Development of a health programme in a peri-urban informal settlement in Besters, KwaZulu-Natal

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Objectives. The demographic, socio-economic and environmental status of the peri-urban informal settlement of Besters and its inhabitants' health, welfare and disability profiles were investigated for the development of a community-based health intervention programme.

Study design. A cross-sectional study using a structured household questionnaire assessed community health status in July 1991 in order to identify specific health and development needs through focus group discussions and community consultations. A health and development programme was established during 1992. Community participation in this programme was then assessed by measurement of the components of the health and development programme, categorised as inputs (resources), processes (activities), outputs (effects) and outcomes.

Setting. Besters, an informal peri-urban settlement north of Durban, KwaZulu-Natal.

Subjects. Residents of Besters.

Results. The demographic, environmental and morbidity profiles of Besters were consistent with both South African and international studies of informal communities. Patterns of health service utilisation reflected inappropriate use of the tertiary hospital in the city centre, grossly fragmented patterns of utilisation — both for preventive and curative care and for antenatal and maternity services — and, finally, a discordance between community health needs and ability to pay for services. The interaction between input, process and output measures of community participation are discussed.

Conclusion. Integration of health service provision with other infrastructural development, based on community perceptions, enhances health development and community participation. Important lessons emerged

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about the strengths and limitations of community participation and its relevance for other communities.

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Investment in the upliftment of the disadvantaged is a widely accepted policy as South Africa unshackles itself from the past and seeks new directions. Prime targets for infrastructural development initiatives are the peri-urban informal settlements.[1,2] The interactions between development interventions and health are not always positive, however, and sometimes have a negative impact on the health status of communities.[1]

Informal settlements in the Durban functional region (DFR) have the greatest need for social services, given an estimated 1.5 million people in these informal settlements.[2,3] Traditional development agencies have had a strong focus on physical development, e.g. the provision of shelter/housing and roads, ignoring the quantitative and subtle qualitative impact of social services on community development.[4-6] Although community participation is an important objective of many community-orientated programmes, there is no consensus on its implementation and measurement.

Three broad approaches have emerged with regard to community participation: a pure medical approach, a health service approach and a community development approach. The last seeks to empower people by increasing their awareness of problems and their ability to use their own resources in solving them.[7]

Few community projects and programmes fully satisfy the requirements of the community development approach. In South Africa, several attempts have been made to involve communities in development programmes. The Alexandra Health Centre (AHC) in Johannesburg established a close link between community participation and 'democratic management', which it encouraged by giving active support to community groups, projects and programmes. The AHC was involved in surveys, and facilities such as boardrooms were made available to community members.[8,9] This kind of participatory research was also followed in the Mamre Health Project, which experienced difficulties such as poor attendance at meetings and the limited experience and decision-making skills of community members.[10]

In other projects, time was spent on forming community groups and selecting community health workers (CHWs) to facilitate participation. In the Gazankulu Village Pilot Project, community clubs were formed by the Department of Forestry to promote vegetable production.[11] Mobilisation of village women as educators helped in the fight against a polio outbreak in the Mhala district of Gazankulu.[12] The unpaid care groups in the Elim health ward helped in the fight against trachoma.[13] CHWs in the Manguzi health ward[14] and the Village Health Worker Project in the Cala district[15] dealt with malnutrition, complications of pregnancy and childbirth, and infectious and parasitic diseases.

Experiences in community participation have produced mixed results.[16] The family welfare educators in Botswana helped eradicate common health problems such as scabies. The health promoters in Colombia extended basic health services to remote communities, while the health volunteers in Sri Lanka assisted in health education, nutrition and development projects.

Measuring community participation

Rifkin *et al.*,[17,18] using the community development approach, have proposed a framework of five indicators — needs assessment, leadership, organisation, resource mobilisation and management — to measure community participation. In a case study in Nepal, this framework was limited by the interviewees' recall during the assessment, neglected some indicators and failed to show changes which might have occurred during the participation process.[17] A dynamic system developed by Engelkes to evaluate community participation was adapted for this study (Fig. 1).[19] The system's strength lies in its ability to link processes between inputs and outputs.

