable and appropriate health development.

This study describes the implementation of a number of participatory methods – mapping, ranking, seasonal mapping and participatory meetings with women – in a small slum area in Bombay, Budh Mandir.

## Context

The population of Bombay is estimated to be anything from 9 to 14 million people. Siddharth Nagar, an extensive slum, of which Budh Mandir is part, stretches for some 3 km, on a strip of low-lying reclaimed land of 150 m width, along the side of an inlet, Mahim Creek. The population of this slum area alone is calculated to be in excess of 10 000 people.

Budh Mandir is a collection of 33 brick and concrete dwellings squeezed into an area approximately 45 m by 30 m. Communal toilet facilities and a sporadic water supply have been installed by the Bombay Municipal Corporation. Two hundred people live in this small area, most of whom migrated to Bombay from rural Maharashtra over the last 25 years, seeking work in the service sector, government offices and in the factories of Bombay. Work in the informal sector also plays an important part in the local economy. Employment opportunities are greater for women, as they can find work in domestic service. Household incomes range from 1000 to 2000 Rupees (48 Rupees = £1.00) per month.

Private practitioners provide much of the health care for the people of Budh Mandir. There are some 20 private practitioners working in the larger slum area. None of these has a formal medical training. Regulation

---

University of Leeds, Leeds.

N. D. EMMEL, Researcher

University of Northumbria, Newcastle upon Tyne.

P. O'KEEFE, Reader in Environmental Studies

Address correspondence to N. D. Emmel, at University of Leeds, Environment Centre, Leeds LS2 9JT.

of medical practitioners is weak in Bombay. All offer allopathic treatments, and the use of steroid injections is common for minor ailments such as flu and colds.

A local NGO funds and operates the Mother and Child Health (MCH) facility which also operates in the area, providing medical, dental and optician services to mothers, their children and the elderly. Health education services and minor treatments are provided by community health workers (CHW) attached to the MCH clinic. Monthly 'mahilla mandals' (women's groups) are held by the CHWs in their areas, to facilitate participatory involvement in the MCH project. One CHW is responsible for the population of Budh Mandir. This service is used by 12 of the 33 households in Budh Mandir.

## Method

### Participatory meetings

Participatory research was carried out in Budh Mandir for one month. During this time six participatory meetings were arranged. These meetings were facilitated through a local interpreter, who is a CHW. Between six and eight women attended each meeting.

Key informants from Budh Mandir and the MCH programme provided information, through informal interview. These data were used to plan the first meeting. Thereafter SWOT (strengths, weaknesses, opportunities and threats) analysis<sup>4</sup> was undertaken, to plan further meetings. Cross-checking of data collected at the meeting was carried out by questioning at further meetings and through interviews with key informants.

Informality was stressed at the meetings, structure being provided through a number of exercises. It was noted that although some exercises worked well when first used, for instance the ranking of health problems, others, such as the identification of seasonal illness, confused the participants and required redesign and modification before being tried again at a later meeting.

### Health ranking

Health ranking was one of the methods used to establish local perceptions of health problems.<sup>5</sup> The health ranking exercise was conducted with three groups. Group 1 consisted of a doctor and social worker, employed part time at the MCH facility which serves Budh Mandir. Group 2 consisted of three CHWs who work from the MCH facility, one of whom is directly