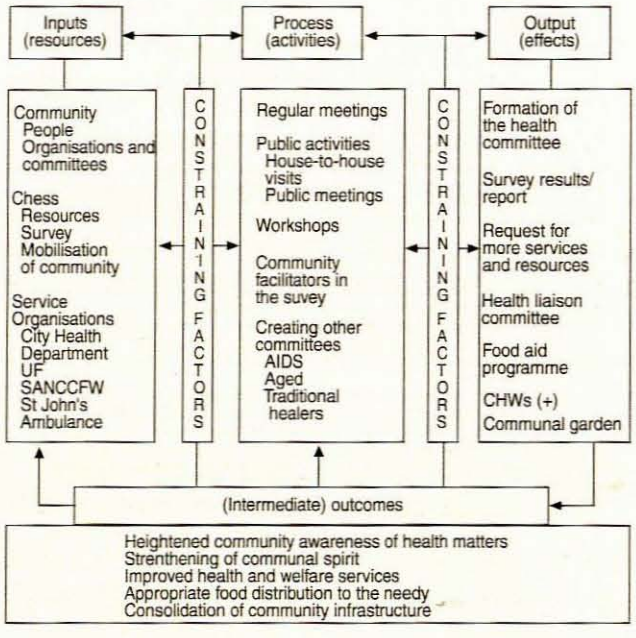

Fig. 1. Model for measuring community participation and the elements of the health and development programme in Besters.

This study was undertaken to determine the environmental circumstances and the health and welfare status of the peri-urban informal settlement of Besters as a contribution to the overall health and infrastructural development and upgrading of the area. It then describes the critical elements of community participation that were part of the health and development intervention programme that emerged from the survey.[1,7]

Methods

A longitudinal cross-sectional prevalance study was undertaken in 1991, using a household interview questionnaire in Zulu, administered by trained, supervised field workers. Data on sociodemographic (household size, age, gender, education, income and employment), housing (ownership, construction), environmental (water, sanitation) and health (status and service use) profiles and community perceptions were collected.

Site

The Besters community — established by the occupation of land by squatters in 1985 — is located partly within the Durban municipality and partly within the ex-homeland of KwaZulu. The area was handed over to the Urban Foundation (UF), a private development agency that provides housing, water, roads and electricity to poor communities, for infrastructural upgrading (building of roads, pit latrines, water-stand pipes) in 1989. Funds came from the Independent Development Trust (IDT), a funding development agency that distributes funds donated from both the public and private sectors (nationally and internationally) to communities, organisations and projects, and the Durban municipality. The UF estimated that the 3 400 shacks housed 18 000 - 20 000 people.

A stratified sample (of the eight areas of Besters) established a sample size of 360 households, identified through aerial photographs, maps of the area and the assistance of community facilitators. Data were analysed in respect of 1 633 individuals in 359 households in terms of the household, demographic, socio-economic, environmental and health profiles; the SAS version 6.07 statistical package was used.

A cross-sectional descriptive study design, using an adapted version of Engelkes' model of community participation, was used to measure elements of the health and development programme as it evolved from 1991 to 1993 (Fig. 1).[19] The inputs were the resources provided by the community and the service organisations. The process referred to the activities and interrelationships between the programme's interventions and the community. The outputs were the effects and/or the coverage of services achieved and/or changes in health behaviour. The outcomes referred to the longer-term impact, or changes in health, socio-economic conditions and nutritional status; these will be measured in subsequent studies.

Authorisation was obtained from the Besters Health Committee (BHC), which represented the key stakeholders — the UF, the Durban City Health Department, the South African National Council for Child and Family Welfare (SANCCFW), the St John's Ambulance Society, the Centre for Health and Social Studies (CHESS) and the Department of National Health and Population Development (DNHPD). They assisted with the study design, training of the field-workers and acted as a reference group.

Results

Sociodemographic status

The single largest group of respondents (172 (48%)) was that of heads of households — with a total of 148 (41%) households being headed by women. There were more men in the sample (54%) than women. The mean household size was 4.6 persons. One-fifth (19%) were in the 0 - 5-year age cohort, a further one-fifth (19.8%) aged 6 - 15 years, 52% in the 16 - 45-year group, 6% in the 46 - 60-year group and 4% aged over 60 years.

Half the persons over 16 years were single (52%), while one-quarter (23%) were married and a further quarter (23%) were cohabiting; the rest were divorced or widowed. With regard to educational status, 16% had no schooling, while 43% and 41% had up to Standard 5 and matric level education, respectively.

Only 37% of the employable people were in permanent employment, while 24% were actively seeking employment. The majority of respondents were in unskilled occupations (51%), with a mean household income of R513.25 per month, and a per capita income of R118.70.

The youthful nature of the community and the limited educational level are reflected in the poor employment patterns and the high level of poverty.