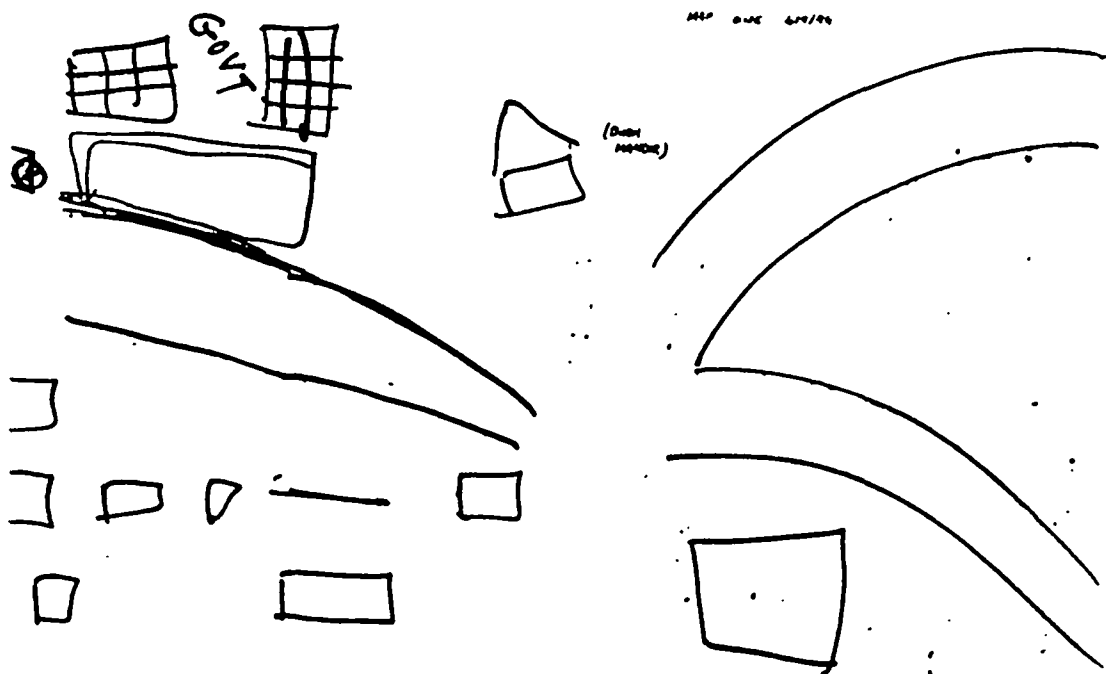
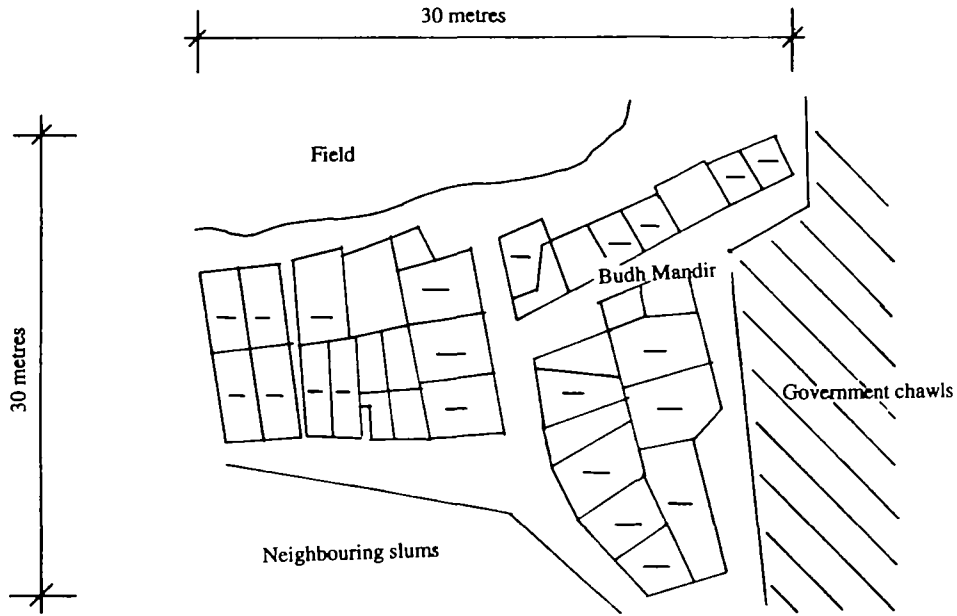


FIGURE 1 The participants' perception of the neighbourhood of Budh Mandir.



Field notes (16.08.94)

FIGURE 2 The survey map of Budh Mandir (original size A3). Dash inside an area indicates membership of the NGO-run MCH.