Housing and environmental conditions

A majority (91%) lived in their own homes, made up of local timber (wattle) and mud (daub) (77%), and had lived in the area for over 4 years (50%). The main type of fuel used for cooking was paraffin (93%); for light, candles were mainly used (69%). Pit latrines were used by 94% of households. Waste water was disposed of on the ground (86%) and refuse was either burnt (32%), dumped (31%) or buried (20%). Kiosks — stand pipes manned by community members — were the main source of water (67%), followed by taps (33%). Daily water consumption was categorised as 25 - 50 litres (47% of households), 51 - 100 litres (27%) and over 100 litres (the remaining households.) The majority (85%) collected their water from within a kilometre of their homes.

Health status

The morbidity profile of children under 5 showed that over 80% complained of minor ailments (diarrhoea, headaches, skin problems). Only 69% of youths and adults complained of minor ailments (headaches, influenza/cough, diarrhoea, painful legs, injuries, tonsil infection and skin rash) while one-quarter (25%) had chronic problems (asthma, high blood pressure, diabetes and tuberculosis). Two per cent had dental problems and 5% complained of 'bewitchment'. One-third (38%) of the females in the 16 - 21-year age group acknowledged that teenage pregnancies had occurred in their respective households.

Health service utilisation

An uneven pattern of health service utilisation emerges (Table I). For curative care for children and adults, the largest group used the nearby community health centre (Kwa-Mashu polyclinic), together with a high level of private practitioner consultations and very low levels of traditional healer consultation. While most women (48%) attended the Kwa-Mashu Polyclinic for antenatal care, only 25% delivered there, while 47% delivered at King Edward VIII Hospital, which is a tertiary academic hospital. Use of private doctors ranged from 0.7% for deliveries, 12.9% for children under 5 years and 20.5% for people over 5 years; this indicates a heavy reliance on public sector health care. Over half the mothers (52%) did not use contraceptives.

The immunisation status and breast-feeding and weaning practices are shown in Tables II and III. Mothers who did not have health cards for their children were questioned about the immunisation status of their children. The views of mothers on the perceived duration of breast-feeding and the actual duration of breast-feeding of their last child were

elicited. A majority of women thought that weaning should take place within 6 months (84.1%), while 79.1% had actually weaned their babies within this time period.

Table I. Pattern of health services utilisation

Health service	Medical treatment for: Children under 5 yrs	Persons over 5 yrs	ANC*	Place of delivery†
KwaMashu polyclinic	37.6%	24.3%	48.1%	24.9%
Private doctor	12.8%	20.0%	-	0.7%
Newtown A & C clinics	12.9%	12.1%	3.2%	-
Besters clinic	10.3%	3.9%	0.7%	-
Other‡	10.1%	17.3%	26.3%	22.3%
King Edward	8.6%	11.5%	13.6%	47.3%
Traditional healer	4.3%	9.0%	3.7%	-
No treatment — home delivery	3.4%	1.9%	4.4%	4.8%
Total	111 (100%)	156 (100%)	273 (100%)	273 (100%)

* Antenatal care and delivery of the last baby.
† Delivery of the youngest child.
‡ Migrants from rural areas using health services outside the DFR.

Table II. Immunisation status of children

Immunisation status	Availability of cards: Cards available	No cards†	Total
Full*	66 (37.9%)	58 (41.7%)	124 (39.6%)
Partial	97 (55.8%)	8 (5.8%)	105 (33.6%)
Unknown	11 (6.3%)	73 (52.5%)	84 (26.8%)
Total	174 (55.6%)	139 (44.4%)	313 (100%)

* The child had received the appropriate immunisation for age.
† Ascertained by verbal enquiry about immunisations received.

Table III. Breast-feeding and weaning — practices and attitudes

Period in months	Breast-feeding*: Perceived†	Actual‡	Weaning: Perceived	Actual
1 - 6	4.1%	18.2%	84.1%	79.1%
7 - 12	18.3%	19.3%	12.7%	11.5%
13 - 18	10.7%	21.4%	0.6%	5.8%
Over 18	66.9%	41.2%	2.5%	3.7%
Total	169	179	157	184

* Mixed breast-feeding and other feeds.
† Mothers' perception of how long babies should be breast-fed.
‡ Actual duration of breast-feeding of the last child.

The mean cost of medical services per household was R11.77 per month — estimated on the basis of average costs of medical services over the previous 12 months.

Perceived health and welfare problems

The major community problems, identified by the respondents, were the infrequent removal of refuse, inadequate social services and overcrowded homes (Table IV).

Table IV. Perceived health and welfare problems (359 respondents)

Health and welfare problems	Frequency	%
Poor waste removal system	312	86.9
Unavailability of social services*	202	56.2
Poor housing — overcrowding	196	54.5
Inadequate water supply	106	29.5
Poor infrastructure — roads, shops	103	28.6
Various diseases†	52	14.4
Unemployment	33	9.2
Rodents and insects	31	8.6
Other‡	29	8.1
Alcoholism	16	4.5

* 'Social services' refers to health, welfare and educare services.
† Mainly chronic conditions such as hypertension and diabetes.
‡ Other problems such as violence and accidents.