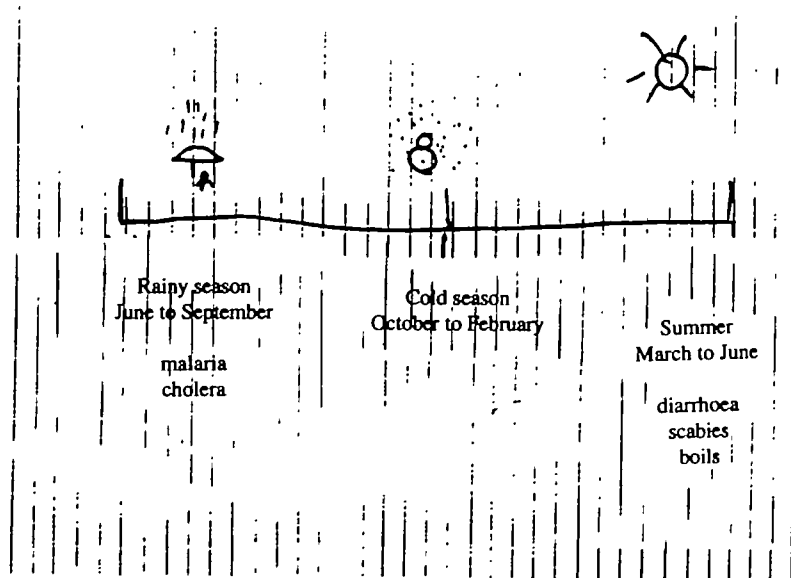


FIGURE 3 The participants' perceptions of the seasonality of health problems. (Note the claim of the incidence of cholera infection in the rainy season.)

responsible for Budh Mandir. All three of the CHWs live in the slum area surrounding Budh Mandir. Group 3 consisted of eight women who live in Budh Mandir.

The health problems were selected in the light of information from key informants and previous participatory meetings. Eleven health problems were identified by background research, and a further two were identified by participants: middle ear infection by Group 1 and worry pains (psychosomatic head, back and leg pains) by Group 3. Each health problem was written on an index card in Marathi and English. The groups were asked to rank the cards from the most problematic to the least problematic health problem.

### Mapping exercises

Both the health professionals' and the women's perception of the health problems within Budh Mandir had been indicated by the ranking exercise, but the ranking provides data only at the community scale. Mapping provides data at a household scale.<sup>6</sup>

At the first participatory meeting, participants were asked to draw a map of the area which they considered to be their neighbourhood (Fig. 1). For the next participatory meeting a more detailed survey map was prepared (Fig. 2). The women were able to check and correct this map by naming each household. Using the corrected base map it was possible to find out the number of people in each household, the age and occupation of each householder, and those households which used the MCH facility. Beyond these broad demographic and economic characteristics, the incidence of specific health problems was mapped using local knowledge; these included the potential incidence of tuberculosis

(identified as a protracted, chesty cough for more than two weeks) and the incidence of alcoholism.

### Seasonal mapping

Gaining an understanding of the temporal variability of health problems can be obtained through the use of seasonal maps.<sup>7</sup> One group of six women created a seasonal map of illness experienced in Budh Mandir (Fig. 3). This map was cross-checked with a further group of women at a second participatory meeting and with the health professionals.

### Results

Table 1 shows the results of the ranking of 13 health problems identified by three groups: Group 1, a doctor and social worker; Group 2, three community health workers; Group 3, eight local women from Budh Mandir.

In one of the participatory meetings, the participants claimed that 25 per cent of the women drank alcohol regularly. Although this may seem surprisingly high, in a society where women generally do not drink, their claim for men's drinking habits was even higher, at 75 per cent. Using the base map, three key informants within Budh Mandir identified households where one or more of the adult members drank alcohol regularly. The incidence of alcohol consumption amongst the women was in excess of 50 per cent of the population of Budh Mandir, half of whom, in the opinion of the informants, drank to excess, resulting in the neglect of their children.

Participatory groups were unable to map TB-infected households, but they were able to identify individuals,

TABLE 1. Ranking of health problems by Groups 1–3

	Group 1	Group 2	Group 3
1	Fever	Alcoholism	Alcoholism
2	Chest problems	Worry pains	Worry pains
3	Diarrhoea	Backache or headache	Backache or headache
4	Middle ear infection	Fever	Fever
5	Backache or headache	Middle ear infection	Diarrhoea
6	Worry pains	Diarrhoea	Tuberculosis
7	Scabies	Worms	Worms
8	Boils	Chest problems	Chest problems
9	Fungal infection	Malnutrition	Middle ear infection
10	Worms	Tuberculosis	Malnutrition
11	Malnutrition	Fungal infection	Fungal infection
12	Tuberculosis	Boils	Boils
13	Alcoholism	Scabies	Scabies

and thus households, who had suffered a chesty cough for more than two weeks. The participants identified four such households.

## Discussion

Participatory methods are about learning from people. This means developing relationships between the researcher and population, building confidence and accepting that time must be spent understanding what people mean and how they define their health problems.

In Budh Mandir the time spent in developing these relationships allowed confidences to grow. Towards the end of the month, women who had been openly sceptical at the outset started to involve themselves in the research. Even men, who had been hostile to the research one month earlier, started to show an interest.

Development of the research was accelerated by two factors. First, the interpreter, with whom several initial sessions were held explaining aims and objectives, was both dedicated to the research and had a close relationship with the women of Budh Mandir. Second, the MCH project's monthly 'mahilla mandals', although considered ineffectual by the women of Budh Mandir, had trained the women in the rudiments of participatory methods.

The ranking of health problems by the women of Budh Mandir differs markedly from that by doctor and social worker, the professional providers of health care. Doctors in India receive a disease-orientated education similar to that of their European counterparts.<sup>8</sup> The difference between CHWs and the women of Budh Mandir are very similar. The CHWs' training programme is for one year, and continued education is arranged beyond their initial training. It can be supposed that their view of health problems is modified through training, as a more medical orientation is adopted.

Where the women of Budh Mandir and the CHWs agree is in placing alcoholism as the greatest threat. For both, it is followed by worry pains, which the women considered to be largely a result of having alcohol-consuming, drunken husbands. As one woman put it during the meeting, 'The men die of diseased livers, the women suffer beatings'.

Group 1, the doctor and social worker, were asked why they considered heavy drinking to be of little significance as a health problem. Both considered that, 'alcoholism is a social problem – related principally to under-employment – it is not a health problem'. From their response, there would appear to be a need for a reassessment by professional carers, a casting off of preconceived, inculcated ideas about ill health and health delivery in slum communities.

The ranking of health problems by Group 1 reflects the health problems which are presented at the MCH clinic. The MCH clinic stocks a limited list of 18 drugs including oral and intra-muscular paracetamol, broncho dilators, deriphyline and aminophyline and broad spectrum antibiotics – septrin, ampicillin, tetracycline, gentamycine and furaxone. The drugs stocked in the MCH clinic reflect the health problems which are presented at the clinic. Wider participatory research would suggest that significant health problems in the community, as perceived by the people of Budh Mandir, are not addressed by the MCH clinic.

Worry pains do feature in the ranking by Group 1. The doctor admitted, however, that there was no facility to treat these problems and that, in her view, there was no relationship between worry pains and alcoholism.

To the outsider it is difficult – if not impossible – to differentiate between urban communities or to identify the measures the communities use to define their neighbourhood, such as ethnicity, caste, class or income level. As in any urban conurbation, the slums merge one into another, but areas do have individual identity to the people who live in the area – it is their neighbourhood. The mapping exercise provided a clear definition of the area the people of Budh Mandir considered to be their neighbourhood.

Mapping the slum area can be used to record the distribution of disease at a community scale. Participatory mapping exercises offer a key technique for providing health data and disease incidence at a household scale. The drawing of maps of the neighbourhood with the participants ensures that the area of research is clearly defined. Valid conclusions can then be made from data collected from participants about specific populations.

The participants' map lacks detail (see Fig. 1), but defines clearly the area which they consider to be Budh Mandir. Further questioning revealed that the community is defined in ethnic and religious terms. They are tribal Marathi people.

The survey map (Fig. 2) provided a base from which data could be collected effectively at a household scale about health problems and identified in the ranking exercise.

From the ranking exercise it can be noted that the perception of the prevalence of tuberculosis infection is different for each group. Group 3 ranked tuberculosis infection higher than both Groups 1 and 2. This leads to questions as to whether this disease problem is under-represented in people visiting the MCH clinic, or whether local diagnosis of chest infection was always referred to as tuberculosis.

Investigation of the incidence of tuberculosis in the community is complicated by the social stigma attached

to this disease. It is not surprising, therefore, that people who think they have tuberculosis will seek treatment outside the community, avoiding the local tuberculosis centre and MCH clinic for fear of discovery and social ostracism. Similarly, they will be guarded in letting CHWs – who are part of the larger slum community – know of their condition. This may account for the low ranking for tuberculosis by Groups 1 and 2. These observations have implications for tuberculosis control.