Community participation

The results are presented in terms of the adapted framework recommended by Engelkes, outlining inputs, process, outputs and outcome and constraints (Fig. 1).

Inputs

The key inputs were the involvement of the people of Besters, establishment of community structures, provision of resources and services, and networking with other development organisations. Each of these components is described in detail.

The community structures

1. The development committees of Besters. Seven committees (out of the eight sub-areas of Besters) collectively formed the Joint Development Committees Forum — a body of approximately 45 individuals — which participated in the infrastructural development programme. To sustain and consolidate their participation, a sub-committee, the BHC, was formed to focus on health development.

2. The Consultative Committee. While a total of 28 individuals (4 from each of the 7 areas of Besters) served on this committee, their participation varied because of the uneven level of development and commitment from the different areas. This delayed decision-making and implementation.

3. The Besters Women's Group. This group, formed with the help of the SANCCFW, initiated self-help and income-generating projects (sewing and basket-weaving) and served as a focus group to identify major community problems.

4. Contributions by CHESS. CHESS undertook several research studies and a household survey and in the process transferred organisational skills to the members of the Consultative Committee employed as community facilitators. This process of interaction with community members also provided valuable information about the community.

Service provision and networking with development organisations

A network of service providers was established, incorporating the UF (responsible for physical upgrading), the SANCCFW (responsible for welfare and social upliftment), St John's Ambulance (responsible for training of

CHWs), and the Durban City Health Department (responsible for services in the clinic) (Fig. 1). These organisations used the survey data for planning and rendering co-ordinated services to the community.

Processes/activities

Contact with community involved discussions with all the major interest groups about their expectations, benefits and shortcomings; public meetings, house visits, pamphlets (written in the local language) and campaigns about specific issues, e.g. AIDS; and workshops to transfer skills in survey methods and to develop action plans to respond to immediate health needs.

Outputs

1. The BHC. This brought together members of CHESS, the City Health Department, St John's Ambulance, the UF and the SANCCFW to serve on a forum for all service organisations and community structures; it promoted intersectoral collaboration, deepened community participation and planned campaigns on litter, refuse removal and the cleaning of communal water kiosks. It disseminated information about the programme, reviewed and ratified agreements reached earlier with the Consultative Committee and prioritised community needs.

2. Provision of services and resources. These included extra health clinic services to provide comprehensive PHC services, proper water supply and waste removal systems. Social workers addressed problems such as difficulties in acquiring pensions and grants for the elderly and disabled, and facilitated crèche provision by the SANCCFW. Environmental conditions were improved by the provision of large steel tanks (hoppers) for refuse removal and additional water kiosks. Security of tenure was assured by the preparation of title deeds by the UF.

3. The CHW programme. The St John's Ambulance Society, in consultation with the BHC and the local authority health department, developed a CHW programme to extend health services into the community. CHWs were selected by the community, trained by St John's Ambulance and supervised by the BHC and the PHC clinic staff. They dealt with community health problems, provided home-based care for house-bound patients, collected vital epidemiological data (such as births and deaths), promoted immunisation and served as an important link between the clinic staff and the BHC.

4. The food aid programme. The money was provided by the South African government to relieve poor and disadvantaged communities after it introduced a new tax system, value-added tax (VAT). The BHC established selection criteria — lack of household income, family size, number of children under 5 years of age, and the presence of elderly, chronically ill and malnourished children — for families to receive food aid from the Durban City Health Department. Subsequently the BHC applied for and received R300 000 from the Department of Health to provide food parcels for direct distribution in the community.

5. The communal garden project. A communal garden was initiated as an educational facility to train community members in vegetable gardening to combat hunger and malnutrition. The members of the committee, CHWs and families identified for the food aid programme were participants in the project. Benefits included the increased consumption of vegetables and the sale of surplus produce.

6. Other health developments. An AIDS sub-committee, in liaison with health educators from the Durban City Health Department, organised activities related to AIDS — an AIDS puppet show, distribution of condoms and AIDS awareness meetings for the youth. The aged sub-committee tackled problems regarding pensions and grants for the elderly, and facilitated their access to food parcels from the food aid programme. The traditional healers sub-committee liaised with the health authorities to share information on the AIDS problem, education and establishment of support networks to assist AIDS victims in consultation with traditional healers in the community.

Outcomes

Short-term outcomes include heightened community awareness of health matters; recognition of the BHC's role in health service development; extension of clinic and social services; distribution of food aid; and the increased capacity of the BHC to deal with future community health problems.