The incidence of four households, 10 per cent of the population of Budh Mandir, illustrated in the mapping exercise, provides a useful starting point for the identification, diagnosis and subsequent treatment of tuberculosis. Resources can be focused on where the health problem occurs, rather than through the traditional approach of mass screening, which would probably be avoided by those at greatest risk, for fear of social ostracism.

Seeking out the incidence of tuberculosis highlights a further methodological problem which must be dealt with when designing participatory techniques, namely taxonomy. The western-orientated taxonomy of disease does not conform necessarily with the labels given to ill health by the people of Budh Mandir.

To take one example, in an exercise to chart the seasonality of health problems (Fig. 3), cholera was highlighted by the women of Budh Mandir as a specific problem in the rainy season. In contrast, a doctor who worked in the MCH clinic claimed that 'there had not been a case of cholera in the last five years'. Further questioning revealed that the women of Budh Mandir used the term cholera to describe watery diarrhoea rather than infection with *Cholera vivo*, and symptoms of 'rice water stools'. A failure to question and cross-check the data obtained can lead to dubious conclusions being formed. These contradictory findings expose some problems associated with participatory methods. It is through such awareness that solutions to these problems of method design can be sought.

## Conclusions

The use of participatory methods reveals that there are different perceptions of health in this slum area between the women residents and the health professionals who work in the area. For example, the problem of both male and female alcohol consumption and related psychosomatic illness and the failure of traditional methods of tuberculosis detection to identify potential sufferers in the community were emphasized. The different scientific medical and social community models of cholera were also highlighted.

We argue that these different perceptions of health in this slum area have important implications in redefining health care provision. The need is for inter-sectoral health care provision which accepts that some of the causes of ill-health in Budh Mandir are not treatable with medical intervention alone but require the wider implementation of social development.

The criticism of the 'mahilla mandals' by the women led to rejuvenation of this institution, through training of the CHWs in participatory techniques. The MCH clinic has reorientated its health education programme. Most importantly, the trainers of the educators have been made aware of the health problems as perceived by the people of Budh Mandir. Health professionals are actively seeking out new methods of dealing with the single largest health and social problem in Budh Mandir, alcoholism. This new programme is being undertaken through extending the participatory research undertaken in this short research programme and exploring ways in which the problem can be tackled with the community.

What is offered by participatory research is a new way of seeing and a new way of doing health care. This model of health care emphasizes the social, not the technical issues of implementation as the key to success. It does not reject the need for medical ecology, but sees it as being complementary, rather than the sole method of defining health needs, as it is often perceived to be. Most importantly, participation is a process which requires that control of health is taken by local people, not retained by professionals. It is a springboard from which people can start to demand health provision. Only in this redefinition of health delivery is it conceivable that sustainable, locally applicable health care can be built within Budh Mandir for this and future generations.

## References

- 1 Garner P. Is aid in developing countries hitting the spot? *Br Med J* 1995; **311**: 72–73.
- 2 Scrimshaw N, Gleason R. *Rapid assessment procedures*. Boston, MA: International Nutrition Foundation for Developing Countries, 1992.
- 3 Chambers R. Rapid but relaxed and participatory rural appraisal, towards applications in nutrition and health. In: Scrimshaw N, Gleason R, eds. *Rapid assessment procedures*. Boston, MA: International Nutrition Foundation for Developing Countries, 1992.
- 4 Johnson S, Shawles J. *Exploring corporate strategy*. Englewood Cliffs, NJ: Prentice-Hall, 1993.
- 5 Cottam H. *The death of the clinic? Participatory urban appraisal (PUA) in Dominican barrio*. RRA Notes, No. 21. London: IIED, 1994.
- 6 Francis S. *PALM in slum improvement projects: a training experience from India*. RRA Notes, No. 21. London: IIED, 1994.

- <sup>7</sup> Chambers R. *Actual or potential uses of RRA/PRA methods in health and nutrition*. RRA Notes, No. 16. London: IIED, 1992.
- <sup>8</sup> Heridia RC. Social medicine for holistic health. An alternative response to present crisis. *Economic and Political Weekly, Bombay* 1990(1–8 December); 2673–2980.

*Accepted on 19 December 1995*