Discussion

The demographic, environmental and morbidity profiles of this community are consistent with both South African and international studies of informal communities living under poor socio-economic and environmental circumstances.[5-8] Their morbidity profile suggests that PHC interventions would adequately cater for their major health needs. Existing patterns of health service utilisation suggest a disproportion between health needs of children and adults, inappropriate use of the tertiary hospital in the city centre, grossly fragmented patterns of utilisation — both between preventive and curative care and between antenatal and maternity services — and, finally, a discordance between health needs and the ability to pay for services. While the overall immunisation status was high (73%), the available health services would need to sustain this and to reach those not covered. Similarly, there was a gap between the actual practice of breast-feeding and what was perceived to be ideal. The use of traditional healers has been greatly underestimated. This may be due partly to interviewer bias (as reported by the interviews) and to the fact that the survey was part of a programme of providing housing and health services.

Community perceptions accorded a high priority to improved environmental circumstances and provision of health and social services. There is a clear convergence between community needs and perceptions and the epidemiological and environmental profiles.

Unresolved issues include the relationship with secondary and tertiary health services, financing of PHC services between central and local government, liaison with the private sector and the relationship between clinic-based health workers (nurses and doctors) and CHWs. The use of King Edward VIII Hospital (a tertiary centre) for deliveries, bypassing the nearby polyclinic, and the lack of antenatal or maternity services at the PHC centre in the community are inappropriate. All health authorities (provincial and local)

need to extend comprehensive PHC services into Besters as part of a district health system.

The important lessons that emerge from the survey are that: (*i*) the health profile of informal communities can be adequately tackled by PHC interventions; (*ii*) comprehensive services need to replace the currently fragmented health services; (*iii*) improvements in health status are enhanced when health service development is integrated with infrastructural development; (*iv*) community perceptions are an important element of sustainable development; and (*v*) community involvement is feasible when based on perceived problems and linked to direct interventions. These experiences contributed to the development of the health and infrastructure programme, in terms of which a number of interventions were undertaken. The process evaluation of the development interventions, following on the survey (and described above), was measured using the adapted framework of Engelkes.

Summary of lessons in community participation

Important experiences and lessons on community participation emerged, some of which are similar to those experienced elsewhere.[10,14,16] This study revealed that informal settlements are not homogeneous because of different socio-economic backgrounds, health status, beliefs and needs which may retard development and cause division. Concern with survival issues such as hunger and shelter results in individual and group concerns overriding community goals.[13] In a situation of gross deprivation and scarce resources, community leaders and individual committee members do not always act in the interests of their people; some use these new opportunities to enrich themselves and their families. It is only when extreme poverty is reduced that people tend to co-operate for the general good of their communities.

Professionals in community programmes need to be transparent about their objectives, inherent benefits and limitations, and to be amenable to change and modification of the designs of the programme as they learn from the community's experiences.

Isolated selective programmes are likely to be perceived as foreign and to generate limited participation. Health programmes may not be regarded as a priority by communities faced with poverty, unemployment, lack of housing and violence. Integration of the Besters Health Programme with other activities in the community, such as poverty relief, social support and educational initiatives, strengthened the entire programme. In addition, community participation is not an end in itself, and patience and tolerance are required to build trust. The ability of communities to comprehend new programmes may not be as rapid as professionals would like.

By linking research with action (the food aid programme, CHW programme, communal garden project), the members of the health committee found themselves 'doing something' about their condition and this strengthened their overall commitment and directly benefited individuals and the community. Community members' management of programmes — 'putting the community in charge' — enhances participation, shared responsibility and sustainability.

Constraints on community participation that need to be addressed include: (*i*) suspicions, divisions and unequal level of skills; (*ii*) unreasonably high expectations or promises; (*iii*) inadequate institutional and organisational support; (*iv*) high turnover of leaders and members; (*v*) inability to place collective interest above personal interest; and (*vi*) disagreement about remuneration for participation. Those limitations hampered decision-making, increased competition for resources and produced factions opposed to the programme, resulting in a measure of disillusionment and the collapse of some committees and programmes. Further post-intervention studies are required to measure the impact of these health and development interventions on health status and the sustainability of community participation, which is described in this paper.

Conclusion

Although the Besters Health Programme has yet to demonstrate sustainable achievements, in the short term it has improved the quality of the health and developmental services to the community. South Africa faces rapid urbanisation, massive social transformation and expanded social development programmes. Valuable lessons have been identified from these experiences in Besters to meet some of these challenges — especially that of sustaining national development objectives.

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